The magazine of Natural Lands
no. 158 | spring/summer 2021

natural lands

building an insect factory.

contents

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ACCREDITED LAND TRUST ACCREDITATION COMMISSION

from the president

Over the past year, we have all missed countless experiences that we previously took for granted, whether that be precious time with family and friends or the simple pleasure of movie theater popcorn.

Because I, like many of you, have been working at home for much of the pandemic, I have missed some of my favorite moments of spring that I now realize mean a great deal. Being welcomed at the Natural Lands headquarters at our Hildacy Preserve by the songs of Red-winged Blackbirds and chirping spring peepers in the nearby wetlands, for example, always helped to shake the winter chill and spark renewed energy.

Of course, the Red-winged Blackbirds and spring peepers performed their symphony again this year, unbothered by the lack of my audience. It is a performance made possible by the fact that their home is permanently protected and carefully managed to provide a thriving habitat.

Hildacy Preserve is one of 44 such preserved places for which Natural Lands is responsible in eastern Pennsylvania and southern New Jersey. Each has its own unique landscape, its own distinctive history, and an exceptional group of staff and volunteers who see to its ongoing care.

In this issue of our magazine you will have a chance to appreciate a few of these gems—how they came to us, how we sustain and improve them from year to year, and who makes them the extraordinary places that they are. You will also learn a bit about how we gain inspiration from those who cared for these lands thousands of years before us.

As you read these stories, I hope that you will be gratified by the essential role you play in each. For as different as every Natural Lands preserve may be, they all were—and continue to be—made possible by astoundingly generous people like you. People who value the essential role that preserved natural areas play in the health of our planet and personal well-being. For that, we, the Red-winged Blackbirds, spring peepers, and countless other creatures and plants that call our preserves home are grateful.

OLIVER BASS, PRESIDENT

Ed Cunicelli

news

bettering our bird abode.

Last year, Natural Lands received $20,000 from the Cornell Lab of Ornithology to study and improve habitat at Bear Creek Preserve for three species of birds that are in decline: Wood Thrush, Golden-winged Warbler, and Ruffed Grouse. The grant is part of the Cornell Lab's Land Trust Bird Conservation Initiative, which recognizes the importance of the role of land trusts in bird conservation through land preservation.

Early successional and mixed-age forests are the ideal habitat for these species. To achieve this desired mix, several forestry projects are planned, including a prescribed burn, removal of a section of overstory trees to allow more sunlight to penetrate the woods, selective timber harvests, and group tree selection to create small openings in the forest.

A monitoring program utilizing eBird will track the success of the management actions by assessing bird diversity and monitoring for the presence and abundance of the target species. The project includes partnerships with Audubon Pennsylvania and the Pennsylvania State University.

Wood Thrush

"It seems counter-intuitive to remove trees in order to improve forest habitat, but the goal is diversity of tree species and ages," said Preserve Manager Josh Saltmer. "This grant will help us learn which **silviculture** methods lead to bird population increases at the preserve. We can then share that information with other land managers and conservation organizations."

what does it mean?

silviculture
the growing and cultivation of trees

"Natural Lands constantly strives to care for our preserves in a way that best supports native vegetation and wildlife, particularly at-risk species," added Oliver Bass, president of Natural Lands. "Thanks to the funding and support from the Cornell Lab, we hope to create a mosaic of mixed-aged forest at Bear Creek Preserve that better supports birds and other wildlife." ■

eagle's-eye view.

It's always been Natural Lands' practice to visit annually each and every one of the 447 properties under **conservation easement** with our organization to ensure the specifications of each easement are being upheld. When the COVID-19 pandemic hit our region, however, in-person monitoring visits were no longer an option. This problem was also an opportunity—in this case, to incorporate remote monitoring of conservation easements via satellite imagery.

Example of NearMap imagery within the UpStream Tech Lens product.

"Thanks to advances in technology, aerial and satellite photos have come a long way," said Erin McCormick, director of the conservation easement program. "Our staff can review multiple high-resolution images for a property and determine whether or not follow-up with the landowner is needed. And it's important to note this practice is endorsed by the Land Trust Alliance, a national organization by which Natural Lands is accredited."

what does it mean?

conservation easement
a voluntary, permanent land protection agreement

This new process will cut dramatically time spent walking acres of eased properties, and the time and costs associated with traveling to properties that we monitor in three states and 18 counties. In 2019, 21 staff members spent a total 714 hours on in-person monitoring visits. We anticipate aerial monitoring will require significantly less time.

To help maintain relationships with our easement landowners and to address issues that aren't visible from imagery, our staff will conduct in-person visits at least once every three years. ■

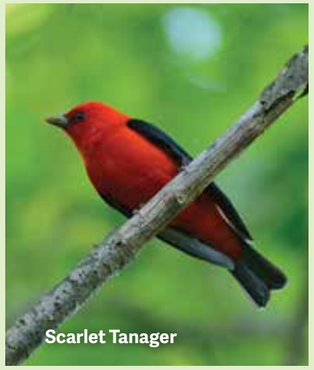
bear creek preserve

More than two thirds of Natural Lands' preserves—extraordinary gifts to our region—have been made possible in part or in whole care of philanthropic families who care deeply about our mission. Established in 2006, Bear Creek Preserve—a vast expanse of forests and steep stream valleys in the Lehigh River Watershed—would not exist if not for the exceptional generosity of the families of John, Bill, and Tom Haas, along with dedicated funding from the Pennsylvania Department of Conservation and Natural Resources. At 3,565 acres, the preserve is larger than many state parks, and boasts diverse, thriving habitats and plant communities, including several rare species.

