



CONNECTICUT

Woodlands

WINTER 2022

Preserving Dark Skies

A MAGAZINE OF THE CONNECTICUT FOREST & PARK ASSOCIATION



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CONTRIBUTOR'S *Spotlight*

Renee Jiang, a senior at Choate Rosemary Hall, has been an intern at Connecticut Woodlands

since 2020. She also serves as School News Editor of Choate News, Editor-in-Chief of Choate Public Health, and has published articles in *E: The Environmental Magazine*. In addition to writing, she has participated in conservation programs at the New England Aquarium and the Duke Lemur Center. Even with her busy schedule, Renee finds time to tutor at the Writing Center and is co-captain of her school's volleyball team. We caught up with Renee to learn more about her passion for writing and the environment.

What initially drew you to environmental journalism?

As a young girl, I was always intrigued by the natural world and science. But I realized that science alone cannot prescribe solutions to our environmental challenges. Throughout history, words have been a powerful way to connect people to nature.

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On the cover: The Lyme Land Trust Dark Skies Site.
Photograph by Roger Charbonneau, Jr.




Correction: The fall 2021 issue of Connecticut Woodlands, page 8, mislabeled the "Naples Property" as the "Calvi Property." We apologize for the error.

What role do you think writers should play in the environmental movements?

Writing can invoke empathy and instigate that crucial pause during which readers carry their own understandings into the real world, where they can take their own initiative to make change.

What's something that grown-ups get wrong when it comes to youth environmental activists?

Youth have so much power because we are the ones inheriting the climate crisis. We understand what it's like growing up in a world where technology dominates our social lives more than the outdoors. And youth have an extremely valuable voice, which can play a huge role in environmental decisions and policy.

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Editor’s Note

As we come to the end of yet another United Nations climate conference, the obvious question is: What did these negotiations accomplish? The pact, signed by nearly 200 nations, includes specific targets to reduce greenhouse gas emissions (the U.S. pledged net-zero emissions by 2050), financial commitments by wealthier countries to aid developing nations, and a plan to “phase down” the burning of coal, the single biggest source of global carbon emissions. But experts agree that even if all the pledges are met, the world is still likely to experience catastrophic warming.

The negotiations garnered a lot of media attention. But, in general, the public seemed more focused on the spectacle of the proceedings—what people ate (vegan haggis!), who was there (and the number of private jets descending on Glasgow), and who was not (President Xi Jinping, I’m looking at you)—than the substance of the talks. For many, the conference felt performative. In the words of Greta Thunberg, it was just a lot of “blah, blah, blah.”

But it’s unfair to place all the blame on world leaders for a lack of climate action. If ordinary citizens are unwilling to prioritize climate justice in their personal, professional, and political lives, how can we expect our leaders to do so, especially as the world struggles with the ongoing pandemic and rampant inflation?

Across the country, people are understandably worried about surging gas prices and home heating fuel costs. Building materials are at an all-time high, and along the West Coast, ports are jammed with cargo vessels carrying tens of billions of dollars of goods. Retailers—and their customers—are concerned they won’t get the goods in time for the holiday shopping season.

I have a suggestion for a different kind of gift this year. Rather of buying the latest iPhone, give the gift of helping to protect the 825-mile Blue Blazed Hiking Trail system in perpetuity. It’s the kind of gift that will keep on giving, and one that’s good for both people and the planet.

I’ll see you outside,


Timothy Brown
Editor

The Connecticut Forest & Park Association, Inc.

The Connecticut Forest & Park Association (CFPA) is a 501c3 nonprofit organization that protects forests, parks, walking trails, and open spaces for future generations by connecting people to the land. Since 1895, CFPA has enhanced and defended Connecticut’s rich natural heritage through advocacy, conservation, recreation, and education, including maintaining the 825-mile Blue-Blazed Hiking Trails system. CFPA depends on the generous support of members to fulfill its mission. For more information and to donate, go to ctwoodlands.org

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From the Statehouse

By Eric Hammerling

Act Now to Keep Connecticut's Forests Resilient

One of my favorite proverbs is, “The best time to plant a tree was 20 years ago, but the second-best time is now.” We are inspired by this sentiment in all aspects of our work at CFPA. It’s a great reminder that we must focus on what we can accomplish today and not get frustrated by what hasn’t gotten done in the past.

With that proverb in mind, we must take urgent action now to address three big vulnerabilities and ensure Connecticut’s future forests are resilient:

- Around 72% of Connecticut’s forests are owned by private forest landowners who are aging—an estimated 90% are age 55 or older.
- Connecticut’s more densely populated areas have inadequate urban tree cover, especially in lower income neighborhoods, to reduce heat exposure, provide stormwater retention, and other community benefits.
- As Connecticut continues to grow and develop, forests are being fragmented. Large core forests of 500 acres or more have experienced the greatest fragmentation, with more than 130,000 acres of large core forests having been converted to non-forest uses or broken into smaller pieces over the last 35 years.

Many of the remedies for these three big vulnerabilities boil down to our willingness to invest resources as a state to address them, specifically:

- Many family landowners, especially older ones, are making decisions now on whether their forest lands will be conserved in the future as forest. We must ensure the state has adequate resources to both respond to forest landowner questions and proactively educate on issues such as forest resilience, estate planning, and conservation options.
- Resources seem to be available to respond to storms and other emergencies where trees or parts of trees are removed as debris. We need to proactively provide resources to maintain existing tree canopies as well as plant and care for our future urban forests with the same gusto.
- Incentives are needed to inspire conservation easements on large core forests or enhance existing laws such as Public Act 490 to extend property tax benefits for landowners who make longer-term commitments to conserve their forests. And there should be incentives for communities that support their inevitable future growth in ways that minimize forest losses.

All of this, my friends, is not rocket science. These vulnerabilities and remedies, as well as the benefits of resilient forests, are well-known. Will Connecticut act now, or will we keep searching for that proverbial can to kick down the road once more?

At CFPA, I know we’ll be fighting for action now, and I hope you’ll join the fight if Connecticut’s future forests are also important to you.

