



The Harbinger

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Newsletter of the
Illinois Native Plant Society

“...dedicated to the study, appreciation, and conservation of the native flora and natural communities of Illinois.”



This time of year is perfect for frost flowers.

Editorial

This time of year is perfect for frost flowers. Before the ground is frozen, water is still being taken up by plants. Freezing conditions overnight cause the water in the stem to freeze and expand, cracking and splitting the stem tissue. Capillary action continues to draw water up the stem where it freezes upon contact with the air, creating delicate ice ribbons called "frost flowers." These typically form on frostweed (*Verbesina virginica*) and wild oregano (*Cunila origanoides*).

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Message from the President



The plants are mostly fading and brown and the temperature continues to drop as we are wrapping up another year, all the while planning more events and programs for 2018. This is a time for reflection of moments spent with friends and colleagues in 2017. We had incredible wildflower hikes and events throughout Illinois in 2017, but for me the Flora of Chicago Region book sale, Southern Chapter's Indigenous Plants Symposium and the associated hike to Pine Hills/Larue Swamp, Central Chapter's mind blowing native plant sale, Quad Cities Chapter hosting the Annual Gathering, and the continued interest in the Illinois Botanist Big Year especially stand out. These events, in many ways, embody what our group is all about. We are an all-volunteer organization but when we come together great things happen. Events like these and more are planned for 2018. I'm looking forward to another great year and hope to see many of you at our various Chapter events.

Remember to renew your membership and please continue to follow us and learn about upcoming events throughout Illinois. Of course, *The Harbinger* is a great place to learn of events but also follow us on our website (www.ill-inps.org), Facebook (<https://www.facebook.com/IllinoisPlants/>), and on the Illinois plants listserv illinoisplants@lists.illinois.edu). If you would like to help out at the Chapter or state INPS level, please contact your Chapter President or any state INPS board members for more information. One way that you can help immediately is by voting on our current ballot of proposed board members (an attachment was sent with this issue of *The Harbinger*).

I wish you all Happy Holidays and continued success in all your endeavors.

Paul Marcum,
INPS President

News

Illinois Native Plant Society 2018 Research Grant Program Announced

Students, citizen scientists, conservation groups, and institutions are alerted to consider applying for a grant ranging from \$500-\$1,500 to fund one-year projects. The grant is for research-focused studies on Illinois native plants such as life history, reproductive biology, demography, genetics, site inventories, community ecology, as well as research on threats to native plants and communities, such as invasive species. Laboratory research as well as projects focused on **research** relating to education about or restoration of native plants and plant communities will be considered. Projects involving student research or volunteers will be given special

consideration. **All projects must demonstrate how they support the mission of the Illinois Native Plant Society.**

Applications must be received by January 26, 2018. Awards will be announced by March 31, 2018.

Full application details and form are at: <https://ill-inps.org/2018-research-grants/>.

Save the Dates:

- The Kankakee Torrent Chapter will host the **Community Habitat Symposium** on **February 24, 2018** at the Joliet Junior College in Joliet. Openlands Executive Director Gerald W. Adelman will be our keynote speaker. Under his guidance, Openlands launched the 21st Century Open Space Plan, which called for expanded parklands, greenways, and trails in northeastern Illinois and the surrounding region.

The symposium will have two tracks. *At Home with Native Plants* will focus on issues relevant to home, suburban, and community habitat. The second track, *Acres of Prairie, Savanna and Woods*, focuses on similar issues related to land management on a larger scale. Look for more information and registration on the INPS website in early January.
- **Indigenous Plants Symposium (April 13-15, 2018)** – note new dates from last newsletter) hosted by the Southern Chapter. Events will be held at John A. Logan College in Carterville, IL and will include a native plant sale with Green Earth. Jerry Wilhelm will be the featured keynote speaker.
- **INPS Annual Gathering (June 8-10, 2018)** hosted by the Kankakee Torrent Chapter, with field trips to sites in Illinois and Indiana.

Check out the [Illinois Native Plant Society Events webpage](#) for Chapter meetings and workshops.

A Pecan Tree and a Lesson in Stewardship

By Jim Martin

Along many pathways of life this time of year is such a natural season of beauty and activity in Southern Illinois. So, on this warm sunny day of October 19, 2017 while picking up pecans under an old Nut Tree in our back yard, my mind wondered back-in-time as it often does. This old tree I was standing under was initially planted by a man who was born in 1892. His son who is currently 98 years old had previously transplanted it to a small piece of earth that my wife, Elsie, and I call home here in rural Jackson, County. We never knew the old man that planted the tree, but do know his son well.