Josh Saltmer, preserve manager

The Haases were motivated not only to preserve this wild and scenic landscape, but also provide endowment to ensure its day-to-day care—now stewarded by preserve manager Josh Saltmer and his assistant Scott Davies. Thanks to additional grants for projects like the one described above, Josh and Scott are able to manage Bear Creek's vital habitat for native wildlife—including black bear, coyote, Bald Eagle, rattlesnake, and many species of migratory songbirds—as well as for public enjoyment, dual priorities the Haases envisioned when they donated the preserve. ■

coyote



Scarlet Tanager

above: Bill Moses, *right:* Mae Axelrod

left: jonathannathanielhayes.com, *right:* Bill Moses

building an insect factory.

Ten years ago, a pair of Red-shouldered Hawks built a nest in a tall white pine at the southern edge of Hildacy Preserve, Natural Lands' Media headquarters. Under the watchful, binoculars-aided eyes of Preserve Manager Mike Coll, the raptors successfully reared fledglings. Every year since, those same adult hawks have mated, nested, and raised babies at this 55-acre oasis of nature in the midst of black-topped Delaware County.

Why?

"It's because we've turned Hildacy into a giant insect factory," says Mike. "By intentionally planting a diversity of native trees, shrubs, grasses, and perennial flowers, we are giving insects the food sources they need. The vast majority of birds feed insects to their young. And even when they aren't eating bugs, they are eating things that eat bugs, like mice, squirrels, frogs—all of which are prey species for raptors like Red-shouldered Hawks."

And hawks aren't the only species thriving at Hildacy. As you will read, the particular approach that we take to caring for nature at this and all of our preserves—cultivating native ecosystems—creates the right environment for critters of all types to flourish.

Ecosystems in this region have been heavily degraded by development. As a result, land can't take care of itself. It's not enough just to preserve land from development; we must steward it carefully—encouraging native plant species, controlling invasives, managing wildlife populations, and finding the balance between nature's needs and visitor impacts. Do all that well, and the insects will come, along with the countless other species that exist because of them.

left: **Song Sparrow,** *above:* **Chestnut-sided Warbler**

know your natives.

For many years, scientists and land stewards have known that native plant species are key to ecosystem restoration. This is easy to understand if we explore the food web.

Plants capture energy from the sun and turn it into food. Insects eat plants. Animals eat plants and also insects. Bigger animals eat smaller animals.

But insects are picky when it comes to their greens. They'll only eat those species that have evolved alongside them. What's more, about 90 percent of herbivorous insects are considered "specialists," meaning they will eat only select plant lineages.

A well-known example of this is the beloved monarch butterfly. In their larval state, monarchs have a voracious appetite. They'll consume 200 times their initial "birthweight" in the 10 to 14 days it takes for them to metamorphose into pupae. The only plant they'll eat is from the genus *Asclepias*, commonly known as milkweed.

Caterpillars are the best creatures on the planet at converting plant energy, which is why so many birds—96 percent of North American land birds, in fact—prefer them

all: Bill Moses

to other types of insects. Well, that and their soft, juicy insides, which are ideal for baby birds.

Dr. Doug Tallamy, professor of entomology and wildlife ecology at the University of Delaware, and a Natural Lands Board member, uses chickadees to illustrate this preference for caterpillars. Using Tallamy's own native-plant-laden property as a research site, researchers studied breeding chickadees by setting up cameras at their nest boxes. They determined that a pair of chickadees must access 6,000 to 9,000 caterpillars to rear one clutch of young. Caterpillars are soft, easily swallowed, and packed with protein—the perfect food for hungry chicks.

"We all have chickadees at our feeders so we think they eat seeds. And they do eat seeds, all winter long," Tallamy said during one of the many presentations he gives across the country. "But when they are making babies, they don't eat seeds, they eat caterpillars, and feed caterpillars to their young. And that means that if you don't have enough caterpillars in your yard, you're certainly not going to have chickadees."

And you won't have enough caterpillars if you don't have the right plants.

powerhouse plants.

Dr. Tallamy is the lead author of a new study published in *Nature* that systematically identifies the most critical plants needed to sustain food webs across the United States. His research finds that only a few "powerhouse" plants support the majority of Lepidoptera, the order of insects that includes butterflies and moths. Ninety percent of what caterpillars eat is created by just 14 percent of native plant species, with a mere five percent of plants producing 75 percent of the food.

Native oaks, willows, birches, and wild cherry trees are on Tallamy's powerhouse list, along with goldenrod, asters, and perennial sunflowers.

At Hildacy Preserve, Mike Coll has been adding these species along with many other natives to the 55-acre preserve. On this property alone more than 1,500 native trees have been planted in the last decade, along with hundreds of native shrub species. Many acres of meadows have been converted to native grasses. Even the wetland areas have been planted with native species of plants that thrive in anerobic soil conditions.

making space.

Of course, planting native species isn't the whole equation. Invasive plants—species introduced from other parts of the world that lack natural predators and grow unchecked—are all too adept at crowding out their native cousins. Looking at the thick carpet of English ivy and pachysandra growing in a patch of woods not far from the Hildacy headquarters building, Mike acknowledges the challenge.

"Eradicating all non-native plants isn't a reasonable goal for preserves in this region; there are just too many and they are too successful. Instead, we try to control them, generally focusing on areas that are less degraded first." He adds, "It's a constant, never-ending project."

And a time-consuming one. Natural Lands' preserve managers are responsible for the stewardship of several nature preserves. Without the help of volunteers willing to pitch in to remove invasive plants, these weedy thugs would spread faster than we could manage them.

