SYCAMORE LAND TRUST

THE TWIG

THE INSECT ISSUE // SUMMER 2020

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INSECTS IN OUR ECOSYSTEM

BY ABBY HENKEL, COMMUNICATIONS DIRECTOR

Our ecosystem depends on invertebrates. How can we help?

RESPECT OUR ELDERS

Everyone who's ever been a kid has heard the admonishment "respect your elders," and with good reason. Our grandparents have been around a lot longer than us; they're wiser; and they've *seen some things*. We show our elders respect because without them, we wouldn't be living on this glorious planet.

In fact, there are elders who walk, fly, scoot, and swim among us who don't always get the appreciation they deserve for perpetuating life on aforementioned glorious planet. Maybe it's the exoskeletons…

You don't have to be an entomophile to appreciate this prehistoric class of organisms. Indeed, the oldest insects evolved alongside the oldest land plants as long ago as the Late Silurian or Early Devonian periods – some 330-430 million years ago, when Indiana was still covered by sea.

Insect evolution and adaptation are thousands of millennia ahead of humans (the oldest known primate dates back about eight million years). Among insects you'll find astounding diversity, unrivaled roles in the ecosystem, curious symbiotic relationships, and enviable ingenuity. With names like false potato beetle, the badwing moth, and masked hunter, Indiana alone is teeming with cool bugs.

But like so many other creatures, insects face unprecedented human-caused extinction. Biologist and conservationist E.O. Wilson has dubbed this a "biodiversity crisis," in which scientists predict "a large portion of this planet's biological diversity may be lost forever" (Scott Richard Shaw, *Planet of the Bugs*).

You're not alone if you get creeped out by insects. But if you make it through this article and still never want to see another katydid in your life, you might at least walk away with a deeper appreciation for – and, dare I hope, excitement about? – the little creatures that keep our farms and forests healthy.

A student at Unionville Elementary marvels over an insect during an Environmental Education lesson with Sycamore.

insect

in·sect | \ ˈin-ˌsekt \

an arthropod with a well-defined head, thorax, and abdomen; only three pairs of legs; and typically one or two pairs of wings (Merriam-Webster)

SIX LEGS, MILLIONS OF SPECIES

On a macro level, insects are mind-boggling. The more we study them, the more we realize how much more information is beyond our reach:

> Insects account for **80%** of all known animal species
>
> There are **1 million** known species of insects; scientists believe there are another three million or more yet to be discovered
>
> The world's insect biomass outweighs that of humans by **17 times**

New species are being discovered all the time. Scott Richard Shaw, professor of entomology at the University of Wyoming, Laramie, and author of the book *Planet of the Bugs*, has discovered more than 150 insect species with names like *Aleiodes shakirae*, a parasitic wasp of Ecuador that causes its host caterpillar to contort as if belly dancing. A new species of spider, *Islandiana lewisi*, was discovered in 2018 in a Johnson County, IN, cave by Julian Lewis of the Indiana Karst Conservancy.

In Indiana, the Class Insecta (six-legged arthropods, or insects) has enormous diversity. *Insects of the Great Lakes Region* (Dunn 2007) lists 28 orders, with familiar categories like Dragonflies and Damselflies; Beetles and Weevils; Termites; and Butterflies, Moths, and Skippers. Then there are lesser-known orders like Proturans; Scorpionflies and Hangingflies; and Sucking Lice. There are at least 2,678 known beetle species in Indiana – about double the number seen in more northern Midwestern states. Among butterflies and skippers, 149 species have been recorded.

ON THE COVER

A mining bee visits spring beauty, a delicate spring ephemeral flower, at the Malad Preserve in Monroe County, a private property in Owen County protected by a conservation easement through Sycamore.

Photo by Rick Malad @cadmea

Each species plays a role in our ecosystem, from opportunists like the common eastern bumble bee which consumes nectar from many types of flowers and crops, to the hackberry nipple gall-making psyllid which relies on the hackberry tree leaves to lay its eggs in tiny, harmless yellow galls.

AN ECOSYSTEM HELD TOGETHER BY INSECTS

Insects are naturally hardy creatures for the most part, and they've survived a lot. That asteroid that killed the big dinosaurs 65 million years ago? Many insect species just kept on flourishing, along with what we now know as birds. With 400 million years of history, insects have seen their share of troubles, but can usually adapt or evolve and carry on.

But an unprecedented challenge is wreaking havoc on bugs. According to a global meta-study published in the journal *Biological Conservation* in 2019, loss of habitat is the single greatest contributor to insect population decline. Other major factors include pollution such as agricultural insecticides, pathogens and introduced species, and climate change. As the authors of this scientific review state:

"Species extinctions equally impact the overall biomass of entire ecosystems, as insects form the base that supports intricate food webs."

Consider hill-building ants. A Swedish study found what can happen to a forest when wood ants such as those in Indiana forests are excluded from the forest floor.

No ant predators leads herbs to grow prolifically

More herbs decay into soil, increasing nutrient content

Bacteria population skyrockets

Decomposition of old and dead plants skyrockets

Stored carbon is broken down much faster

Forest releases 15% more carbon and nitrogen into atmosphere

We think of trees as the carbon heroes of the forest, and indeed their biomass is critical to containing the carbon that contributes to climate change. But without the tiny foragers of the forest floor, everything is thrown off balance.