Elsie and I were visiting with the old man's son, Bill, one evening and I asked him whether he ever got any pecans off the tree he transplanted. He said "The tree rarely ever had any nuts, but when it did have a few, the varmints always got them first." I told him "In the 40-some years Elsie and I have lived here there were only 3 or 4 years the tree had pecans in slight abundance. But, the summer of 2012 was different—the driest year I can ever remember here in Southern Illinois, the year that the Big Muddy River and Mississippi rivers all but dried up and Nature gave a signal to the old pecan tree: bear nuts! That Fall from the end of October to the middle of

December I picked up pecans daily, as seen here in our old garden cart on December 19, 2012. A total of 186 pounds of pecans from that old tree and the varmints (blue jays, crows, squirrels, etc.) got just as many as I did, if not more, that Fall.”



Later, I told Bill “We are sure glad your dad planted that pecan tree.” Also, that during the last couple of decades Elsie had baked hundreds of dozens of cookies with nuts that originated from his dad’s planting of that tree and many of those cookies were given to friends and shut-ins around the holidays. At that moment I could see a gleam in Bill’s eyes and a smile that only he could give.

Bill’s dad never benefited personally from planting that pecan tree that now stands in our back yard. He never got a nut off of it. But, he gave me a great definition/example of what stewardship really means regarding preservation and benefits for others to realize in the future.

Things I learned from Nature while picking up pecans in our back yard:

1. It can make a big difference what time of day you are trying to find pecans.
2. Looking, focusing, and seeing are different functions when trying to find a pecan in tall grass.
3. Success in finding a pecan has a lot to do with the ability to focus on an image of what a pecan looks like and to constantly remind oneself that is what I am looking for right now.
4. On a rainy day the pecan shell looks different in color—adjustments to my focusing may be necessary.
5. Walking a grid North to South is not the same as walking a grid East to West; the views of the shadows in the grass and leaves are different where the pecans are hiding.
6. Have a plan—walking in a straight line and focusing only on a 3-foot path in front of you helps eliminate distractions from what you are looking for; also helps keep track of where you have been.
7. Often a pecan will be under a leaf and not readily visible without expending extra energy to find it.
8. There are other critters out there getting the pecans when you are not there.
9. Sometimes when you bend over to pick up a pecan you find that it is only an empty shell.
10. The direction the wind is blowing often makes a big difference in where you will find the pecans.
11. Picking up a few pecans each day does not take much time from that day and the overall end results from your harvest can be amazing.
12. Dragging your feet when walking beneath the nut tree allows you to feel/sense pecans in tall grass and leaves that would otherwise never be seen with your eyes.



13. No matter how many times you travel the same path, if you go over it one more time there is always the likelihood you will find another pecan—the laws of gravity continually replenishing.

14. My hands often get stained, because a few pecans still have green hulls that need removed.

15. Squirrels can plant more pecans than you can and they will germinate and come up when yours won't. Ask Elsie about the pecans in her flower pots.

Even though I never knew him, I learned a lesson from Bill's dad. He taught me to plant a nut tree. Someday, someone will be grateful and think of you for a deed done with everlasting consequences. A man born in 1892 communicated with me today through his actions of stewardship and many of Nature's critters continue to benefit from his single action of planting a pecan tree several decades ago.

Life is good.

To Treat or Not to Treat?

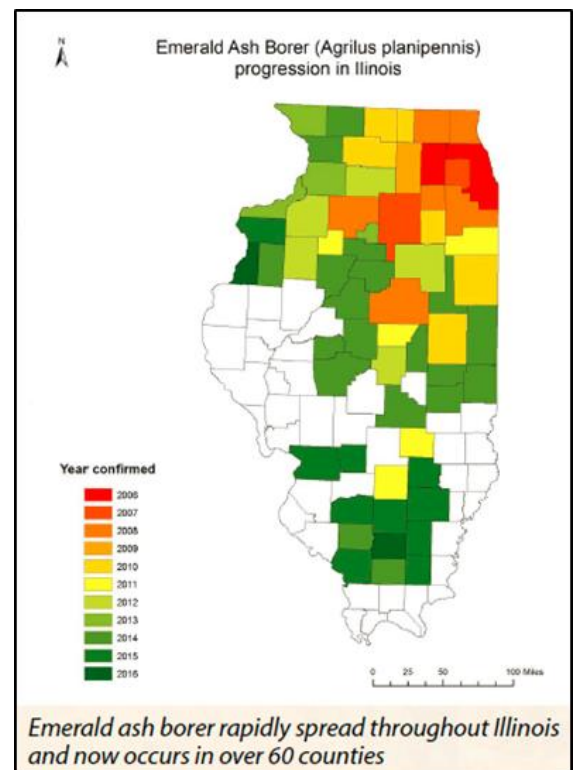
Should you treat your ash trees for emerald ash borer?