Planting natives can actually help our efforts to control invasives. By creating an incredibly dense tapestry where every possible space is occupied by myriad native plants, there are far fewer places for weeds to take hold and grow.

In 2018, Mike installed a meadow around the main office building at Hildacy Preserve. He used a mix of native grasses and perennial herbaceous plants, and over-seeded them to create a thick carpet. The native plants provide food for caterpillars and other insects, nectar sources for butterflies and hummingbirds, and seeds for short-tailed shrew and meadow jumping mouse among others.

"It's taken a couple years to get established," Mike said. "But the tall grasses and pollinator-friendly flowers offer far more ecological benefits than the turf that existed here previously." He mows the meadow annually and spot-treats with herbicide to deter plants like Japanese honeysuckle and mile-a-minute weed.

lawn as wasteland.

The meadow around the headquarters building replaced several acres of lawn. Now, instead of what was essentially an ecological wasteland, there is habitat for insects, small mammals, birds, and so on along the food web.

A 2018 study by the National Science Foundation (NSF) of

clockwise, from top left: **Prothonotary Warbler, Eastern Bluebird, Common Yellowthroat, Red-winged Blackbird** (female)**, Magnolia Warbler**

clockwise from top left: iStockphoto.com/ps50ace, Greg Grimshaw (2), Randy Richard, iStockphoto.com/pchoul

residential lawns confirmed what ecologists have known for years. The NSF researchers found that America's love affair with turf is contributing to a continental-scale ecological homogenization. Add to that the amount of fossil fuels needed to keep those lawns neat and tidy, and the gallons of water needed to keep them green, and it's easy to see why environmentalists advocate reducing turfgrass whenever possible.

At Hildacy, Mike knew swapping lawn for meadow would have a positive impact on the overall ecology of the preserve. And he hoped he'd see even more raptors join the resident Red-shouldered Hawks.

One species in particular that he was rooting for was the Eastern Screech-Owl.

Many years back, Mike installed a nest box not far from his cottage on the preserve. For the first three years, a male roosted in the box. Each spring, he called from the entrance of the box, but was unsuccessful at attracting a mate. The fourth year his luck changed with the arrival of a female Screech-Owl, and though the pair produced a clutch of eggs, none of them hatched. The following year had the same disappointing result.

Finally, in 2020, the nesting pair successfully reared and fledged three owlets. While Mike can't be sure the conversion from lawn to meadow made the difference, creating more space for owl prey to thrive certainly didn't hurt!

"Owls eat a mouse or other rodent-sized meal every single night. The female will tear the catch into bite-sized pieces for her babies," Mike said. "Having enough food readily available to minimize energy expenditure helps tip the scales in favor of successful breeding."

Eastern Screech-Owls generally breed within two miles of the place they were born, which means Hildacy may become home to generations of these petite predators. If so, Mike will have his binoculars at the ready to watch their progress. ■

Bill Moses

Orchard Oriole

hildacy preserve

Hildacy Preserve is virtually all that remains of a 300-acre land grant from William Penn to a local tanner and his family. Once prized for its mature oak trees, the land was slowly cleared for timber and agriculture. In 1936, Hilda and Cyril Fox (hence the name "Hildacy") bought the property. They lived here for nearly 40 years, and used the farm to raise racehorses and German shepherds. As the surrounding area was developed, the Foxes were determined to keep their land open for wildlife. In 1981, Hilda donated Hildacy—and a portion of the endowment required to maintain it as a preserve—to Natural Lands.

Today, support from our members helps extend the endowment so Mike Coll, preserve manager, can care for the property with assistance from other stewardship colleagues. ■

top: **Eastern Screech Owl,** *above:* **Red-shouldered Hawk,** *right:* **Mike Coll, preserve manager, with his Screech-Owl nest box**

top and left: Mike Coll, *right:* Mae Axelrod

an approach of gratitude.

Crow's Nest Preserve Manager Dan Barringer isn't sure of the history of Chief's Grove, a scenic point located in the northern half of the preserve. "We refer to the copse of trees as Chief's Grove on the map because that's the name Warwick Township locals have always called it."

Over the years, people with ties to local Lenape history and culture have visited the location and suggested it may be the burial location of an elder or healer, perhaps chosen long ago for the stately white oak that dominates the site.

What we do know for sure is that Crow's Nest Preserve, like all the land that we work to conserve and care for in eastern Pennsylvania and southern New Jersey, was inhabited for thousands of years before European settlers arrived to the area in the 1600s. Natural Lands has begun to explore how best to pay respect to the Lenape—past, present, and future—and to their continuing cultural heritage and connections with this homeland.

One approach, perhaps, is to begin to understand how scientific methods of caring for nature on our preserves can be enhanced and informed by traditional ecological knowledge. This body of knowledge focuses on how living things relate to one another in the natural word. It is "born of long intimacy and attentiveness to a homeland and can arise wherever people are materially and spiritually integrated with their landscape," according to Robin Wall Kimmerer, distinguished teaching

crow's nest preserve

Situated in the Hopewell Big Woods, a 73,000-acre expanse of forest, Crow's Nest Preserve's dense woodlands help protect the pristine waters of French Creek and associated wetlands, a haven for Wood Duck, beaver, fox, and racoon.