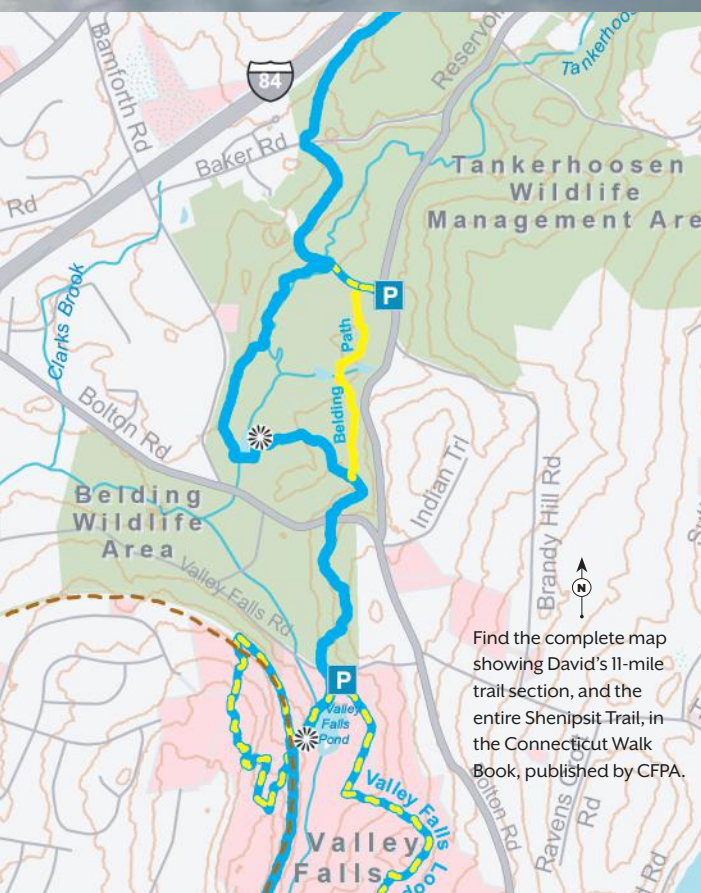
Eric Hammerling has served as the Executive Director at the Connecticut Forest & Park Association since 2008.



ON THE *Trail*

The Shenipsit Trail: Bolton Notch to Grahaber Road

By David Hatch



My first experience with the Shenipsit Trail began before I knew the trail—or CPFA—existed. In 1982, my wife and I bought a building lot in Vernon that had been part of an estate. About a decade later, hundreds of acres of wooded land that the estate held were entrusted to the State of Connecticut as the Belding Wildlife Management Area (BWMA). Part of the existing trail system became the Blue-Blazed Shenipsit Trail.

My encounter with CFPA was even more fortuitous. Once we lived next door, we would often cross-country ski after a new snowfall in winter, making tracks along these then-private trails (as abutters we had permission to use them). We often encountered other tracks in the snow and one day met their maker, George Arthur. George lived on the opposite side of the BWMA and also used these trails for recreation. From chats on the trail, I learned that he was active in trail building and with CFPA. I was recruited to help when I could. George was instrumental in routing the 11-mile Vernon and Tolland section of the 50-mile Shenipsit



Trail and is my predecessor as Trail Manager. He previously led the East of the River traveling trail crew and has helped design and build dozens of structures on trails throughout the state. He is truly an inspirational figure.

My section of the Shenipsit Trail is long and varied. Hiking south to north, it begins in Bolton Notch, traverses Freja Park in the Town of Bolton, then follows the rail trail into Valley Falls Park in Vernon before crossing Valley Falls Road into BWMA. North of Belding past Walker Reservoir, it follows several streets to a section on Tolland Agricultural Center property, returns to the street and then along Connecticut Water Company land on the eastern side of Shenipsit Lake. This 1.75-mile section is lovely as the seasons change along with views of the lake and the farm fields on the opposite side. Here the trail is relatively flat as it follows an old trolley line that once ran from Rockville to Crystal Lake. I have been fortunate to see a pileated woodpecker here with its wings fully spread low in the trees. From the north end of the lake, the trail follows roads before re-entering wooded land. Further north, the Shenipsit crosses Soapstone Mountain in Somers, and ends a few miles south of the Massachusetts border.

Over the past two years, the Connecticut Department of Energy and Environmental Protection has logged parts of BWMA to remove non-native tree species and improve nesting areas for birds. BWMA has become a dog walker's paradise; the plan was to relocate some trails to create at least three new 25-acre areas without trails to protect nesting birds. Two large ponds created with stone and earthen dams in the 20th century are being allowed to silt in, but the Tankerhoosen River, a native trout stream, remains a prominent feature of the BWMA. The Shenipsit follows the stream for a good distance. I think the loveliest section of the Shenipsit Trail is south of my section. There is excellent hiking from Hebron Avenue in Glastonbury through private land trust land and north to Case Mountain Park in Manchester through Manchester Water Company

Land. There is also a connector to Gay City State Park. If you arrange transportation at one end of the trail, you can spend a lovely day hiking the long ridge from Case Mountain south to Gay City.

Over forty years on the trail has provided many treats from nature, and also some challenges. I've seen wildlife up close, including flocks of wild turkeys and blue herons fishing in the pond, and was even dive-bombed by a red-tailed hawk in spring, likely for being too close to its nest. Challenges include clearing dozens of fallen trees from the trail each year, moving and repairing bridges, and keeping the trail markings clear and fresh. This year we've had to replace major wash-outs after numerous heavy storms and flooding.

CFPA provides many resources for its volunteers, including chainsaw safety courses with Game of Logging, and trail crews who assist with major projects. The Rock Stars, enthusiastically led by Wayne Fogg, are a special group I work with when I can. It's thrilling to see a 300-pound rock flying down a trail on a high line to be used in a set of steps or a bridge, despite the back ache the next day. All in all, the work will never end, and I hope to be able to keep up my role as Trail Manager and begin to find and train a successor.

David Hatch, a 72-year-old retired physician, has lived in Connecticut for 40 years. An outdoors enthusiast, he has hiked in the American Southwest, British Columbia, and the Alps, but always is grateful to return to New England. He also enjoys kayaking, biking, and golf, along with spending time with his new grandson.

Explore the Blue-Blazed Hiking Trails Interactive Map on the CFPA website.

Above: CFPA volunteers Wayne Fogg and Karen Lankford work on the trail at Belding Wildlife Management Area. Below: The author assists with clearing a fallen tree.





STORIES IN THE SNOW

Discovering the Joys
of Animal Tracking

By Timothy Brown

**Above: The tracks suggest a
bird of prey trying to catch a mouse.
Notice the wing marks in the snow.**
Photo by Beth Bernard.

**TRACKING
forces you to
slow down and
focus on truly
observing your
surroundings.**

Winter is the perfect time to go tracking. Footprints in fresh snow reveal not only the sheer volume of wildlife movement, but also the subtle ways that animals interact with their environment and each other. Snow tracking is not without its challenges, though. Rarely will you find the “perfect” track. Warm days and cold nights can lead to thawing and refreezing that over time will alter a track’s shape and size. This can be frustrating, especially for the novice tracker who is anxious to quickly identify a set of prints and move on to discover the next track.