By Chris Evans

Emerald ash borer (EAB for short), is a serious invasive species in Illinois. Most everyone has heard about it and knows that this exotic insect threatens our ash trees. Some landowners may not know that it is possible to treat ash trees to prevent damage. In this article, we will take a closer look at how EAB damages trees and explore the questions every landowner should ask when deciding if an ash tree should be treated or not.

EAB is one of the metallic wood boring beetles (family Buprestidae). It is a native of Asia. It feeds exclusively on ash trees, with the exception of also feeding somewhat on the closely related fringe tree. While the adults do feed on ash leaves, this is not seriously damaging to the trees. Female ash borers will lay their eggs on the bark of ash trees. The larvae that hatch then burrow under the bark to feed. Larval feeding is restricted mostly to the cambium and phloem, thin layers of tissue that lie just under the bark of trees. The larvae snake through the tree, just under the bark, creating winding paths, called galleries. As more and more beetles infest a tree, the feeding galleries disrupt the tree's ability to transport nutrients and water, effectively starving the tree.

EAB, in its native range, is a secondary pest of ash trees, meaning that it only really attacks trees that are already stressed or dying from another cause. The story is much different here. Our North American ash trees do not have any natural resistance or effective defenses to EAB. As such, EAB acts as a primary pest, capable



of attacking and killing otherwise healthy trees. This is a big shift in ecological impact from how EAB behaves in its native range. In areas that have had EAB for a length of time, less than 1% of untreated ash trees survive.

Trees infested with EAB typically take 2-3 years to die when smaller size in size, but may take 6-7 years to die when quite large. Outwards signs of an EAB infestation include dieback from the top of the tree and lots of small leafy shoots sprouting from the trunk (called epicormic sprouting). When populations of EAB are at or near peak, most ash trees within the region will die within 3-5 years. All of our native ash trees in Illinois are susceptible to EAB.



This poses a threat to the health and integrity of our natural forests, but also threatens the urban and residential forests, as ash trees are a popular landscaping tree. They were planted extensively throughout Illinois over the last 40 years, comprising approximately 20% of the urban canopy.

To understand more about emerald ash borer, it is important to know its history and current distribution in Illinois. Emerald ash borer was first identified in the United States in Detroit, Michigan in 2002. It is estimated that it had been in the area for

about a decade before being discovered. It was likely unintentionally introduced as a contaminant in wood packing material (i.e., crates). Since that first discovery, it has spread to at least 30 states and 2 Canadian provinces. It is estimated that EAB has already killed over 250 million ash trees in North America.

In Illinois, it was first found in 2006 in northeast Illinois (Cook and Kane counties). EAB has progressed rapidly throughout the state since that first discovery and, by 2016, has been found in 62 counties. Emerald ash borer itself is a weak flyer, so on its own, the range would expand slowly. The reason it has spread so rapidly throughout North America is because humans have moved it around, mainly by moving firewood or ash logs.

The heavily forested areas of southern and western Illinois are just getting EAB, and these regions have an advantage. The diverse forest and lower prevalence of ash on the landscape should aid in slowing progression of EAB populations and lessen the visual and ecological impact of the loss of ash trees. Still, while the progression may be slower, in all likelihood, without treatment, the vast majority of ash trees will be end up dying.

Knowing this gloomy fate of ash trees, the question arises, as a landowner, should you treat your ash trees? For many landowners in Illinois, it is too late to answer this question. Emerald ash borer has been found in some regions of Illinois for over a decade now and most of the ash trees not getting regular treatments are already gone. However, for much of the state, emerald ash borer remains either an emerging problem that is just starting to show up or still on the horizon and not yet impacting ash trees in that region.

Understanding the cost and process of treating a tree is important to further exploring the question of “to treat or not to treat.” The only way to effectively prevent an ash tree from dying from EAB is to treat it with a systemic insecticide so that any beetles attempting to feed on it will be killed. The two most common methods of treating trees are a soil drench and trunk injections.

Costs of treatment can vary greatly depending upon the size of the tree, which chemical is used, and the contractor cost (if one is used). Soil drench applications can range from \$15-\$50 per tree per treatment. Tree injections can range from \$50-\$200 per treatment.