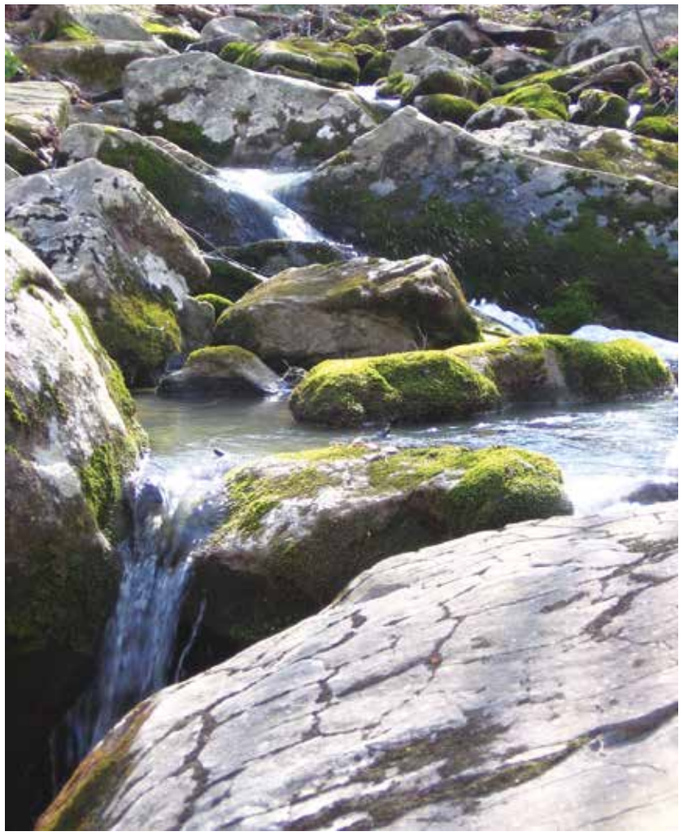
Crow's Nest Preserve is a testament to the extraordinary philanthropic care of a family who, while wishing to remain anonymous, has over decades enabled us to create what is now a 712-acre preserve and to restore six historical structures located within its footprint.

In addition to these meticulous building restorations, the ecological improvements and day-to-day care of this special property have been the work of Dan Barringer's career. Dan joined Natural Lands in 1991 and now leads a team of natural area managers and environmental educators dedicated to the preserve's care. Thanks to additional underwriting from our

anonymous donor, the preserve also hosts after-school programs and a summer day camp—both designed to help combat the nature disconnect today's kids face and provide space for creative, unstructured play in the outdoors. ■

above, L to R: **Molly Smyrl, educator; Dan Barringer, preserve manager; Alison Joyce, intern; Cody Hudgens, assistant preserve manager;** *right:* **summer day camp**

far left: Dan Barringer, *top:* Mae Axelrod, *bottom:* Serena Hertzog



In her powerful book, *Braiding Sweetgrass*, Dr. Kimmerer observes:

We are showered everyday with gifts, but they are not meant for us to keep... our work and our joy is to pass along the gift and to trust that what we put out into the universe will always come back.

professor at the SUNY College of Environmental Science and Forestry, and founding director of the Center for Native Peoples and the Environment. "Traditional ecological knowledge is increasingly being sought by academics, agency scientists, and policymakers as a potential source of ideas for emerging models of ecosystem management, conservation biology, and ecological restoration."

"An approach of gratitude that many Indigenous cultures emphasize goes a long way toward cultivating practices that benefit nature," Dan shares. "At Natural Lands, we have the good fortune of not having to extract resources or money from our lands, so we can use practices that may demonstrate values or techniques similar to those associated with Indigenous Peoples. Our goals for the preserves—diversity, resilience, and sustainability—may echo those of the Lenape that once called this land their home."

Natural Lands is in the forever business; our approach toward the properties in our care reflects this long-term approach.

"We think about our work as community building," Dan adds. "Our work on the preserves focuses on plant and animal communities and their interaction. Our engagement work looks at the impact of the organization on human communities. And, of course, we recognize the interconnectedness of our supporters... the value they derive from our conservation work and how they give back to further it. There is symbiosis and reciprocity embedded in those community relationships." ■

this page: Dan Barringer, *far right:* John Trax/Alamy Stock Photo

tribes advocate for the environment.

US Highway 93 traverses glacial lakes, dense forests, and mountain ranges in rural Montana. The highway also crosses through Flathead Indian Reservation, the nearly 2,000-square-mile home to the Bitterroot Salish, Kootenai, and Pend d'Oreilles Tribes.

In the mid-1990s, the Montana Department of Transportation proposed adding two lanes to the busy highway, prompting tribal officials to oppose expansion citing concerns for the myriad wildlife that crossed the road and the destruction of habitat. After much negotiation, a compromise would result in an entirely new sort of highway, one that was based on the idea that "the road is a visitor and it should be respectful of the land and the Spirit of Place."

The 56-mile stretch of Highway 93 now incorporates 41 fish and wildlife crossings, including a 197-foot-wide grassy overpass that offers safe passage for grizzlies, deer, wolves, and other mammals. Underpasses and culverts are utilized by river otter, American badger, and amphibians. More than eight miles of exclusion fencing channels the wildlife to the crossings, and "jump-outs" allow wildlife that get trapped inside of the fencing to jump to safety.

The results are astounding. Wildlife cameras have recorded more than 22,000 successful crossings annually, and crash data revealed an 80 percent reduction with large mammals. What's more, the animals demonstrated a learning curve with growing numbers utilizing the crossings over time.

Perhaps most significant, though, is the recognition of the Spirit of Place—the whole continuum of what is seen, touched, felt, and traveled through—and its importance to the Native peoples whose past, present, and future is deeply intertwined with the land.

"Tribes own or influence the management of nearly 140 million acres. This land is habitat for more than 500 species listed as threatened or endangered," said Julie Thorstenson, PhD, executive director of the Native American Fish and Wildlife Society. "Tribes are vital to the overall recovery and protection efforts of many endangered and threatened fish and wildlife species, and they are influential in innovative ways to coexist with fish and wildlife, such as the reconstruction of Highway 93."

barrens restoration. plugging away.