Tracking, however, is much more than being able to identify a particular set of footprints; it cultivates keen observation skills and a deeper awareness of the interdependence of nature. Master trackers will follow a trail for hours—or even days—slowly learning about the animal and its condition from the clues it left behind. As a tracker, you’re like a detective piecing together the story by learning to read the landscape. While it can be helpful to take an introductory course taught by a master tracker, here are some basic tips to get you started this winter.



Bobcat



Coyote



Fishercat

Taking Time to Observe Your Surroundings

In our hectic society, we're often rushing from one activity to the next. Tracking forces you to slow down and focus on truly observing your surroundings. Unlike a day hike, which is often about accomplishing a particular goal, such as completing a certain trail or bagging a peak, tracking is about the quality of your observations, not the number of miles you cover.

When you find a set of tracks, take time to conduct several measurements of both the individual tracks and the trail, the pattern the animal left while moving through the snow. Carry a retractable tape measure, a magnifying glass (your smartphone will also do), and a notebook and pencil to record your observations. A good field guide will help with identification. The best time to go tracking is early morning after a fresh snowfall when the tracks are unspoiled by other animals, people, or changing environmental conditions.

It can be thrilling to identify the creature who left a particular footprint in the snow. There's no doubt, for example, that discovering you're following a coyote trail will get the heart pumping! But that's just the beginning. Simply identifying a track doesn't tell you much about the creature who left it. The real joy—and challenge—is trying to understand what the animal was

doing, and why. This takes patience, and a lot of practice.

Novice trackers will often keep their heads down searching for prints in the snow without stopping to notice their surroundings. You should constantly ask yourself, Where am I? Are you in the middle of a forest or a field? Near a river or lake? By a road or a farm? If you're in a forest, are you surrounded by mature trees, or is it a young stand? These may seem like obvious questions, but it's easy to become obsessed with finding the next track without pausing to look up. Moreover, observing your surroundings can give you important information about an animal that you simply cannot get from its track.

Focus on What You're Seeing Rather Than Rushing to Name It

The most common question beginning trackers ask is: What animal made this track? But in rushing to name which creature left a particular print, you avoid the critical, scientific process of carefully observing the track. While it may not feel as satisfying in the moment, being able to describe the track in detail is far more important in the long run than just being able to identify a particular print. If you take the time to carefully observe a track and document your observations, you'll become a better tracker. And like any scientist, always question what you think you know.



Raccoon



Beaver



Opossum



Turkey



Top: A raccoon 2 by 2 trail in light snow. Photo by Beth Bernard.

Above: Canada goose tracks. Photo by Paul Fusco.

Below: Canid tracks are oval-shaped, while felid tracks are more rounded. Felids also have retractable claws, whereas canids will leave claw marks in the snow. Notice the number of toes in the track. Be careful—mustelids have five toes, but typically only four will appear in their tracks. Note: These prints are not to scale. Artwork courtesy of Paul Fusco/CT DEEP-Wildlife



shape and quality of the footprint will give you a lot of information before you take any measurements.

Next, measure the overall diameter of the track, plus the size of the toes, the distance between toe pads and the heel pads, and claw marks, if necessary. If possible, measure several prints to calculate the average size of the tracks. Remember, snow can be misleading; often a print will appear larger or smaller than the foot that made it, so the more measurements you can get, the better.

Reading Animal Sign

While you may occasionally be lucky enough to find a perfect set of tracks, more often you'll encounter tracks that have been distorted by changing environmental conditions or other wildlife, thus making it difficult to get any reliable measurements. Serious trackers, therefore, rely on animal sign for clues when there are few or no clear tracks. Examples of sign include scat (poop) and urine; rubbings, claw marks, and bite marks on trees; runs and slides (think river otters); and nests and other bedding areas. Again, stop and look around when you're tracking. There will be clues everywhere for you to discover.

Keep Tracking

While tracking courses can be hugely beneficial, there's no substitute for practice, or what trackers often call "dirt time," and winter is the perfect season to get started. Ultimately, tracking can enhance your time spent outdoors by cultivating a deeper awareness of wildlife and appreciation of nature.

I was reminded of this some years ago while following a set of bobcat tracks in deep snow near the Quabbin Reservoir in central Massachusetts. I'd been trailing the animal for about a half-hour when the tracks led directly into a thick stand of mountain laurel. I stopped. Mountain laurel can be notoriously difficult to penetrate. I looked for a way around the dense stand. But the laurel blanketed the hillside, and I knew that even if I found an alternate way around, I could lose the trail, so I decided to keep following the cat. I lay belly-side down on the ground and began to inch my way forward. It was slow going. Branches tugged at my jacket and daypack, and I had to keep my head down to avoid being scratched in the face. Then I saw something amazing—the bobcat trail I had been following split into two sets of tracks; one headed to the right while the other veered to the left. I was following not one, but two bobcats! Bobcats, typically solitary creatures, will often direct register—that is, step their hind feet in the exact same

track as their front feet—but until that moment, I had never seen two bobcats direct register on the same trail. It was an important reminder that things are not always what they seem.

Analyzing Tracks and Trail Patterns

Start by observing the overall shape and qualities of the track. Canid tracks, such as domestic dog, fox, and coyote are oval-shaped (longer than they are wide), while felid tracks, such as bobcat, are more rounded. Felids also have retractable claws, whereas canids will leave claw marks in the snow. Notice the number of toes in the track. Is it four, or five? Be careful—mustelids, members of the weasel family, including fishers and mink, have five toes, but typically only four will appear in their tracks. Was the track made by a hoofed animal, such as white-tailed deer or a moose? Are there two different-sized footprints on the trail, as in the case of raccoon? If the track was made by a bird, are talon marks, or evidence of webbed feet? Simply observing the

FOR FURTHER READING

Tracking and the Art of Seeing: How to Read Animal Tracks and Sign,
by Paul Rezendes

Mammal Tracks & Sign: A Guide to North American Species,
by Mark Elbroch

Wildlife and Habitats: A Collection of Tracking and Natural History Essays with Photographs,
by Susan Morse

Preserving Dark Skies

Light pollution is serious problem worldwide for both wildlife and humans. But concerned citizens are working to reduce light pollution in Connecticut and reconnect people with the night sky.