Galleries, created by larval feeding, when excessive can interrupt nutrient and water flow in a tree, leading to tree death



Larvae mostly feed just under the bark in the cambial and phloem layers of the tree. Photo by David Cappaert, bugwood.org

Soil drenches are either mixed with water and poured under the dripline of the target tree or applied as granules and watered in. Most of these can be done by the homeowner. These treatments are most effective on smaller trees under 20" in diameter. Depending upon the chemical used, trees need to be retreated every 1-2 years. A couple of important considerations when using a soil drench application are proximity to waterways and presence of insect-pollinated plants within the treatment zone. Having a waterway nearby the tree may result in the insecticide contaminating the waterway. The label information for the chemical used will have minimum setback distances and other information relevant to protecting waterways when treating ash trees. Soil drench applications should be avoided when insect-pollinated flowering plants occur within the treatment zone.

Tree injections must be done by a licensed professional. Small holes are drilled into the base of the tree and the insecticide is injected directly into the vascular system of the tree, resulting in a more direct application and quicker protection of the tree. Injections can be done on trees of any size. Typically, injections are more expensive than soil drench applications, but usually last 2-3 years before additional treatments are needed.

Timing is also important when treating. Treatments should be made before adults emerge in mid-Summer. The most effective

time for treatments in Illinois is mid-April through June. However, this varies depending upon the particular insecticide and application method used. Consulting with a local arborist experienced in treating EAB is the best method of determining the appropriate timing and method of treatment. The [federal EAB website](#) has very detailed information on how to treat ash trees for EAB, including the different options for insecticides.

To Treat or Not to Treat?

So how does a landowner decide if their ash trees should be treated? Normally, it isn't practical to treat with the intention of keeping ash trees a significant part of the forest matrix. In that type of setting, other trees should be able to rapidly replace the ash in the canopy. Trying to keep multiple ash trees within the forest becomes expensive, especially understanding that the trees will again be vulnerable if treatments are halted; any new regeneration will also become vulnerable as it ages into saplings and young trees. If conducting a timber harvest, it makes sense to go ahead and harvest any marketable ash. Once ash trees are killed by EAB, the wood rapidly deteriorates so salvage logging is often not an option. Ash are a mid-value timber species, so it is not profitable to treat ash trees with the intention of harvesting them at a later date.

For individual trees, particularly landscape and residential trees, below is a series of questions that a landowner should ask when making the decision to treat.

- **What would the loss of this tree mean to me?** Sometimes trees have special value beyond economics. It could have been planted by a loved one, or been the site of a kid's wedding. If losing the tree would be a significant emotional loss, then it is likely worth saving.

■ **Does this tree provide valuable services that cannot easily be replaced?** Large trees that are providing shade to a house, deck, pool, etc. are hard to replace in a timely manner. Trees provide many other benefits to properties as well, so a good resource to check the monetary value a tree is providing your property, and help to determine if a treatment is a good financial option, is the [National Tree Benefit Calculator](#).

■ **How would the loss of this tree impact my home/forest/landscape?** Trees that are the cornerstone of landscaping can leave a void that changes the look and feel of a home. Conversely, trees that are mixed with others, at the corner of a property, or don't provide value, might not be worth the funds to treat.

■ **Is the tree healthy and likely to last if treated?** The health of a tree is also an important factor when deciding whether or not to treat for EAB. Treatments can prevent future damage from EAB but cannot reverse existing damage. Waiting until a tree is already showing dieback or other symptoms means EAB has already caused extensive damage to that tree. If 50% or more of the canopy has been killed or about half of the leaves lost due to EAB, that tree is not likely to recover, even with treatments. Ideally, trees should be healthy with a full canopy and free from other ailments when starting treatments.

■ **Has EAB been found nearby?** The proximity of known EAB populations help determine when to start treatments. If a known population does not occur within 15 miles, the risk of EAB is much lower. Treatments at that point may be unnecessary and a waste of money. The Illinois Department of Agriculture maintains a list of communities and counties with known populations of emerald ash borer on its [EAB webpage](#). Since the internal quarantine was dropped for EAB in Illinois in 2015, intensive surveys for EAB have ceased, meaning that detection of new communities and counties relies upon local reports. Maps may not represent the situation on-the-ground. As such, local arborists and municipal foresters should also be consulted to determine the local extent of EAB.

■ **Can I legally treat this tree?** Homeowners should check with their local units of government to determine if there are any ordinances and/or policies in place related to EAB before starting any treatment regime. In some cases, funds may be available for treatment, removal, or replacement of trees impacted by EAB.