On a hot August afternoon last summer, eight volunteers worked to dig holes in the rocky, blue-green substrate at a section of ChesLen Preserve known as the Unionville Barrens. A few days earlier, Preserve Manager Sean Quinn, Assistant Preserve Manager David Castaneda, and Stewardship Assistant Matt Grammond had used heavy equipment to scrape away the soil from a half-acre section of the barrens as part of a long-term habitat restoration project.

"We removed the soil layer that had accumulated over the years as trees on the edge of the barrens drop their leaves and they decompose," said Sean. "We want to scrape until we expose the serpentine stone. Basically, we were digging holes in rock."

Hardworking volunteers then filled these holes with nearly 200 one-gallon pots that Mt. Cuba Center, a botanic garden in Hockessin, DE, had grown from seed previously harvested from this very same grassland meadow.

The term "barrens" was coined by farmers who long ago discovered that the soils were poor for growing crops. The presence of serpentinite—a rare metamorphic rock that was formed in a deep ocean half a billion years ago—makes the soils inhospitable to all but a few tenacious species that have adapted to these conditions. Many of these plants are rare, threatened, or endangered. At least eight plant species have died out since they were first documented at the Unionville Barrens about a century ago.

"We've identified 32 species of concern growing on the Unionville Barrens," said Sean. "We want to do everything we can to help them survive, which means creating the best possible conditions for the existing barrens plants and the seedlings we install."

In addition to mechanical soil removal, Sean and other staff members have been working to control invasive plants like autumn-olive and bush honeysuckle, which displace native species. The team conducts a controlled burn of the grassland every spring when conditions permit. ■

top left: Sean Quinn, *top right:* Matt Freeman/mushroomcityvideo.com, *right:* Ed Cunicelli

Matt Freeman/mushroomcityvideo.com

cheslen preserve

ChesLen Preserve's nearly 1,300 acres of shady woodlands, flower-filled meadows, fields of corn and soybeans, and stream valleys are a stunning testimony to the power of public-private partnership—in this case a philanthropic family, a conservation-minded county, and an invested municipality.

Gerry and Marguerite Lenfest had already distinguished themselves as generous and visionary philanthropists when they decided to donate their 500-acre Chester County property to Natural Lands in 2006. That gift alone would have been extraordinary. But the Lenfests went much further. Promising lasting support for land management, Gerry and Marguerite encouraged Chester County to transfer its adjacent 500 acres to Natural Lands to create a single, publicly accessible property: ChesLen Preserve.

Additional and generous grants from public agencies, private foundations and corporations have augmented that promise of support, bolstered by distributions from the Jean Macaleer Fund for Chester County Preserves, a dedicated endowment created in 2013 by longtime trustee Jim Macaleer to honor his wife's passion for the natural world. The impact of this generosity is in evidence daily as the stewardship team lead the restoration of essential ecosystems like the Unionville Barrens, simultaneously welcoming tens-of-thousands of visitors each year. ■

left: **Sean Quinn, preserve manager,** *middle:* **David Castaneda, assistant preserve manager,** *right:* **Matt Grammond, stewardship assistant**

the mosaic of endowment and immediate impact support for our preserves

Campaign for Humans and Nature donors

Natural Lands' Jean Macaleer Fund for Chester County Preserves

leadership philanthropy

public agencies and municipalities

Penny Wilson and donors to multiple Wilson Preserve Challenges

Campaign for Bryn Coed Farms donors

Natural Lands members

visionary members of our Allston Jenkins Legacy Society

foundations and corporations

Jim Moffett

step 1: save land. step 2: care for it forever.

Stroud Preserve

We love saving land, but it's just the first step in our mission. Our additional commitment to caring for nature and connecting people to the outdoors is the driving force behind our 23,000-acre network of nature preserves—an assemblage of protected spaces that distinguish us as an organization.

While each of our properties has a unique story of how it came to us initially and is sustained currently, all Natural Lands preserves have a shared narrative thread. It's a one-two punch that begins with passionate supporters and culminates in a lifetime commitment of care. Whether a preserve was donated by individuals, assembled over decades through public open space grant programs, made possible by partnership ventures, or is sustained day-to-day through member support, leadership gifts, institutional grants, and community-based campaigns, it is the passion, hard work and dedication of that preserve's stewardship staff that assures the on-going magic of every acre.

"Preserve mangers, assistant managers, and stewardship assistants curate the seamless experience and awe-inspiring moments the rest of us take for granted when we visit a Natural Lands preserve," said Vice Chairperson of the Board Jane Pepper, who walks our preserve trails several times a week. "They oversee all aspects of preserve maintenance and natural resource management, facilitate volunteer workdays, collaborate with scientists on projects of ecological significance, and help connect visitors to the wonders of the natural world. I know I speak for thousands when I say we could not be more grateful for all they do."

bryn coed preserve

Generosities from many—including state, county, and municipal public partners, the William Penn Foundation, more than 650 Chester Springs-area households, and caring others—combined in 2017 to advance one of the most monumental conservation achievements in our region's history. Working together, we saved a 1,505-acre mosaic of forest and farmland known as Bryn Coed Farms from a 700-home development.

The 520-acre Natural Lands preserve now nestled in the center of this vast open space boasts a white oak that is one of Pennsylvania's "Big Trees," the headwaters of the Pickering Creek, and several Bald Eagle nesting spots.