By Renee Jiang

There's a classic scene in National Lampoon's Christmas Vacation where the protagonist, Clark Griswold, played by Chevy Chase, fumbles with a string of holiday lights as he frantically tries to decorate the house in time for Christmas. Griswold ends up slipping on some ice, sliding off the roof, and clinging from the gutter for dear life. But this comedy conceals a more serious issue than simply putting up holiday lights. Though electric Christmas lights have been a festive decoration since the late 19th century, these days those lights are contributing to pollution that is blocking out the real stars from our night skies. In fact, holiday



Above: The Andromeda Galaxy as seen from the Lyme Land Trust Dark Skies Site. Astrophotograph by Roger Charbonneau, Jr.

Left: The Andromeda Galaxy obscured by light pollution. Photograph by Alan Sheiness.



lighting consumes over six terawatts of energy per year, equivalent to the monthly consumption of around 500,000 homes, according to the U.S. Department of Energy.

Our world, once illuminated solely by moonlight, is now flooded by excessive light pollution. Over the past 25 years, global light pollution has increased by nearly 50%, and today 99% of Americans can no longer experience natural night skies. Despite the critical role artificial light plays in our economy, light pollution isn't just a problem of restoring starry nights. Light pollution disrupts the Earth's circadian rhythms, the natural cycles that plants and animals have relied on for millennia. Artificial light, especially at night, has profound effects on the reproductive, nocturnal, and sustenance behaviors of many animals.

Excessive brightness and glare from artificial light, for example, can impede the ability of red foxes to hunt at night,

according to Leo Smith, International Dark Skies Association (IDA) Northeast Regional Director for New England, New York, and New Jersey, and Chair of the IDA Connecticut Chapter. "Foxes know that their prey can see them and so they won't go out and hunt because it's a waste of energy," he said. "You'll find that predators usually hunt when it's a new moon or near a new moon, so that they can get up onto their prey without the prey knowing that they're there."

Artificial light can also disrupt the course of birds of prey who navigate at night. Migratory birds that follow a seasonal schedule based on light and dark cycles can be deceived by artificial lights to migrate at the wrong time, missing ideal climate conditions for nesting and foraging. And on sandy beaches throughout the tropics, sea turtle hatchlings can become disoriented by artificial light pollution and rather than heading toward the ocean, move inland where they often succumb to dehydration or predators.



“Dark sky events are “an opportunity to get people to understand and hopefully do something about preserving our natural world.”

Kimberly McLean

Light pollution can also negatively impact human health. “If we don’t get a good night’s sleep, which can be caused by light intruding into bedrooms, then our circadian rhythms are broken. When people don’t get enough sleep, their performance will degrade over time,” explained Geoff McLean, Night Sky Ranger for The Last Green Valley, a Danielson-based nonprofit that connects folks with the natural, historic, and cultural resources of eastern Connecticut.

Since 1988, the IDA has assessed the impact of light pollution and worked to preserve the few remaining parts of the world where you can still observe the

unobstructed night sky. Their International Dark Sky Places (IDSP) program contains five designations: International Dark Sky Parks, Communities, Reserves, Sanctuaries, and Urban Night Sky Places. The process for dark sky certification involves a written application, eligibility of location, lighting chart reviews, and more site-specific assessments. In 2017, the organization designated the Central Idaho Dark Sky Reserve in the Sawtooth National Recreation Area the first IDSP in the U.S. Last year, Katahdin Woods and Waters National Monument in Maine was certified as the first IDSP in New England. Today there are over 180 certified IDSPs around the globe. No dark sky sites have been certified in Connecticut, though concerned citizens are taking steps to address both the ecological and climate impacts of light pollution in our state.

In recent years, for example, the University of Connecticut has adopted more energy-efficient infrastructure as part of their sustainability initiatives. In 2014, UConn retrofitted their Sherman Sports Complex with a MUSCO Light Structure Green system. The system not only features fewer light fixtures that use less energy per fixture, but also follows IDA dark sky standards, reducing glare and light pollution by 50%. In 2017, UConn partnered with Eversource to revamp lighting in their Gampel Pavilion, which has reduced operating and maintenance costs in the arena by 80%, translating to roughly \$100,000 in annual savings. Collectively, these lighting projects have led to emission reductions, energy savings, and cost efficiencies, consistent with UConn’s Climate Action Plan, which calls for a carbon neutral campus by 2050.

Smith first began working in the field of lighting legislation when he became concerned about the glare coming from his garage lights. Since then, he has collaborated with legislators to amend building codes, served as an expert witness for utility rate cases, and acted as an intervenor

Left: A NASA composite satellite image reveals the U.S. at night.



Over the past 25 years, global light pollution has increased by nearly 50%.

for streetlight and floodlight issues. As a former member of the Roadway Lighting Committee of the Illuminating Engineering Society, Smith focused on evaluating the value and efficiency of streetlights in Connecticut. He said, “When you have a streetlight, you have about 100 times more light than is produced by a full moon. Do we really need 100 times more light to be able to see?” Not only are streetlights superabundant, but they’re often ineffective in preventing car crashes. Smith said that most streetlights are spaced incorrectly, either too close or too far apart, and can actually produce a glare that interferes with drivers’ vision. “Probably 80% of the streetlights that we have in Connecticut are worthless,” he said.

Working with Connecticut legislators to create smart streetlight policies, Smith developed draft language for two Connecticut statutes regarding fully shielded light. Fully shielded lights have a solid barrier covering the fixture where the light bulb is located, ensuring that the fixture only lights up the ground and that no misdirected light blinds passersby with glare. In 2001, with support from Representatives Jim O’Rourke (D-Cromwell) and Ruth Fahrbach (R-Suffield), he drafted a statute requiring all municipal streetlights to be fully shielded. In 2003, he drafted a second statute requiring all floodlights on utility poles to be shielded. In addition to Connecticut, 19 states plus the District of Columbia and Puerto Rico now have laws aimed at reducing light pollution.

In the long run, however, Smith believes that education is the long-term solution to light pollution. “Even if people were to accept light policy changes, many still feel a fear of darkness,” he said. “They don’t care whether lighting contributes to roadway safety or not. It just makes them feel better psychologically.”

In Connecticut, several organizations are working to educate the public about light pollution and protecting natural skies. This past fall, The Last Green Valley—which boasts one of the darkest night sky areas along the East Coast—hosted their 28th Walktober event. McLain’s wife, Kimberly, a Lead Night Sky Ranger, guided visitors across a debris field left by comets while they observed stars and constellations. She believes that most people don’t really understand the power of dark skies until they experience it firsthand. “When someone looks through a telescope for the first time and they see Jupiter or Saturn, they have the

‘Oh, wow!’ moment,” she said. “That stays with people and helps them want to learn more about our world.”