■ **Can I afford not to treat this tree?** Removing trees, especially dead or dying ones, can be pricey! Sometimes the decision is made to treat a tree simply to defer removal costs to a later date or, in the case



of multiple ash trees on a single property, to spread out the costs over time. Having an arborist come and give an estimate of removal costs can aid a landowner in answering this question.

■ **Can I commit to long-term treatments?** With the exception of treating a tree to defer removal costs, it is important to understand the necessity of continued treatments to prevent EAB damage. Treatments need to be reapplied every 1-3 years, depending upon the application method and chemical used. Before starting to treat an ash tree, make sure long-term treatments are an option.

Overall, if EAB has been found close by, healthy trees that are an important component of the landscape or otherwise have significance to the landowner are worth treating. If not, then replacement, removal, or simply waiting to see what happens are probably better courses of action.

This article previously published in *The Voice for Illinois Forests Newsletter*, Illinois Forestry Association, Vol. 12, Issue 3, Fall 2017.

Gardening for Life

Biodiversity is not optional.

By Doug Tallamy

Chances are, you have never thought of your garden—indeed, of all of the space on your property—as a wildlife preserve that represents the last chance we have for sustaining plants and animals that were once common throughout the U.S. But that is exactly the role our suburban landscapes are now playing and will play even more in the near future.

If this is news to you, it's not your fault. We were taught from childhood that gardens are for beauty; they are a chance to express our artistic talents, to have fun with and relax in. And, whether we like it or not, the way we landscape our properties is taken by our neighbors as a statement of our wealth and social status. But no one has taught us that we have forced the plants and animals that evolved in North America (our nation's biodiversity) to depend more and more on human-dominated landscapes for their continued existence. We have always thought that biodiversity was happy somewhere out there "in nature," in our local woodlot, or perhaps our state and national parks. We have heard nothing about the rate at which species are disappearing from our neighborhoods, towns, counties, and states. Even worse, we have never been taught how vital biodiversity is for our *own* well-being.



We Have Taken It All

The population of the U.S., now over 300 million people, has doubled since most of us were kids and continues to grow by 8,640 people per day. All of those additional souls, coupled with cheap gas, our love affair with the car, and our quest to own ever-larger homes have fueled unprecedented development that continues to sprawl over 2 million additional acres *per year* (the size of Yellowstone National Park). The Chesapeake Bay watershed has lost 100 acres of forest *each day* since 1985. We have connected all of our developments with 4 million miles of roads; the paved surface is nearly five times the size of New Jersey. Somewhere along the way we decided to convert most of our living and working spaces into huge expanses of lawn. So far we have planted over 62,500 square miles, some 40 million acres, in lawn. Each weekend we mow an area 8 times the size of New Jersey to within 1 inch and then congratulate ourselves on a job well done. And it's not like those little woodlots and "open spaces" we have not paved over or manicured are pristine. Nearly all are second-growth forests that have been thoroughly invaded by alien plants like autumn olive, multiflora rose, Oriental bittersweet, and Japanese honeysuckle. Over 3,400 species of alien plants have invaded 100 million acres of the U.S., and that area is expected to double in the next 5 years.

To nature lovers these are horrifying statistics. I stress them so that we can clearly understand the challenge before us. We have turned 54% of the lower 48 states into cities and suburbs, and 41% more into various forms of agriculture. That's right: we humans have taken 95% of nature and made it unnatural. But does this matter? Are there consequences to turning so much land into the park-like settings humans enjoy? Absolutely, both for biodiversity and for us. Our fellow creatures need food and shelter to survive and reproduce and in too many places we have eliminated both. At least 40% of Delaware's plant species are rare or extinct, and 41% of its forest birds no longer nest in the state. Over 800 plant and animal species are rare, threatened, or endangered in Pennsylvania and 150 have already disappeared entirely. Many of those that haven't suffered local extinction are now too rare to perform their role in their ecosystem. These can be considered functionally extinct. The song birds that brighten spring mornings have been in decline since the 1960s, having lost 40% of their numbers so far. Birds that breed in meadows are in even more trouble. Once common species such as the northern bobwhite, eastern meadowlark, field sparrow, and grasshopper sparrow have declined 82%, 72%, 68%, and 65%, respectively, in total numbers, and are completely absent from many areas that used to support healthy populations.