Wood ants do more than just break down dead organic matter. Trilliums are beautiful little woodland plants whose seeds have elaiosomes, or little fleshy matter attached to seeds. Wood ants collect these seeds, bring them to their nests, and inadvertently plant them. The ants get food and the trillium propagates – a win-win.

Insects are a critical part of the food web: 96% of terrestrial birds in North America rely on insects and other arthropods to feed their young. On Sycamore's land, endangered birds like Henslow's sparrows and cerulean warblers rely on small insects for sustenance. With a 33% decrease in North America's bird population over the past fifty years, the impacts of a diminishing insect population and habitat destruction are already playing out. As much as I appreciate insects in their own right, it does make me happy to observe a hungry bird feasting on a six-legged snack.

There are many other animal species found on Sycamore's nature preserves that depend on insects for survival. Indiana bats, which are both federally and state endangered and roost at Beanblossom Bottoms Nature Preserve, hunt insects as their only source of food. Eastern box turtles, a species of special concern in Indiana, are especially carnivorous in their younger years.

What happens to these species when insects are in short supply?

Recurved trillium at Dilcher-Turner Canyon Forest in Greene County | Jaime Sweany

Mealtime for a black-throated green warbler at Eagle Slough Natural Area in Evansville | Steve Gifford

WE'RE LOSING OUR BUGS

Findings from a 2016 study by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) predict that a staggering **40% of all insect species face extinction** due to human causes. "Save the pollinators" has become a trendy catchphrase, but it comes from a deeply important need to protect the insects we depend on for survival.

> **$57 billion** in ecosystem benefits are provided by insects
>
> **80%** of the world's wild plants use pollinator insects for seed production
>
> **75%** of the world's food crops depend on pollinators
>
> **300%** increase in the volume of agricultural production is due to animal/insect pollination since 1970

The rusty patched bumble bee was the first wild bee (among 20,000 other bee species in North America) to be placed on the federally endangered species list. This bee traditionally made its home in Indiana and throughout the northeastern United States. Bill McCoy, a Sycamore board member and retired Refuge Manager of the Patoka River National Wildlife Refuge, believes the bee could be at the Refuge, which includes Sycamore's 1,000-acre Columbia Mine Preserve.

"Our management program of converting farmland and reclaimed strip mines to forest and grasslands with forbs is creating ideal habitat where the bees require access to ephemeral flowers in early spring in adjacent forests before trees leaf out," Bill told me in an email. "Columbia Mine Preserve offers an outstanding area for reintroduction if they're not already there."

A tiger beetle, seen at the Culver Preserve in Greene County, can run up to 5.6 mph, or 125 body-lengths per second. | Chris Fox

Efforts to find the rusty patched bumble bee in historically documented places around Indiana are already underway; the Beanblossom Creek Bicentennial Conservation Area could be housing small populations of it now, Bill believes.

"The key to bringing them back," Bill wrote, "is reintroducing them to suitable habitat in areas where neonicotinoid chemicals are not being used on adjacent farmland. The chemical is systemic, landing on flowers wherever the dust from planting blows into adjacent natural areas or running off into all nearby water sources." Sycamore's work to build habitat corridors and expand our footprint of protected land around Beanblossom Creek means a greater density of safe habitat in an important watershed.

Specialist species like many wild bees and ground beetles are particularly susceptible to habitat destruction. Moths require forbs and trees for overwintering locations; as these are destroyed for agriculture or construction, the adults have nowhere to lay eggs and ensure the survival of their species. Loss of stream biodiversity due to draining, diversion, and increased sedimentation is another major concern for insects.

Before settlement, one fourth of the land in Indiana was wetland in the form of bogs, swamps, fens, wet prairies, and seasonal flooded areas. Today, according to the Indiana Department of Environmental Management, less than four percent of Indiana's land is natural wetland habitat. But with more than one third of the U.S.'s endangered species fully reliant on wetlands, we must make wetland restoration a priority if we are to protect insects, plants, wildlife, and thus our own future. Forests and grasslands in Indiana have faced similar declines. With the support of Sycamore members, we are restoring these important habitats all across southern Indiana.

CONSERVATION IS KEY

Visit a nature preserve in summer to hear it teeming with crickets, grasshoppers, bumble bees, and cicadas. You'll see the flutter of great spangled fritillary butterflies, the flash of cypress fireflies, the whoosh across the water of swift river cruiser dragonflies. And you might not see much of them, but you'll know that the lined acrobat ants, four-spotted handsome fungus beetles, and burrower bugs are all busy at work underfoot.

How can we help these tiny creatures thrive and expand? If habitat destruction is the leading cause of insect decline, preserving and restoring natural lands is a primary solution. On average, Sycamore acquires about 250 acres per year. Jeff Belth, author of *Butterflies of Indiana*, described "the barrens and glades of southern Indiana" as particularly special habitat in an email interview.