Leading the efforts to transform former farm fields into a more ecologically diverse nature preserve are manager Darin Groff and assistant manager Caleb Arrowood. Together with colleagues, they have installed 10 miles of new trails, planted warm season grass and wildflower meadows, and overseen a massive tree planting of 12,500 mixed deciduous hardwoods. And all of this while watching Bryn Coed become one of Natural Lands' most visited preserves. "Creating a nature preserve from scratch is a challenging prospect, for sure," said Groff. "But it's a labor of love. Knowing that this land will be preserved forever, and for all to enjoy, keeps us going day-to-day."

Underwriting for that day-to-day is made possible by Natural Lands members, impactful major gifts, and a burgeoning endowment seeded with sale proceeds from the final few conservation lots associated with our larger Bryn Coed acquisition. ■

left: **Caleb Arrowood, assistant preserve manager,** *right:* **Darin Groff, preserve manager**

top: Greg Grimshaw, *bottom and right:* Mae Axelrod

sadsbury woods preserve

Sadsbury Woods is a remarkable story of a now 508-acre preserve assembled piece-by-piece over decades.

Our land protection team had been eyeing this large interior unfragmented woodlands in western Chester County for years, knowing its ecological significance—extremely rare in our developed region and critical habitat for many species of birds, especially neo-tropical migrants. Situated squarely in the path of expanding development around Exton along the Route 30 corridor, and an easy commute to the corporate campuses around Exton and Philly, the preserve's first 177 acres were acquired by Natural Lands in 1996. Over the next 15 years, 17 more parcels expanded the preserve to its present size.

left: **Claudia Winters, stewardship assistant,** *right:* **Erin Smith, preserve manager**

Like many of our land protection successes, Sadsbury Woods' preservation was made possible by generous public support from Chester County's Preservation Partnership Program and Pennsylvania's Department of Conservation and Natural Resources. But while public grants are core to our land acquisition efforts, they do not provide us with endowment to support ongoing preserve maintenance. Once we save the land, we must raise or allocate the additional resources required to manage it. In Sadsbury Woods' case, this meant living within our means and forgoing dedicated staffing for almost two decades until 2015 when—thanks to the combined generosity of donors to our Campaign for Humans and Nature, a primarily endowment-based fundraising campaign, and distributions from the Jean Macaleer Fund for Chester County Preserves—we were able to hire a manager.

Sadsbury Woods Preserve Manager Erin Smith, whose stewardship responsibilities also extend to Green Hills and Willisbrook Preserves, says, "Sadsbury Woods is such a special place. Even though the Route 30 bypass bounds the southern extent of the preserve, being on the trails here gives hikers a sense of isolation and respite that you wouldn't expect to find just outside of Coatesville. Visitors love getting lost in the spring ephemerals, which are abundant on the forest floor from March through May." ■

stroud preserve

A private donation and public grants created and then expanded our Stroud Preserve, a landscape of once-pastured grasslands, working farmlands, and woodlands that serves as a unique site for recreation, education, and scientific research.

When Dr. Morris Stroud bequeathed his 332-acre Georgia Farm to Natural Lands in 1990 to establish the preserve, he included a generous donation for ongoing care of the property. More than 240 additional acres and many visitors later, we rely on member support and private donations—especially distributions from the Jean Macaleer Fund for Chester County Preserves—to help extend the impact of the original endowment, which never envisioned the now 571 acres and high-volume public use. Now tens-of-thousands of visitors per year have the chance to see the needs of people and nature in balance at Stroud. Careful stewardship restores vital wildlife habitat while also protecting watersheds.

Jarrod Shull, a third-generation preserve manager, started working for Natural Lands under his father, Lee, another of our preserve managers, when he was 16. Says Jarrod, "When visitors genuinely express an interest in the beauty of Stroud Preserve and all it has to offer, I know what we're doing has a meaningful impact." ■

top left: Emma Schad, *top right:* Mike Cahill, *bottom:* Mark Williams

saving open space

July 1 – December 31, 2020

Natural Lands has been protecting open space since 1953. In that time, we have completed hundreds of conservation projects, each unique in its own way. Saving Open Space is the first of our three mission tenants, and we go about it in a few different ways:

we save land to keep and care for

Natural Lands is unique among the region's conservation organizations because of our large network of nature preserves. We are committed to restoring habitats and stewarding natural resources on our 23,000 acres, and to sharing these special places with everyone.

we save land to give away

Because of our expertise in buying land outright (and in securing grant money to pay for it), we help conservation-minded entities acquire open space by buying land and then "flipping" it to these partners to care for in perpetuity. Through this approach, we help add hundreds of acres to state parks, forests, and municipal open spaces every year.

we save land through conservation easements

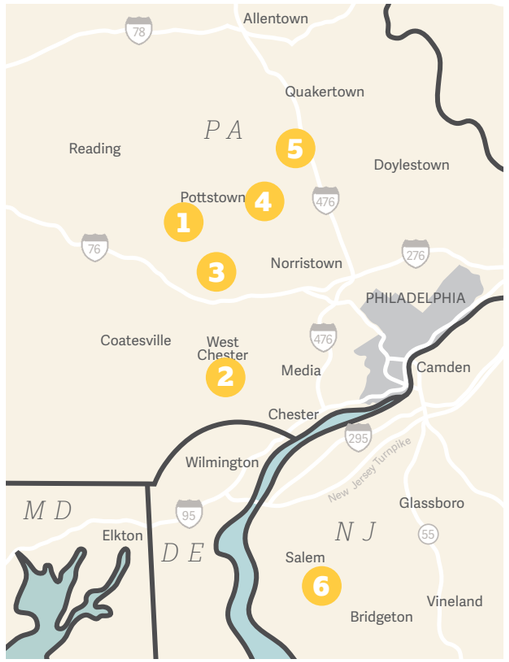
Much of the land we protect, another 25,000 acres, is privately held by individuals who have chosen to restrict its development through a conservation easement. An easement is a voluntary, legally binding agreement that permanently limits a property's use based on landowner wishes and applies to present and future owners of the land.