Why We Need Biodiversity

For most of us, hearing such numbers triggers a passing sadness; but few people feel personally threatened by the loss of biodiversity. Here's why you should. Biodiversity losses are a clear sign that our own life-support systems are failing. The ecosystems that support us—that determine the carrying capacity of the earth and our local spaces—are run by biodiversity. It is biodiversity that generates oxygen and clean water; that creates topsoil out of rock and buffers extreme weather events like droughts and floods; and that recycles the mountains of garbage we create every day. And now, with human-induced climate change threatening the planet, it is biodiversity that will suck that carbon out of the air and sequester it in living plants if given half a chance. Humans cannot live as the only species on this planet because it is *other species* that create the ecosystem services essential to us. Every time we force a species to extinction we are encouraging our own demise. Despite the disdain with which we have treated it in the past, biodiversity is not optional.

Parks Are Not Enough

I am often asked why the habitats we *have* preserved within our park system are not enough to save most species from extinction. Years of research by evolutionary biologists have shown that the area required to

sustain biodiversity is pretty much the same as the area required to generate it in the first place. The consequence of this simple relationship is profound. Since we have taken 95% of the U.S. from nature we can expect to lose 95% of the species that once lived here unless we learn how to share our living, working, and agricultural spaces with biodiversity. 95% of all plants and animals! Now there is a statistic that puts climate-change predictions of extinction to shame. And studies of habitat islands with known histories, such as Barro Colorado Island in the Panama Canal and Ashdown Forest in England, have so far shown these predictions to be accurate. Species are lost at the same proportion with which a habitat is reduced in size. The good news is that extinction takes awhile, so if we start sharing our landscapes with other living things, we should be able to save much of the biodiversity that still exists.

Redesigning Suburbia

What will it take to give our local animals what they need to survive and reproduce on our properties? NATIVE PLANTS, and lots of them. This is a scientific fact deduced from thousands of studies about how energy moves through food webs. Here is the general reasoning. All animals get their energy directly from plants, or by eating something that has already eaten a plant. The group of animals most responsible for passing energy from plants to the animals that can't eat plants is insects. This is what makes insects such vital components of healthy ecosystems. So many animals depend on insects for food (e.g., spiders, reptiles and amphibians, rodents, 96% of all terrestrial birds) that removing insects from an ecosystem spells its doom.

But that is exactly what we have tried to do in our suburban landscapes. For over a century we have favored ornamental landscape plants from China and Europe over those that evolved right here. If all plants were created equal, that would be fine. But every plant species protects its leaves with a species-specific mixture of nasty chemicals. With few exceptions, only insect species that have shared a long evolutionary history with a particular plant lineage have developed the physiological adaptations required to digest the chemicals in their host's leaves. They have specialized over time to eat only the plants sharing those particular chemicals. When we present insects from Pennsylvania with plants that evolved on another continent, chances are those insects will be unable to eat them. We used to think this was good. Kill all insects before they eat our plants! But an insect that cannot eat part of a leaf cannot fulfill its role in the food web. We have planted Kousa dogwood, a species from China that supports no insect herbivores, instead of our native flowering dogwood (*Cornus florida*) that supports 117 species of moths and butterflies alone. In hundreds of thousands of acres we have planted golden raintree (*Koelreuteria paniculata*) from China instead of one of our beautiful oaks and lost the chance to grow 532 species of caterpillars, all of them nutritious bird food. My research has shown that alien ornamentals support 29 times less biodiversity than do native ornamentals.

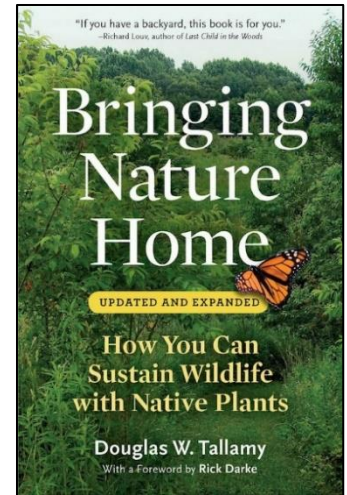


Your Garden Has a Function

In the past we didn't design gardens that play a critical ecological role in the landscape, but we must do so in the future if we hope to avoid a mass extinction from which humans are not likely to recover either. As quickly as possible we need to replace unnecessary lawn with densely planted woodlots that can serve as habitat for our

local biodiversity. Homeowners can do this by planting the borders of their properties with native trees and plants such as white oaks (*Quercus alba*), black willows (*Salix nigra*), red maples (*Acer rubrum*), green ashes

(*Fraxinus pennsylvanica*), black walnuts (*Juglans nigra*), river birches (*Betula nigra*), and shagbark hickories (*Carya ovata*), under-planted with woodies like serviceberry (*Amelanchier canadensis*), arrowwood (*Viburnum dentatum*), hazelnut (*Corylus americanus*), and blueberries (*Vaccinium* spp). Our studies have shown that even modest increases in the native plant cover on suburban properties significantly increases the number and species of breeding birds, including birds of conservation concern. As gardeners and stewards of our land, we have never been so empowered to help save biodiversity from extinction, and the need to do so has never been so great. All we need to do is plant native plants!