A swift river cruiser dragonfly was spotted during a Nighttime Mothing Celebration at Eagle Slough Natural Area in 2017. | Debbie Goedde

Because so much land in Indiana has been converted to farmland, Sycamore prioritizes both existing natural areas and farmland within priority conservation areas that show great potential for restoration projects. At the Sam Shine Foundation Preserve in Monroe County, for example, former pasture and hayfields are already being used by rare birds like bobolinks and dickcissels. There they find not only safe habitat for nesting, but also increasing food sources in the form of insects in the young fields and forest.

As woodlands age, their benefits to wildlife, plants, and insects increase. Old-growth forests like Sycamore's Hoot Woods in Owen County – part of only 2,000 acres of old-growth woods remaining in Indiana – support life from the canopy down to the soil. Even dead trees house bats, rodents, birds, and wood ducks before they fall naturally in a storm or through rotting. The logs continue supporting industrious activity: "a teeming

Blue orchard bees live in woodlands and forest edges. This one was photographed by Sycamore member Debbie Goedde in Evansville

array of termites, ants, beetles, centipedes, millipedes, and other invertebrates. These in turn become food for salamanders, shrews, mice, and other denizens of the forest floor. The rotting wood is further broken down by fungi and bacteria. The wood is gradually converted to humus, replenishing the soil and completing the natural nutrient cycle." (Indiana Department of Natural Resources)

NATIVE PLANTS RENEW HABITATS

Another critical part of conserving insect habitat is supporting native plants and controlling invasive ones. It's not just that invasives spread and crowd out natives because they have no natural predators; invasive plants are also much less likely to be edible by native insects. In some cases, they actually contribute to the decline of insect populations.

The West Virginia white butterfly, native to Indiana, lays its eggs on the leaves of mustard plants. But it can't readily distinguish between a native mustard such as cutleaf toothwort and invasive garlic mustard, which produces a chemical (alliarinoside) that the caterpillars are unable to process. A 2015 study published in the *Journal of Chemical Ecology* found that caterpillars that consumed garlic mustard leaves experienced a "significant reduction" in survival, caterpillar size, and leaf consumption. When female West Virginia whites lay too many of their eggs on garlic mustard leaves, the population quickly declines due to decreasing survival rates to adulthood.

Jeff Belth documented a 2017 trip to Sycamore's Amy Weingartner Branigin Peninsula Preserve on Lake Monroe. He saw one West Virginia white in addition to 17 other species of moths and butterflies, including two luna moths. You can learn more about Sycamore's recent success with controlling garlic mustard and restoring native wildflowers at this preserve in our 2019 Impact Report (sycamorelandtrust.org/impact).

Removing invasive plants clears the way for natives to recover the landscape. Sometimes the plants come back on their own, the seeds having lain dormant in the soil until they had room to germinate. At other times, we undertake carefully planned plantings to ensure a diverse balance of wildlife-friendly plants.

The Flying Flowers Educational Garden at Touch the Earth Natural Area (Bartholomew County) was an old agricultural field overrun with invasive plants when Sycamore acquired the property in 1995 thanks to financial support from an anonymous donor and Sycamore members. Primarily we planted the preserve with native trees to revert it to forest, but also chose to plant a half-acre as prairie. In 2006, with funding from the Indiana Native Plant Society, we removed invasives at the prairie and planted six species of native grasses and 22 species of pollinator forbs like milkweeds and purple coneflower.

Asian bush honeysuckle is an invasive plant known for competing with other flowering plants to attract pollinators. Without natural predators, it grows so densely that it shades out any other plants on the forest floor. When Sycamore acquired the 188-acre Porter West Preserve from the estate of David Porter in 2008, most of the preserve was healthy hardwood forest but about 40 acres of an old composting facility housed woody invasives like bush honeysuckle and callery pear trees. With support from the Monroe County Soil and Water Conservation District

Black-eyed Susans and bee balm fill the Flying Flowers Garden at Touch the Earth.

and discounted services from Eco Logic LLC, we used a FECON chipper to mow down many of the largest invasive shrubs and trees in the fall of 2016. Volunteers helped treat the stumps that resprouted in the spring with an herbicide, and continue to assist with ongoing control efforts. Today, hikers are treated to a trail through a recovering natural area that supports more insect life in every season.

Douglas W. Tallamy, author of *Bringing Nature Home* and the professor and chair of the Department of Entomology and Wildlife Ecology at the University of Delaware, has conducted several unpublished studies comparing native and non-native plants in Pennsylvania.

NATIVE PLANTS:

- produced **four times more** insect biomass than non-natives did, entirely due to the inability of insects to eat the alien plants
- were associated with **three times** as many herbivorous insects
- supported **35 times more** caterpillar biomass, the preferred source of protein for most bird nestlings

Sycamore's planting projects planned for 2020 and 2021 include a new one-acre prairie at the Amy Weingartner Branigin Peninsula Preserve, an educational garden at Cedar Crest funded by the Raymond Foundation (both Monroe Co.), and a pollinator planting at Tangeman Woods (Bartholomew Co.). Invasive species control this year includes continued efforts to remove garlic mustard, multiflora rose, and Japanese stiltgrass at many of our preserves.