Though water and air pollution often receive more attention, light pollution is a critical environmental issue in Connecticut. Dark sky events are “an opportunity to get people to understand and hopefully do something about preserving our natural world,” said Ms. Mclean. During her nature programs, she educates participants about the effects of light pollution. “When they’re asking the questions, they really understand it or absorb it in a different way,” she said.

Further south, the Lyme Land Trust is dedicated to promoting dark skies along the shoreline. Board member Alan Sheiness, an amateur astrophotographer, hosts astronomy sessions on every new moon. He began this initiative as a way to stay in touch with the magnificence of the night sky. “The night sky is an amazing wonder, older than the modern and the ancient wonders of the world,” he said. “Since the beginning of humankind, people have been looking up at the stars and naming them, and that hasn’t changed in tens of thousands of years.”

Since Lyme has little commercial industry, Sheiness believes night sky observations are a great opportunity for locals to connect with nature. During his sessions, he provides short lectures about the night sky while waiting for everyone’s pupils to adjust to the dark. In addition, Sheiness encourages participants to act out celestial processes and constellations. He explained, “People who go to my session could explain to somebody else how that works because they’ve had it explained to them, not from a board, but by standing around the field where they really get it.”

Sheiness hopes to continue showcasing the beauty of dark skies for the people of Connecticut to understand it’s truly worth preserving. “I think a little bit goes a long way for people to have a consciousness where they realize, ‘Oh, that’s something to protect.’”

Renee Jiang is a senior at Choate Rosemary Hall and an intern at Connecticut Woodlands.

Learn more about dark sky events at lymelandtrust.org

See how dark your local sky is on the light pollution atlas at cleardarksky.com/maps/lp/large_light_pollution_map.html



Anthropocene Birthday

By Sarah P. Strong

Gift of equations
the empty orchard blossoming with snow

Gift of a haunting
the shadows of the animals in smoke

Gift of a cinder
the stars leapt from the bottom of the well

Gift of scar tissue
the afterimage scored for us like notes

Gift of our silence
so gently the sea covers up our words

Gift of a fever
the smell of thunder breaking up the heat

Gift of a morning
the votive candles going out like breath

Gift of our footsteps
the leaves we saw caught in the hedge are birds

This poem first appeared in the author's full-length poetry collection, *The Mouth of Earth* (University of Nevada Press, 2020)

*Sarah P. Strong is the author of four books, including *The Mouth of Earth*, a poetry collection exploring humans' responses to the changing natural world. Strong teaches creative writing at Connecticut College and Central Connecticut State University.*

Photograph by Jack McConnell



After the Leaves are Gone

Identifying Trees in the Winter

By Aaron Lefland

The diversity of Connecticut's woodlands is one of the reasons I enjoy working in this landscape. Located at the transition between the Central Appalachians and the Northern Hardwoods, Connecticut's woodlands have more tree species than most other forests I have visited in the US. In a small land trust preserve near my home in Hamden, a tulip tree (*Liriodendron tulipifera*) at the northern edge of its range grows right next to a paper birch (*Betula papyrifera*), which would not be found more than a few dozen miles to the south. That same three-acre preserve is home to four species of oaks, three species of maples, and about a half-dozen other tree species.

This confluence of forest regions creates a wonderful, if not challenging setting to learn how to identify trees. That challenge grows greater in winter when trees lose the feature most helpful in their identification: leaves.

The Three B's

Fortunately, trees have many features that make winter tree identification less daunting than one might imagine. The characteristics we'll be focusing on are sometimes known as the three B's: branches, bark, and buds.

Before diving in, I must point out that this is a very cursory overview intended to provide some helpful tips and tricks for identifying deciduous woodland trees in winter. Should you want to practice winter tree identification, or attempt to identify ornamental trees, I suggest obtaining a field guide with keys and illustrations.

M.A.D. About Branching

Winter tree identification, just like its summer counterpart, is about narrowing down the possible options. A quick way to home in on a tree's identity is to determine whether it has opposite or alternate branching. When trees grow, they either grow two new twigs directly across from one another on the main branch (opposite), or grow new twigs at intervals along the main branch (alternate). All trees are either opposite or alternate; they cannot be both.

If you've come across a tree with opposite branching, it's likely a maple, ash, or dogwood. Simply remember the mnemonic "M.A.D.", as the only other trees with opposite branching are horse chestnut (*Aesculus hippocastanum*) and elderberry (*Sambucus canadensis*), which are far less common. Using the other B's (bark and buds) will allow you to further home in on the identity of your tree. Ash have beige-colored bark with deep, intertwining ridges, whereas dogwood bark is greyer and often blocky or checkered. The buds of these trees are also somewhat different; ash buds are usually darker and set in very deep notches when compared with dogwood buds.

Recommended Field Guides for Winter Tree Identification:

A Peterson Field Guide to Trees and Shrubs: Northeastern and north-central United States and southeastern and south-central Canada, by George A. Petrides

Bark: A Field Guide to the Trees of the Northeast, by Michael Wojtech

Winter Tree Finder: A Manual for Identifying Deciduous Trees in Winter, by May Theilgaard Watts

Barking Up the Wrong Tree

If you've found a tree with alternating branching, you'll need some help further winnowing down the options. Fortunately, some trees have bark that makes identification a breeze. The shagbark hickory (*Carya ovata*) gets its name from its unique strips of long, peeling bark. Sycamore (*Platanus occidentalis*) and London plane tree (*Platanus x acerifolia*) are identifiable by their exfoliating bark that reveals near-white bark underneath. Beech trees have uniquely smooth bark with very few cracks, flakes, or ridges.

Even when a tree's identification is not glaringly obvious from the bark, there are still features that can help you identify that tree. Lenticels—1-to-3-inch horizontal, raised pores on the surface of the bark—are very pronounced in birch and cherry species. Their bark looks as if someone made thousands of small slices into the tree. Bark can also be used to discern between species of the same genus. Acorns around the base of a tree may indicate it is an oak, but the long, vertical "ski track" lines in the red oak's (*Quercus rubra*) bark will help tell it apart from the white oak's (*Quercus alba*) flakey, light grey bark.

Best Buds

With a trained eye, buds can be one of the best ways to identify a tree, as there is great variation in bud length, shape, hairiness, color, quantity, and placement across species. For example, American beech (*Fagus grandifolia*) have long, brown, cigar-like buds, whereas red maple (*Acer rubrum*) buds look like clusters of tiny red flowers. With a tree guide, hand lens, and a bit of practice, you can confidently identify trees using these three B's.



Observing branching patterns is an easy way to hone in on some species. Opposite branching and budding (above left) is only found in maple, ash, dogwood, horse chestnut, and elderberry. Alternate branching (above right) is more common. Inset photos by Aaron Lefland.