CHESTER COUNTY, **PA**

1 Great Oak Farm
10 acres
North Coventry Township

Key Partners: Chester County Northern Conservation Initiative; North Coventry Township

Great Oak Farm is a 10-acre property that includes meadows, forest, and a meandering creek. The farm's namesake is the magnificent white oak that pre-dates European colonization. Now protected with a conservation easement by Natural Lands, the farm will never be developed.



Great Oak Farm offers scenic views to travelers along Saint Peters Road as well as visitors hiking the nearby trails at Coventry Woods Park, a 702-acre adjacent property owned by North Coventry Township.

The property includes 640 feet of tributaries to Pigeon Creek, designated by Pennsylvania Department of Environmental Protection as a high-quality stream for its cold, clear water. Pigeon Creek is a tributary to the Schuylkill River, which flows to the Delaware River. The Delaware River watershed provides drinking water to 17 million people; protecting land along the watersheds streams is critically important since forested stream edges filter pollutants and reduce runoff.

In 1932, during the 250th anniversary of Pennsylvania's colonial founding, a Philadelphia science teacher set out to identify and document surviving "Penn's trees," specimens that were alive when the colony was occupied by European settlers. In 1977, the Penn Tree Committee updated the list, identifying 130 trees they believed were at least 300 years old. The white oak tree at Great Oak Farm is one such survivor, now among only 100 believed to remain.

"When we purchased the farm in 2018, my husband and I knew we had come across something very special, so when we were approached with the idea of a conservation easement we jumped at the opportunity," said property owner Jessica Neff-Boyd. "After buying the property, we learned about the connections of this land to the Lenape, how the original deed was held by the Penn family, and all about the oak tree."

Added Sean Boyd, "I hope that conserving our property with Natural Lands will further both historical and open space local preservation efforts. Perhaps the biggest benefit of all will be spreading the importance of conserving these natural areas so that our children and their children will be able to enjoy them."

opposite: Mae Axelrod, map: Holly Harper

Great Oak Farm

2 Church of the Loving Shepherd

9.6 acres
Westtown Township

Key Partners: Chester County Preservation Partnerships Program; Church of the Loving Shepherd; PA Department of Community and Economic Development – Keystone Communities Program; the Virginia Cretella Mars Foundation

Natural Lands placed a conservation easement on nearly 10 acres along the fast-developing Route 202 corridor in Westtown Township. Owned by the Church of the Loving Shepherd, the property is adjacent to the Osborne Hill Farm, which was placed under conservation easement in 2018 and includes the promontory where British General William Howe surveyed the Battle of Brandywine during the Revolutionary War.

The easement area includes open meadow and lawn, about three acres of forest, a pond and its tributary stream, and a large community garden.

The land was approved for a nine-lot subdivision, but ultimately the Church of the Loving Shepherd chose a conservation option instead. Natural Lands was able to secure grant funding from several sources to purchase the easement from the Church.

"We are so fortunate that the Church of the Loving Shepherd saw the historical and ecological importance of this property and ensured its permanent protection," said Oliver Bass, president of Natural Lands. "Because of robust and essential funding programs from state, county, and private sources, many times a conservation option is financially equal to selling to a developer. The outcome—for those of us who cherish our region's beauty and rich history—is certainly *not* equal!"

3 Bryn Coed | *a conservation community*

East Pikeland, West Pikeland, and
West Vincent Townships

Key Partners: Chester County Preservation Partnership Program; East Pikeland Township; PA Department of Conservation and Natural Resources (DCNR), Bureau of Recreation and Conservation – Keystone Recreation, Park and Conservation Fund; West Pikeland Township; West Vincent Township; William Penn Foundation; and gifts via the Campaign for Bryn Coed Farms, chaired by George and Christy Martin and Peter and Eliza Zimmerman

In 2017, Natural Lands purchased the 1,505-acre Bryn Coed Farms property, which was the largest remaining undeveloped—and unprotected—property in the Greater Philadelphia region. Since that time, we've created the 520-acre Bryn Coed Preserve and sold 72 acres to West Vincent Township for the creation of a public park. The remaining parcels are being sold to conservation-minded buyers and placed under easement to preserve them permanently. Proceeds fund an endowment that will provide for the long-term stewardship of Bryn Coed Preserve.

In August of last year, a 36-acre lot was placed under conservation easement and sold to John and Kelly Martini.

Malia Edmunds

Bryn Coed

MONTGOMERY COUNTY, **PA**

4 Beck-Blough-Limerick properties

3.6 acres
Limerick Township

Key Partners: the Estate of Timothy Beck; Mark and Kathryn Blough; Limerick Township; the Redekop Family Endowment in memory of Freda and Sallie Redekop; Phil Smith

This project involved Natural Lands as a consultant to facilitate lot line adjustment among three adjacent landowners. The reconfiguration resulted in 3.5762 acres owned by the Estate of Timothy Beck being transferred to Limerick Township and consolidated with other township-owned open space.

In addition, the land added to Limerick Township is adjacent to Natural Lands' Meng Preserve—further protecting the contiguous forest area that makes up the preserve.

The land is part of a larger landscape—the Stone Hill Greenway—notable for its vast, unbroken forest. This wooded greenway is essential habitat for wildlife, including several species of migratory songbirds whose numbers are in decline such as Kentucky Warbler, Northern Parula, American Redstart, Hooded Warbler, Scarlet Tanager, Ovenbird, and Magnolia Warbler.