Thank you to our members for making this work possible, especially as safety precautions surrounding COVID-19 lead our staff and volunteers to work independently in the field.

YOU CAN HELP

Debbie Goedde, a Master Naturalist and Sycamore member in Evansville, developed a passion for bugs at a young age while watching ants – "an endless source of entertainment," she told me. She and her husband Bob care for their own Goedde Arthropod Sanctuary on their property. It's their way of "making our place attractive to as many insect species as possible."

A great spangled fritillary perches on native butterfly weed at Fish Creek Preserve, a private property in Owen County owned by Myriam Wood and protected by a Sycamore conservation easement.

"If you take insects for granted that they will always exist, then I think you don't mind the loss of habitats, use of pesticides, or light pollution," Debbie says. But once your eyes are opened – as a young child observing ants, or as an adult with a renewed appreciation for the role of insects in our ecosystem – you can start to take action.

You don't need a big plot of land to make an arthropod sanctuary. With even a small yard or a balcony for some container gardening, you can plant native flowers and grasses and start observing the tiny ecosystem you've created. We've gathered tips, inspiration, and resources at sycamorelandtrust.org/plant-natives.

One of the most powerful ways to make an impact at home is to reduce the size of your lawn. Every bit of land that can be converted to native habitat is critical to the insects and birds at risk of extinction. Up to 40 million acres of North America are covered in lawns. Consider if even a small percentage of that were reverted to nature! I highly recommend the book *Bringing Nature Home* by Douglas W. Tallamy for inspiration, scientific explanations, and clear action items for diversifying your yard or green space.

Another important way to contribute to pollinator habitat is by renewing your annual Sycamore membership and spreading the word about local conservation. Every member makes a real difference. Because of you, there are more pollinators, native flowers, and inspired hikers at the land you are helping to protect and steward. ***Thank you!***

A great blue heron sits in its nest at Grandchildren's Woods, March 2020 | John Lawrence

FROM THE EXECUTIVE DIRECTOR

Dear Sycamore Friends,

I'm writing this on April 2nd, in the second week of the statewide stay-at-home order. Our wonderful staff have been working at home and adjusting to new ways of accomplishing Sycamore's mission. With the COVID-19 situation changing every day, it's impossible to say how things will look when this issue of The Twig reaches you. These are uncertain times, to say the least.

However, there is certainty to be found in nature. The spring ephemeral wildflowers are coming up now, in their usual order, just as they do every year. Cut-leaved toothwort and spring beauty are currently carpeting the woods, while bloodroot has started to bloom and mayapples are spreading their leaves. The first spring migrants, such as eastern phoebes and yellow-throated warblers, have returned. Great blue herons are back on their nests in the rookery along Beanblossom Creek at Grandchildren's Woods.

There is resilience to be seen in nature, too. A pair of bald eagles is nesting once again at Beanblossom Bottoms Nature Preserve, even though last June's tornado destroyed their previous nest. The new nest they built over the winter is actually the fourth at Beanblossom Bottoms since 2005. Prior to the tornado, two others were blown down in earlier windstorms. And yet the eagles have returned, year after year, because of the habitat we've protected together.

These cycles will continue, as long as there remain areas set aside and stewarded for nature to persist and thrive. That's what Sycamore has been doing for 30 years now, because of you. And thanks to your ongoing support, we'll continuing caring for these special places, and adding more, *for Forever*.

Be well, and thank you again for supporting nature and Sycamore.

John Lawrence

Executive Director, Sycamore Land Trust

HAPPY BIRTHDAY SYCAMORE

Sycamore Land Trust turns 30 this year!

We're grateful to the incredible support of volunteers, donors, partners, and staff who have all helped make Sycamore successful over the years.

The original boardwalk crew at Beanblossom Bottoms in 2005

Volunteers scoping out Touch the Earth Natural Area in 1995

Board members explore Beanblossom Bottoms in the early 1990s

Board member Greg Meyer speaking at the dedication ceremony for Eagle Slough Natural Area in 2012

We found these photos in our archives. If you have more photos from Sycamore's history, we'd love to see them!

Contact abby@sycamorelandtrust.org

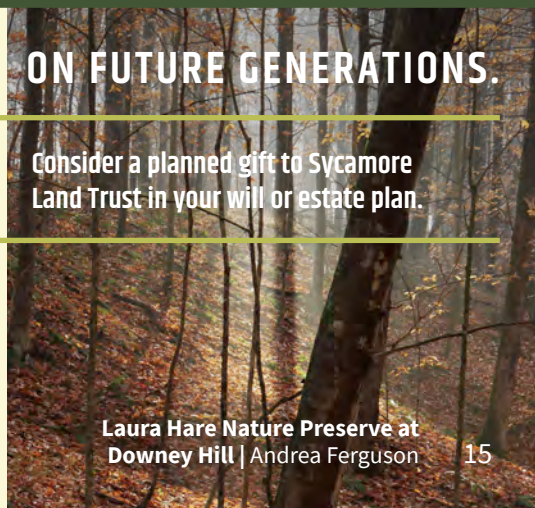
LET YOUR LEGACY SHINE ON FUTURE GENERATIONS.