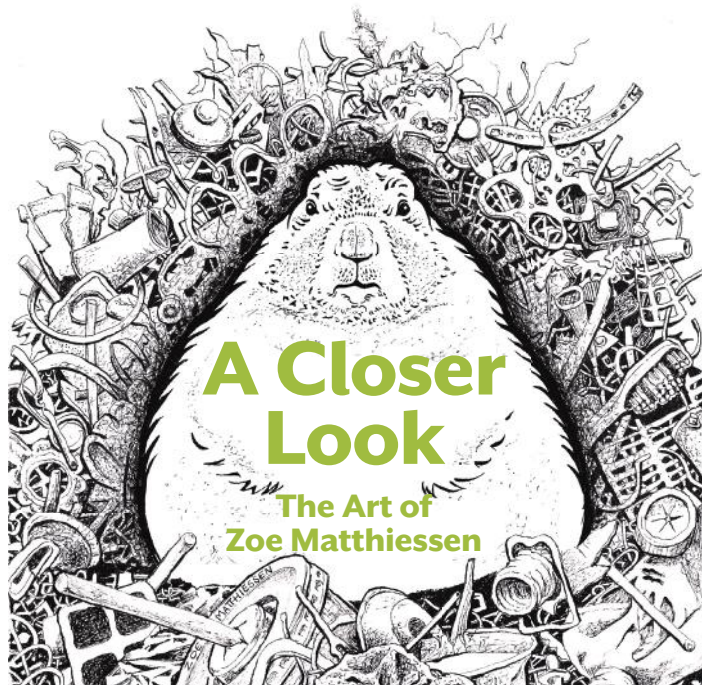
Bark variation can be a useful tool in identifying trees. Beech trees have very smooth grey bark, while red oak are known for the long "ski-tracks" that run vertically on their bark. Both lack prominent lenticels, which are characteristic of birch (pictured here) and cherry.

Deciduous Detectives

Winter tree identification is all about using clues that trees provide, even beyond the three B's. Hard mast, like acorns and nuts, let you know you are on the right track when identifying oaks, hickory, and walnut. If you think you have a black birch (*Betula lenta*), break off a small branch and confirm that identification with its wintergreen scent. Even the overall shape of the tree can sometimes be helpful in identification. For example, a weeping willow (*Salix babylonica*) has a very different architecture than a sugar maple (*Acer saccharum*).

Winter tree identification is certainly more of a challenge, but it also forces us to examine trees with more care and detail. In turn, we develop a keener eye and a deeper connection with our woods.

Aaron Lefland is a Connecticut native who has researched and worked in the forests of New England for over a decade. He holds a Master of Forest Science from the Yale School of the Environment, serves as the Executive Director of the New Canaan Land Trust, and volunteers on the board of the Sleeping Giant Park Association.



Above: Ground Clog, ink on paper

The first thing you notice about Zoe Matthiessen's art is the painstaking details she puts into her work. Her pieces invite you to look deeply, revealing the subtle beauty of nature, as in the gnarled branches of an ancient tree in New Haven's East Rock Park, or the reflections on the surface of a tidal marsh. Other works are more satirical, exposing the devastating impacts of single-use plastic on birds and other wildlife, for example. Zoe approaches her subjects with both a playfulness and a sense of urgency, reflecting for the viewer what is often unseen in the world.

A regular contributor to *The American Bystander* and *The Nation*, Zoe was the 2019 Artist-in-Residence at Art New England Magazine. She has exhibited at the Yale Peabody Museum of Natural History, the New Haven Lawn Club, and at SVA Chelsea Gallery in New York. Her first children's book, *The Last Straw*, about the ecological impacts of single-use plastic, was published in January 2021.

We sat down with Zoe to learn more about her artwork and her passion for nature. This interview has been edited for length and clarity.

Connecticut Woodlands: What inspired you to begin drawing trees and creating environmentally themed art?

Zoe Matthiessen: I was always a doodler, but never took it very seriously. In 2008, I met Barry Blitt when hired me to build his website. While working together, I was hypnotized watching him lay down those silky ink lines of his. I finally bought some inks about a year later, but struggled along

nervously about where to go with my art. Then I started drawing trees. After a while, friend and great illustrator, Joe Ciardiello, encouraged me to put my focus there, assuring me something magical would happen. For the next two years, that's all I did—I inked tree after tree after tree. Weird and unexpected lines started taking shape, and I eventually found my own voice.

I'm curious about your creative process. How do you approach your work?

The process usually begins with feeling gut-punched by some horrible image or story that I can't shake. It could be something as commonplace as a plastic fork tossed on a woodsy trail. It's a small thing—since it's all around us—but it has the potential to completely derail me. So, I take my frustration and anger to Google. The research is the worst part of the process. By the time I have the reference images and information needed to sketch out ideas, I'm often fuming. My approach to a nature piece is an entirely different experience—it's the best! All that's required is visiting a pretty place, breathing in some clean air, feeling leaves crunch as I walk, and I'm ready to dive in. I usually do the initial lines on location, then at home in my art cave I lay down the ink. It's probably when I'm happiest in life.

Talk about your Gallery in the Woods. That's such a fascinating project!

When I first moved from New York to New Haven, I was so excited about East Rock Park it bordered on obsession—I had so many trees to draw! After documenting nearly the entire trail along the covered bridge loop—and having never shown my work in a gallery at that point—I thought I'd use the trail as my "Gallery in the Woods." I printed six images and headed to the park. But when the moment came to hammer in that first thumbtack, I completely froze. What if someone saw me? What if the ranger came and berated me for littering? It took me nearly a half-hour to tack up my first print. Finally, I hammered it in and ran off. Then I tacked up other prints on the actual trees I had illustrated. The next day, I went back, and was astonished to find a Thank You note waiting for me. Then another from an Australian tourist. On one decaying log, ongoing communications took place for months. I referred to these exchanges as "Digital vs. On-a-log." I still have all the notes

“My hope is to disarm the viewer a little bit, so they’re willing to consider the problems with an open mind.”