Reprinted with permission from the website Bringing Nature Home.

This site supports the lecture series and book *Bringing Nature Home: How You Can Sustain Wildlife with Native Plants* by University of Delaware professor Doug Tallamy.

The Native Plant Conservation Campaign

A National Native Plant Society for the United States

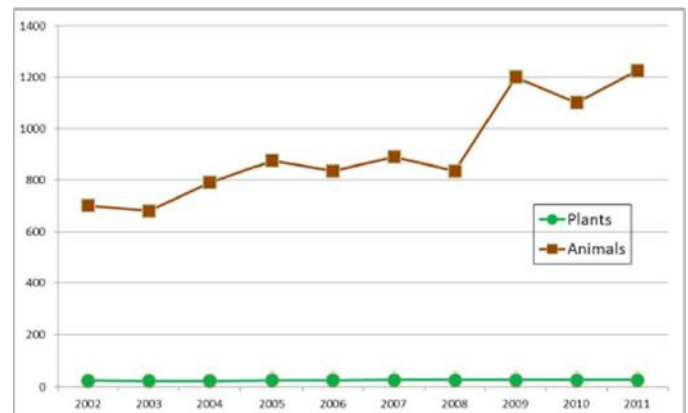
By Emily Brin Roberson, Director, Native Plant Conservation Campaign.

It all starts with photosynthesis. Plants turn carbon dioxide, water, and sunlight into life and oxygen. Without plants to produce food, shelter, and air, other species simply cannot survive.

And yet plants are discriminated against in every aspect of laws, policies, and budgets for science and conservation. Even conservation groups often ignore native plants in their advocacy and outreach.

That is why I created the [Native Plant Conservation Campaign](#) (NPCC)—to fight for the native plants that give life, that sustain this planet’s stunning biological diversity, that make up our glorious natural landscapes, and that keep us all alive—and also to support the extraordinary people who work to understand and conserve these amazing organisms.

The NPCC developed within the California Native Plant Society (CNPS). In the 1990s, I was on the conservation staff at CNPS. At that time CNPS was involved in one of the first lawsuits trying to force the government to list imperiled plants under the Federal Endangered Species Act (FESA). The stated goal of the FESA is to prevent species extinction. So, as plants were added to the endangered species list, CNPS expected that they and their habitats would be protected.



Imperiled plants receive a fraction of the funding, staffing and protection provided for imperiled animals. Comparison of total endangered species spending for plants vs. animals 2002-2011. (Havens, K., A.T. Kramer and E.O. Guerrant, Jr. 2014. Getting plant conservation right (or not): the case of the United States. *Int. J. Plant Sci.* 175 (1): 3-10.

Sadly, that was not the case.

It turns out that the FESA gives only listed *animals* protection from death and extinction. Federally-listed plant species are protected only in limited circumstances, primarily if they are fortunate enough to live on federal lands or in the path of a federal project such as highway maintenance. So the FESA leaves many listed plants, among the most imperiled species on the planet, completely unprotected from willful destruction, even from the eradication of entire species. This ludicrous provision is known as the “plant exception” to the FESA. Because of it, listed plants are bulldozed for logging and development, crushed by off-road vehicles, grazed, trampled, dug up for collectors, and otherwise destroyed without penalty (for details see the [Equal Protection for Plants page](#) on the NPCC website).

In response, I launched the Equal Protection for Plants Project for CNPS in 1999. Its goal was to organize support within the scientific and conservation communities for correcting the plant exception. We drafted an organizational sign-on statement calling for equal protection for plants under the FESA. The first groups we contacted were other U.S. native plant societies (so long ago that the invitations to prospective signers went via the Post Office!). The Equal Protection for Plants statement has been endorsed by 75 scientific, botanic, and conservation groups, and counting.

We found that most U.S. states had native plant societies similar to CNPS. We also realized that, like the FESA, many of the obstacles we faced in plant conservation were national in scope. We needed a national native plant conservation organization to combat these problems. And so the NPCC was born. Native plant societies joined and the NPCC became a nationwide network. It was then moved to a national parent organization, the Center for Biological Diversity. We incorporated as an independent nonprofit corporation in 2016.