You can help preserve nature and restore habitat for future generations.

Consider a planned gift to Sycamore Land Trust in your will or estate plan.

TO LEARN MORE, VISIT
sycamorelandtrust.org/legacy

OR CONTACT
Ann Connors, Development Director
ann@sycamorelandtrust.org
812-336-5382 ext 104



Laura Hare Nature Preserve at Downey Hill | Andrea Ferguson

LIFE ON A LOG

BY **SHANE GIBSON,** ENVIRONMENTAL EDUCATION DIRECTOR

Not all wildlife encounters are as obvious as a deer crossing the road, a squirrel on a birdfeeder, or a hawk on a roadside fence post. Those animals are large and often in plain sight and utilize large habitats. A deer's habitat range includes about 650 acres, or roughly one square mile. A squirrel may use a few acres, and a red-tailed hawk's range is approximately two square miles.

Some wildlife live in much smaller quarters. You might never see them unless you look under a rock, dip in the muck of a pond, or look under the bark of a fallen log. These micro-habitats are teeming with life.

In nature education, the foundation for many of Sycamore's lessons with classrooms and other groups is making observations and using your senses to notice the world around you. Having an awareness of your surroundings and noticing the little things can bring many joys and surprises.

What do you see when you roll a log, peel back the fragile bark, or pull apart the soft, spongy fiber? You might find grubs. Grubs in wood are usually the larvae of beetles. One common species is the patent leather beetle or horned passalus. Both the larvae and adults can be found in rotten wood. The adults feed primarily on decaying wood and fungus while the larvae get their nutrients from predigested wood from the parents. Using its large mandibles, the adult patent leather beetle can carve tunnels and passageways to live and reproduce.

The name "centipede" means a hundred feet. These myriapods, cousins of insects, also seek shelter under a rotting log as well as under rocks, leaf litter, and cracks in a wall. Centipedes find these environments inviting, as they need high humidity or moisture to survive. Like all wildlife, centipedes go where food is plentiful. And for an insectivore like a centipede, a fallen log can provide plenty of sustenance.

A rotting log can also provide hibernation shelter for insects. A queen bumble bee will burrow in an old log or soft earth or work its way under a rock. This newly mated queen may be the only one from the colony to survive as the old queens, workers, and males will die off. A bald-faced hornet queen will do the same thing. Once they emerge in spring, they begin to build their new nests.

Look closely at a fallen log and you might see several species of ants, roly polys, salamanders, moss, fungus, ferns, and more. A log is a host to many species of decomposers that assist in breaking down organic matter. The dead tree gives new life to the world around it.

When looking under a fallen log or rock, be sure to put it back where you found it. It's like taking the roof off their house, so putting it back provides the shelter they need.

A fallen log may be able to tell you a story about the area in which it is found. It may also produce more questions than answers. In a notebook, write down your observations and questions that you have. Make a sketch of what you see and the sounds around you.

A beetle under a log at Shane Gibson's house in Monroe County

A fifth-grader at the Harmony School looks for life under a rock at the Laura Hare Nature Preserve at Downey Hill in Brown County on a trip with Sycamore's Environmental Education program.

“Your land will never be timbered.”

BY **ROB MCCREA,** LAND PRESERVATION DIRECTOR

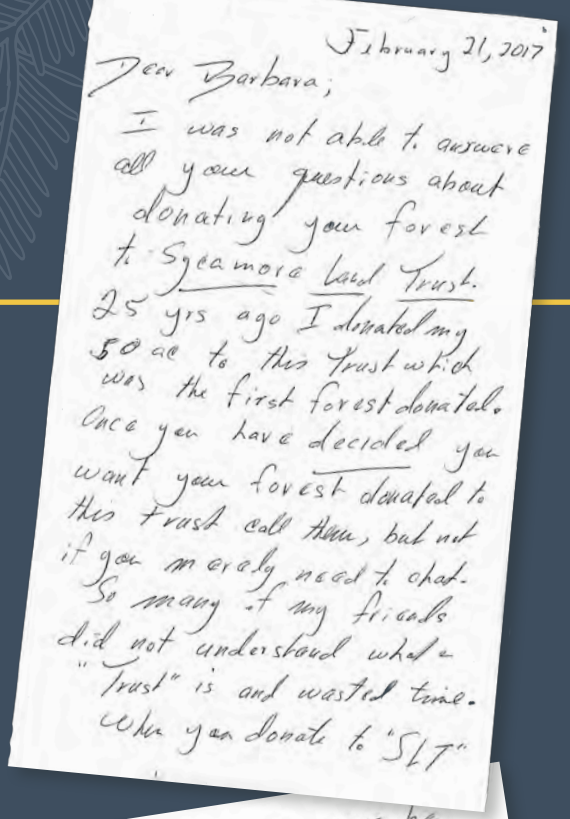
The best part of my job at Sycamore is working with property owners who want to protect their land. There is much more to protecting the land than the land itself, and this comes through in the connections we develop with landowners and learning about the land through their eyes and experiences. There are deep stories and relationships embedded there.