Said Erin McCormick, director of Natural Lands' conservation easement program, "This project would not have happened without the tireless efforts of Phil Smith, a current member of the Lower Frederick Township Planning Commission and lifelong advocate of conservation in Montgomery County."

5 DiDomizio property

9.3 acres
Salford Township

Key Partners: an anonymous donor; Montgomery County; PA DCNR; Salford Township

Salford Township's acquisition of the 9.32-acre DiDomizio Property is an addition to its 143-acre Whites Mill Preserve in the Unami forest. The site is entirely wooded and slopes steeply down towards the valley of Ridge Valley Creek, which is located just across Whites Mill Road where the creek is impounded to create Whites Mill Pond on the Whites Mill Preserve.

As part of Whites Mill Preserve, the property provides opportunities for visitors to enjoy hiking, birdwatching, and nature study. The property also provides habitat for numerous plant and animal species, and expands the permanently protected forest buffer along Ridge Valley Creek. Ridge Valley Creek is a tributary to the Unami Creek, and the entire Unami Creek watershed is designated as "high quality, trout stocked fishery" by the Pennsylvania Department of Environmental Protection.

"Whites Mill Preserve is a very special place diverse in nature and topography," said Barbara McMonagle, chairperson of Salford Township's planning commission. "The DiDomizio lots represents the third expansion of the preserve since 1999 and will further protect this environmentally sensitive area in perpetuity along the Ridge Valley Greenway. Natural Lands was instrumental in this acquisition."

SALEM COUNTY, **NJ**

6 Sickler property | *preserve addition*

21 acres
Quinton Township

Key Partners: The Geraldine R. Dodge Foundation; New Jersey Department of Environmental Protection Green Acres Program

The Sickler property was farmed by the same family for five generations. The farm's now fallow agricultural fields and high-quality woodlands have been added to Natural Lands' Burden Hill Preserve and are preserved forever from development.

This added acreage connects to 80 wooded acres preserved 15 years ago by Ray and Jane Sickler, the now-deceased parents of the Sickler siblings who inherited and then chose to preserve this land. Two of the remaining Sickler families own homes abutting this new addition. Family members will now be able to take pride in the more than 100 acres just outside their doors, knowing this preserved land will always be part of the family legacy. ■

A falcate orangetip *(Anthocharis midea)* at Burden Hill Preserve

Brian Johnson

loyalty to a legacy.

Mae Axelrod

Marlene Campbell had never heard of Natural Lands, but she certainly knew about Stoneleigh, the former home of John and Chara Haas in Villanova. In May, 2018, when she learned the estate that the Haas family had gifted to Natural Lands was at risk, she felt she had to do something.

Marlene had spent most of her career—26 years—working in the finance department of Rohm and Haas, the chemical company founded by John Haas' father in 1907. "I'd often see Mr. Haas walking down Market Street to catch the train home to Stoneleigh," Marlene recalled. "It was a wonderful place to work... the company really cared about its employees. There's a big group of loyal former staff out there. We call ourselves the 'Haas-beens'."

News of Natural Lands' effort to save Stoneleigh "went viral" among the Haas-beens, and Marlene immediately became a member of Natural Lands. She signed the petition in support of Stoneleigh remaining a public garden, she wrote emails to champion the cause, and she squeezed into the packed public meetings to show her support.

The more Marlene learned about Natural Lands, the more she wanted to get involved. "I was a Nature Conservancy donor, but I like that Natural Lands is doing work in my back yard." She wanted to volunteer, but the Force of Nature® program didn't feel like the right fit. "I'm not a gardener," she confessed. "My idea of gardening is buying a hanging basket, hanging it on a hook, and trying to remember to water it. But then I saw the Stoneleigh Ambassador program and I thought, 'I can do that!'"

After attending the five training classes, Marlene graduated from the Stoneleigh Ambassador program in 2019 and immediately began volunteering as a garden greeter. She likes to engage with people, saying hello to "the regulars" and sharing what she loves about Stoneleigh to first-time guests.

"Marlene is so willing to learn," said Samantha Nestory, horticulturist and volunteer coordinator at Stoneleigh. "She has helped us with events, has co-led private tours of the property, and even came out for a seed cleaning day. She's one of our most dedicated volunteers."

In the winter of 2019, Marlene pitched in to make garlands, wreaths, and other natural decorations for Stoneleigh's holiday open house. "I was kind of surprised but I found there was a tiny bit of creativity in me that has been buried under the financial acumen," she joked.

She especially loves learning about and passing on the history of the property with garden visitors. After all, she has been connected to the Haas family long before Stoneleigh was gifted to Natural Lands. These days, Marlene's sense of pride in being part of Rohm and Haas is coupled with admiration for Natural Lands and its work.

"I've made friends here. I'm learning all the time. And I think Mr. Haas would be pleased with what Stoneleigh has become," Marlene shared. "I intend to stay the course with Natural Lands." ■








Mike Burnside, Holly Harper, Bill Moses

Natural Lands

mission

land for life.
preserving and nurturing nature's wonders.

nature for all.
creating opportunities for joy and discovery in nature for everyone in our region.

Natural Lands

Hildacy Preserve
1031 Palmers Mill Road
Media, PA 19063

Every acre of land preserved...

cleans the air we breathe

filters the water we drink

soaks up floodwaters

helps cool our planet

gives wildlife food and a home

brings humans health and joy.

Natural Lands is member supported. Your membership helps conserve the natural world that supports us.

Today, and forever.