Zoe Matthiessen

Right: The Black Vulture, ink on paper, on a tree at Zoe’s “Gallery in the Woods” at East Rock Park

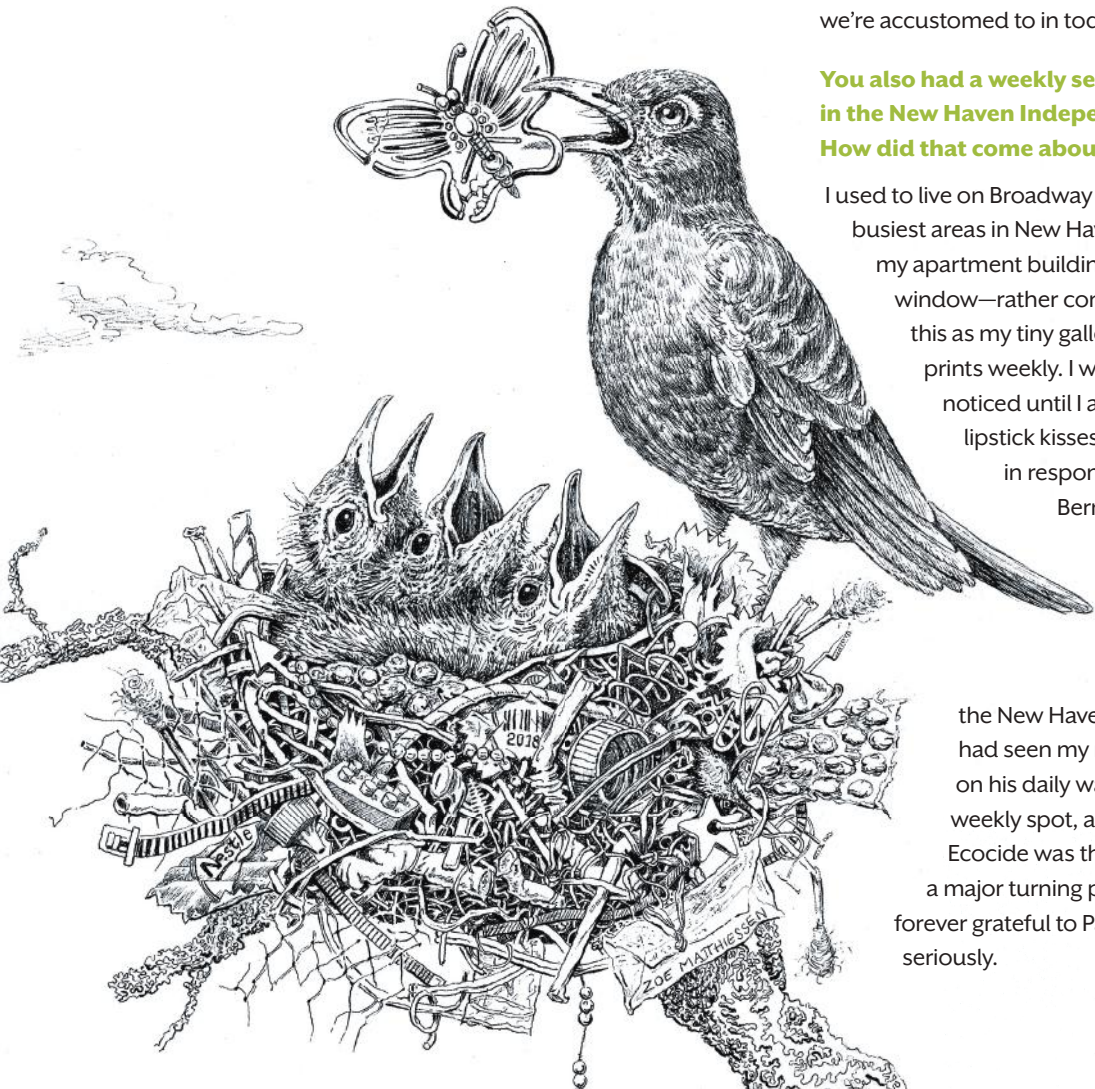
Below: Robin the Young, ink on paper

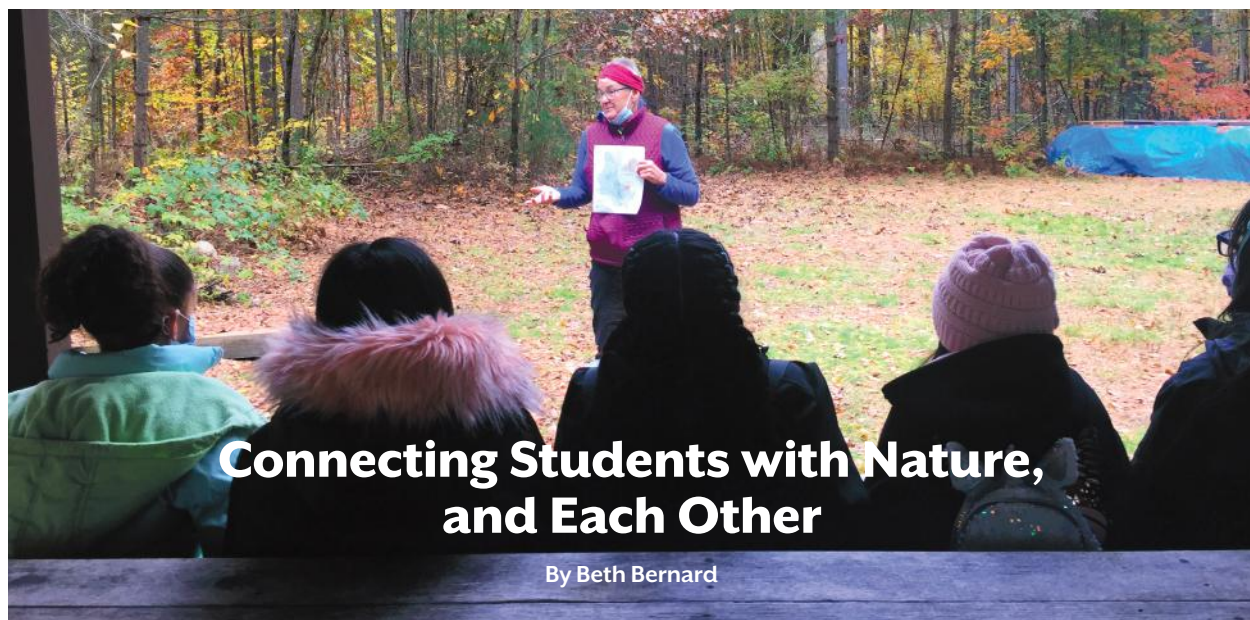


and even a couple of cards. It was such a nice throwback to simpler times when one could not even be sure the message would find its intended recipient, unlike the precision and speedy delivery we’re accustomed to in today’s world.

You also had a weekly series in the New Haven Independent. How did that come about?