Last year, Sycamore worked with five landowners to protect more than 345 acres. In some cases, Sycamore’s relationships with the landowners had been developing for many years. Others came about more recently. All carried with them a sentimental purpose for protecting the land, with individual stories and histories of these special places.

Sometimes I can be caught off guard by some detail of a land acquisition that gives it resonance. While working on the recent donation of the Warren and Barbara Roberts Preserve in Monroe County, I came across a letter from Barbara Restle to the late Barbara Roberts [pictured at left with her husband Warren]. Barbara Restle was one of the first landowners to protect land with Sycamore, in 1993. She is one of Sycamore’s most longstanding supporters and a dear friend to our staff. The letter explained how Sycamore could protect the Roberts’ property—which the Roberts family ultimately decided to do.

I worked with Warren and Barbara Roberts’ children, Sarah and Elizabeth. They shared a little of the history with me. The land was purchased because of the quality of the hardwood trees — not for timbering, just to admire. Warren Roberts was a woodworker and appreciated the quality of the hardwood trees on the property. Sarah and Elizabeth called their family’s property the “40-acre woods” after Winnie the Pooh’s “100-acre woods.”

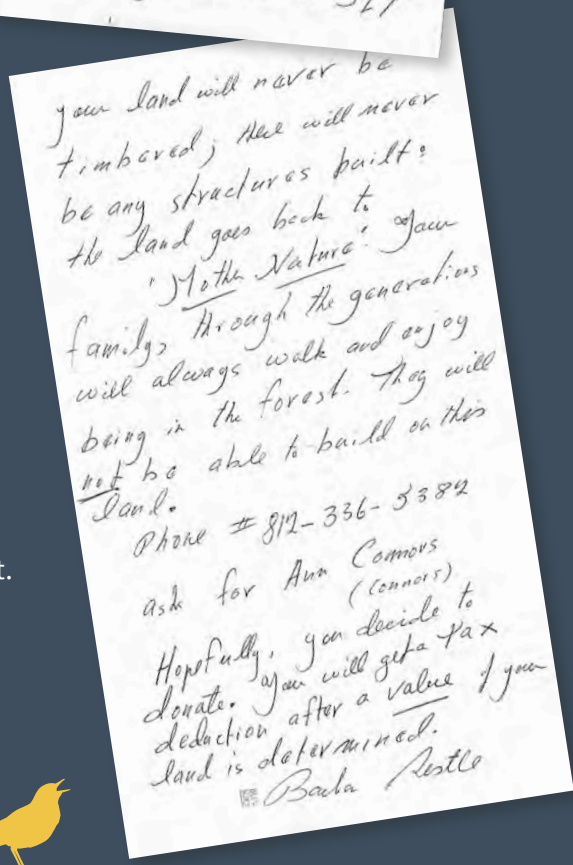
It is an honor to protect the woods that the Roberts family valued so much, and to be entrusted as a steward of not only the land, but also the Roberts family’s connection to it. As Barbara Restle told Barbara Roberts, the trees that she and Warren admired so much will never be timbered, just as the Roberts family wanted.



February 21, 2017

Dear Barbara;

I was not able to answere all your questions about donating your forest to Sycamore Land Trust. 25 yrs ago I donated my 50 ac to this Trust which was the first forest donated. Once you have decided you want your forest donated to this Trust call them, but not if you merely need to chat. So many of my friends did not understand what a "Trust" is and wasted time. When you donate to "SLT"



your land will never be timbered, there will never be any structures built & the land goes back to "Mother Nature". Your family through the generations will always walk and enjoy being in the forest. They will not be able to build on this land.

Phone # 812-336-3382
ask for Ann Connors (Connors)

Hopefully, you decide to donate. You will get a tax deduction after a value of your land is determined.

Barb Restle

“MY FAVORITE PLANT IS WHATEVER NEW PLANT I DISCOVER”

Dee Ann and Rich Peine’s nature oasis

An eastern tiger swallowtail finds nectar on common milkweed at Peine Farm. With a college degree in entomology, Dee Ann Peine feels a special connection to the preserve’s insect visitors like this one | John Lawrence

BY **ABBY HENKEL,** COMMUNICATIONS DIRECTOR

Peine Farm has been in the family for 50 years, but these days you might instead call it Peine Nature Oasis. In every season, the family’s 196-acre Morgan County property, forever protected by a conservation easement with Sycamore Land Trust, teems with native plants, animals, and insects. On a phone call in mid-March, Rich Peine told me he’d been pleased to see spring beauty, trillium, purple cress, and harbinger of spring beginning to bloom. In summer there will be Joe Pye weed, three birds orchid, and mountain mint.

“We didn’t plant any of it,” Rich’s wife Dee Ann told me. “They just came when we stopped mowing the lower pasture.” When they decided to revert the last bits of the old pasture to nature, they thought they would have to buy lots of plugs for native plants. But the seeds were just waiting in the soil until they had a chance to burst through.

But don’t be mistaken – the couple has been putting in hard work for years. Dee Ann had more than 100 milkweed seedlings growing in her house during our chat, and they have planted many native plants over the years. What’s more, they’ve invested great effort in removing invasive plants including autumn olive, multiflora rose, and Japanese stiltgrass. The Peines have been diligent about removing them to make way for native plants and provide habitat for insects, birds, and even a native Indiana eel called a brook lampray. Dee Ann describes how “you can see their little suckers moving rocks for their nests. That’s why I like to go to the creek a lot, because there’s always something different.”

Curiosity has indeed driven much of the Peines’ stewardship on their land. By allowing Wes Homoya, son of retired state botanist Mike Homoya, to do a bird count on their property for his project with the Audubon Society, they discovered 85 species of birds nesting there. After hiking the property with Kevin Tungesvick of Eco Logic, a Sycamore partner and supporter, they learned about the native grasses and sedges on their land and started referring to their swamp as “the seep” as Kevin did.

One of their more recent priorities has been developing the grassland at Peine Farm following Kevin’s advice. As the canopy closed up on some parts of the land, the grassland birds that had been nesting there weren’t showing up. But in recent years, the Peines’ efforts to turn the pastures to prairie have paid off. Dee Ann recalls seeing redwing blackbirds and a great blue heron recently.

“I hadn’t seen one in a long time,” she told me. “They don’t have habitat like they used to.”

Thanks to the passionate efforts of Rich and Dee Ann, native wildlife have more habitat in Morgan County, whether they seek thick woods, tall grasses, or swampy bottoms. And because the land is protected by a conservation easement, it will forever be wild and undeveloped.

“Our hundreds-of-years goal is to have this be an old-growth forest,” Rich told me. “It’s a legacy. If I could be a part of the story, I’m grateful for that.”

Rich is glad his father bought the land when he did, believing it would have been timbered because the previous owner worked in logging. Now, the forest is thick with oaks that will support hundreds of species of wildlife and grow to be centuries old.

(NOT) SORRY TO BUG YOU

BY **CHRIS FOX,** LAND STEWARDSHIP MANAGER

Being a land steward has its perks! Not the least of which is having the great outdoors as your office. However, it also has its drawbacks. Dealing with the weather can be a challenge but there is one thing that really bugs me.

Ok, that was a bad pun, but the truth is insects can be a real pain. From Arachnids to Zorapterans, there are over 1.4 billion insects per person on this planet. Despite this huge disparity, there are relatively few insects that truly cause us harm.

In my career as a conservationist, I have been bitten or stung more times than I care to remember. I have come to see it as part of the job, and if I'm willing to endure the discomfort I am usually rewarded with a wonderful view or memorable experience. One day last year while working on the boardwalk at Beanblossom Bottoms Nature Preserve, I was being attacked by mosquitoes and deer flies until a dragonfly befriended me and followed me up and down the trail, picking off the would-be attackers.

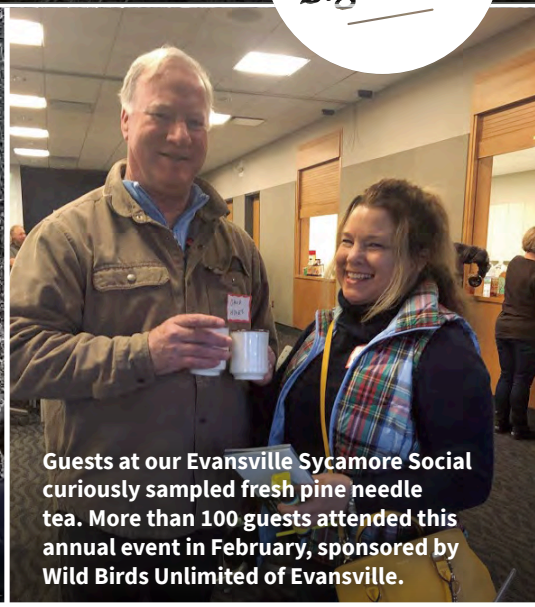
Of course, insects can be vectors for disease, so we do have to exercise some safety precautions. But overall, the vast majority of insects, even those often labeled as "pests," play an important role in our ecosystem. For instance, there are over 3,500 named species of mosquitoes. Of those, fewer than 200 species bite humans. And all of them fill important ecological niches through pollination, being prey to many different species, and even affecting the composition of the arctic landscape through their influence on caribou migration (it's like "the butterfly effect," without the colorful wings). While it might be tempting to want to rid the world of these "pests," we must consider the ripple effect it could have on the ecosystem as a whole.

I believe Aldo Leopold said it best: **"The last word of ignorance is the man who says of an animal or plant: What good is it? If the land mechanism as a whole is good, then every part is good, whether we understand it or not. If the biota, in the course of aeons, has built something we like but do not understand, then who but a fool would discard seemingly useless parts? To keep every cog and wheel is the first precaution of intelligent tinkering."**

Chris Fox worked with the US Fish and Wildlife Service to do a controlled burn at Sycamore's Columbia Mine Preserve in Pike and Gibson counties in March.

Sycamore Sightings

Students from an aquatic ecology class at Indiana University took a tour of Beanblossom Bottoms Nature Preserve one snowy Friday afternoon in February.



Guests at our Evansville Sycamore Social curiously sampled fresh pine needle tea. More than 100 guests attended this annual event in February, sponsored by Wild Birds Unlimited of Evansville.