I used to live on Broadway and York, one of the busiest areas in New Haven. The front door of my apartment building had an 11-by-17-inch window—rather convenient! I claimed this as my tiny gallery space and rotated prints weekly. I wasn’t sure anyone noticed until I awoke one day to find lipstick kisses all over the window in response to an illustration of Bernie Sanders. After a few months of keeping up my one-piece show, I got an email from Paul Bass, the editor of the New Haven Independent, who had seen my modest micro-gallery on his daily walks. He offered me a weekly spot, and we decided that Ecocide was the way to go. That was a major turning point for me, and I’m forever grateful to Paul for taking my art seriously.





Connecting Students with Nature, and Each Other

By Beth Bernard

For the past four years, CFPA has partnered with the Windham Middle School to provide hands-on environmental education at the Goodwin State Forest. This year, our partnership began with two simple questions: What do students need, and what can CFPA do to help?

I expected to hear that teachers needed assistance with their science curriculum, which we have helped with in the past. But this year, school officials had a different answer.

First and foremost, they said, students needed to be outside. After pushing through a year of online learning, the outdoors literally provided the breath of fresh air that their students so desperately craved. In addition, hybrid learning had made it difficult for teachers to cultivate a sense of community and connection with their school.

As a result of that initial conversation, we created a different kind of educational experience for the Windham students this year, one that focused more on their social and emotional wellbeing, encouraged them to spend more time outdoors, and inspired them to take actions to improve their school grounds. When we saw students' reactions to the program, we knew that these goals were right on target.

We started our partnership by bringing students to underutilized outdoor spaces at their school, including courtyards and gardens. We asked the students how they would like to use these spaces. Students imagined the potential in these spaces and thought about what simple projects could do to improve them. Some students imagined hammocks for relaxing, or frog ponds. Others suggested adding more tables for seating and bird feeders to support wildlife.

Next, at Goodwin, students viewed firsthand tips for supporting people and wildlife in outdoor spaces and made

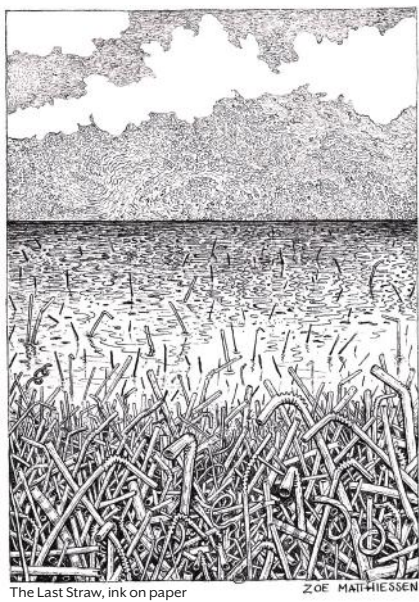
plans to take that knowledge back to their school for their improvement projects. They learned about native plants they could bring to their school to support wildlife, and how Goodwin balances the needs of humans and wildlife by providing designated picnic spaces. Students were in awe of the fuzzy caterpillars they found in the meadow. And they showed pride after taking a hike. For some students, this was the first hike they'd ever taken.

Later, while sitting around the campfire at Goodwin, students listened attentively as a Mary Oliver poem was read in both English and Spanish. During our debrief, we asked students to raise their hand if they liked being outdoors. Hands shot up. One 8th grader commented, "You know, I like hiking more than I thought I would." I asked him why. He responded that he felt calm and peaceful in the woods. Like others across the country, these middle school students have struggled under the stresses of the pandemic, and spending time outdoors is just what they needed.

We also provided each student with a free string backpack, courtesy of the alphabroder company, filled with a water bottle, journal, map, magnifying glass, and a hiking guide. It's our hope that these items will encourage students to spend more time outside and on the trail with their family and friends.

Many thanks to the Community Foundation of Eastern Connecticut for their generous support of this program, and to the dedicated CFPA staff and volunteers who support these students year after year.

Beth Bernard is CFPA's Education Director. She received a master's in environmental education from Antioch New England Graduate School and has been working as an environmental educator for over 20 years.



In addition to Ecocide, I filled another weekly spot with “Picture This.” Since I had so many local woodsy illustrations already finished, I thought, “Why not play a game by sending folks to the woods on scavenger hunts?” The first three people to locate the tree or trail in the drawing—and prove it by sending a photo from the location—would get a print. Often it was delivered by hiding it somewhere else in the woods. It was a playful way to interact with other local nature enthusiasts.

What inspired you to create *The Last Straw*, a children’s book about the plastics problem?

I’d already been telling my story to the adults: plastic is evil and destroys everything. It was a matter of finding a way to teach children to be mindful of the plastics around them. It’s a sad story, showing animals involved in distressing encounters with single-use plastics, but it’s real and children need to know about it. Since most plastics never get recycled, I wanted the final message of the book to be geared towards avoiding plastics whenever possible and reusing the ones that come our way.

Are you hoping to elicit a certain response through your art?

My hope is to disarm the viewer a little bit, so they’re willing to consider the problems with an open mind. At first glance many of my Ecocide pieces may look cute or charming, just enough to trick someone into taking a second look—a little sugar to help the medicine go down. Once they look beneath the surface, they see what’s really happening. For example, the robin is cheerfully serving her young ones a plastic butterfly hair clip, not an actual butterfly. Lately I’ve been focusing more on showing the beauty of nature. Culturally, environmentally, and politically things feel a little dark right now. I sometimes need to turn my attention to what is pretty in this world. Birds, mostly.

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Alain C. White, a prominent conservationist from Litchfield, became the president of the Connecticut Forestry Association (CFPA's name until 1928) at a time when the state's forest and park system was rapidly expanding. Amongst Mr. White's early achievements as president was spearheading the purchase of 400 acres along the banks of the West Branch of the Farmington River in Barkhamsted—with support from the Connecticut Federation of Women's Clubs, Daughters of the American Revolution, and numerous private donors—and donating the land to the people of Connecticut. The dedication of the Peoples Forest in October 1924, featured a pageant celebrating local Native history and attracted some 2,500 attendees, including then-Governor Charles Templeton, State Forester Austin F. Hawes, and State Parks Director Elliot P. Bronson, Sr. During the mid-1930s, the Civilian Conservation Corps made significant improvements to the Forest, including constructing hiking trails and building a fieldstone Nature Museum complete with paneling made from American chestnut that had succumbed to the blight.

Today, the 3,000-acre Peoples State Forest has 11 miles of hiking trails, including the 2.5-mile Agnes Bowen trail, a traditional 1930s ski trail, and is a popular destination for fly fishing, canoeing, kayaking, hunting, and picnicking, as seen this 1930s photograph. In winter, the Forest is ideal for snowshoeing and skiing in the Whittemore Grove Cross Country Ski Area.





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