Join us for a hike, workday, or special event! Hikes are free for Sycamore members; suggested donation for non-members is $5/person or $10/family unless otherwise specified. Volunteer days are always free. For more details on an event and to RSVP (required for hikes and volunteer days), visit **sycamorelandtrust.org/events**. For questions about volunteer stewardship days, please contact **rob@sycamorelandtrust.org**.

Stay tuned to our website and social media for updates and cancellations related to COVID-19.

JULY

7/16

THIRD THURSDAY VOLUNTEER STEWARDSHIP DAY
Thursday, July 16, 8:30 am – 1:00 pm
Tangeman Woods and Touch the Earth Natural Area (Bartholomew County)
Help us tend to nature by picking up trash along the road and working on the trails at these beautiful Columbus-area nature preserves. Carpool leaves from Cedar Crest.

7/25

NATIVE PLANTS HIKE WITH MICHAEL HOMOYA
Saturday, July 25, 9:00 am – 11:00 am
Laura Hare Nature Preserve at Downey Hill (Brown County)
Join retired Indiana State Botanist Michael Homoya for an inspiring hike through these hilly Brown County woods. We'll learn fascinating facts about native plants growing below the canopy and the ecosystem in which they live.

AUGUST

8/8

EARLY AMERICAN HISTORY HIKE
Saturday, August 8, 10:00 am – 12:00 pm
Porter West Preserve (Monroe County)
Explore our region's Native past and present with historian and IU PhD candidate Amy Ransford. We'll acknowledge the land's traditional indigenous stewards, then discuss Native American history and culture as we hike the beautiful trail.

8/20

THIRD THURSDAY VOLUNTEER STEWARDSHIP DAY
Thursday, August 20, 8:30 am – 3:00 pm
Trevlac Bluffs Nature Preserve (Brown County)
We'll work on eradicating woody invasive plants like autumn olive and Asian bush honeysuckle. Carpool leaves from Cedar Crest.

8/21

LITTLE HIKERS: NATURE'S TEAS AND TREATS
Friday, August 21, 10:00 am – 11:30 am
Cedar Crest (Sycamore Office)
Many plants in your yard are edible and delicious. Learn all about them as we hike the prairie and woods around Sycamore's office, and then make food and drink to try.

SEPTEMBER

9/17

THIRD THURSDAY VOLUNTEER STEWARDSHIP DAY
Thursday, September 17, 8:30 am – 1:00 pm
Beanblossom Bottoms Nature Preserve (Monroe County)
We'll work on eradicating woody invasive plants like autumn olive and Asian bush honeysuckle. Carpool leaves from Cedar Crest.

OCTOBER

10/2

COLUMBUS HIKE & BREW
Friday, October 2, 10:00 am – 3:00 pm
Touch the Earth Natural Area and Bartholomew Historical Society (Bartholomew County)
Join Sycamore for an educational hike, lunch with the group at Upland's historic Pumphouse restaurant, a guided tour of the of the Bartholomew Co History Museum, and if we have enough gusto, we may finish the day with a stroll through Tangeman Woods. Participants will buy their own lunches.

10/15

THIRD THURSDAY VOLUNTEER STEWARDSHIP DAY
Thursday, October 15, 8:30 am – 1:00 pm
Powell Preserve (Monroe County)
We'll work on eradicating woody invasive plants like autumn olive and Asian bush honeysuckle. Carpool leaves from Cedar Crest.

2021

ANNUAL CELEBRATION
Canceled for 2020
Due to public health concerns and many uncertainties surrounding COVID-19, we have canceled our 2020 Annual Celebration scheduled for this October. We will miss seeing so many friendly faces and raising important support for our work at our favorite event of the year! Plans are underway for a fall 2021 Annual Celebration.

Friends take a hike through the Porter West prairie in January 2020.

$20,000 AND ABOVE

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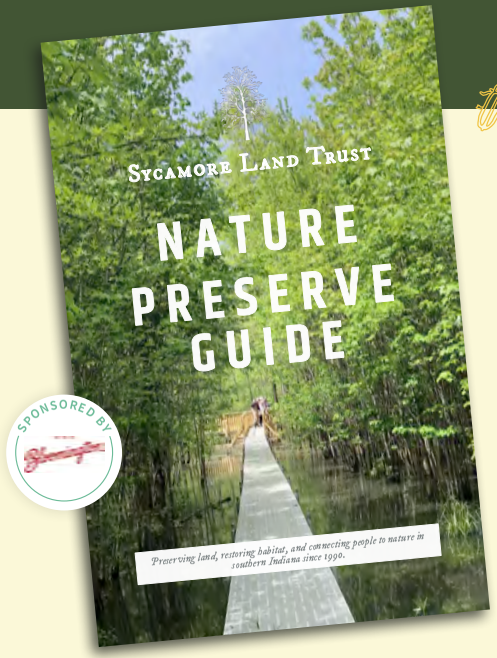
- 2020 -

NATURE PRESERVE GUIDE



Our new Nature Preserve Guide is out, with updated maps, photos, and more! To request your free copy in the mail, visit **sycamorelandtrust.org/explore**

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