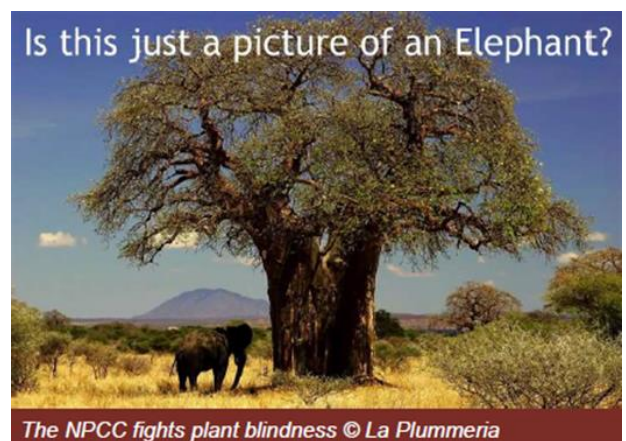
Today, the NPCC has 49 Affiliate groups representing almost all 50 states and more than 150,000 plant enthusiasts. Affiliates are native plant societies, wildflower clubs, botanic gardens, and botanical societies. They range from small societies of a few hundred members to large gardens with tens of thousands of members. We have essentially created the national native plant society of the United States; it is likely the first such network in the world.

The mission of the NPCC is to promote the conservation of native plants and their habitats through collaboration, research, education, and advocacy. We carry out this mission in a number of ways.

Our [Network of Affiliates](#) is the core of the NPCC. We work with Affiliates to share information and expertise and to educate each other, the public, and policymakers about the importance of native plants. We hold conference calls and have launched an online discussion group to help Affiliates collaborate with and learn from each other, share successes, and vent frustrations.

We also carry out our mission through programs and projects. NPCC’s team of Advisors, distinguished botanists recruited from universities and other institutions, help us make sure these programs are botanically sound.

The Equal Protection for Plants Project uses research and public outreach to raise awareness about the inferiority of legal protections for imperiled plants under the FESA and other state and federal conservation laws. We also combat the pervasive underfunding and understaffing of plant science and



conservation programs. We fight “plant blindness,” a term botanists coined in 1996 to refer to “the inability to see or notice the plants in one’s own environment.” The Important Plant Areas (IPA) Program collects information about and images of botanically significant natural areas in support of the Global Strategy for Plant Conservation (part of the Global Convention on Biological Diversity). The Program will eventually produce a national database of botanical hotspots for conservation, research, and education. In May of this year, we created the Important Plant Areas Partnership. It consists of the NPCC, Botanical Gardens Conservation International U.S., the Plant Conservation Alliance Non Federal Cooperators Committee, and CNPS. The Partnership advocates for the designation and protection of IPAs as integral to the conservation of our flora. We have been collecting information from Affiliates about IPAs in their regions since 2015.

The Right Plant, Right Place Project encourages the use of locally appropriate native plants in gardening and land management. We promote initiatives like the National Seed Strategy, CNPS Calscape, [Operation NICE!](#) (Natives Instead of Common Exotics) from the Native Plant Society of Texas, and the [Xerces Society’s pollinator gardening program](#) that help supply local natives for planting projects.

The [Speak Out for Plants!](#) program offers materials and assistance to help people speak out for native plant science and conservation to policymakers and the media. The project spotlights the Ecosystem Services provided by native plants, such as water purification, wildlife habitat, storm protection, soil fertility, climate change moderation, and food and water security. We also work to maintain the funding, integrity, independence, and transparency of botanical and other scientific programs. To further these goals, we help people register to vote so that elected officials know that the plant community can and will hold them accountable.

One challenge we face is that plant and wildlife conservation groups have tended to work in near isolation from one another. Plants have simply been overlooked by many large conservation groups. So we educate these groups about the importance of native plants and encourage them to include plants in their advocacy. (There is progress. These days, only occasionally is it necessary to remind them that plants actually exist.) We also help them to make use of the tremendous expertise and other resources in the plant community. In a partnership with the Endangered Species Coalition, for example, we are providing locally appropriate plants for pollinator gardens and helping local plant advocates educate elected representatives and the media about the threats to the FESA and other conservation laws from the current Congress and President.



NPCC works to protect sites like Cave Creek Glade in Johnson County



You can help! Sign up for NPCC News on our [homepage \(https://plantsocieties.cnps.org/\)](https://plantsocieties.cnps.org/) to keep up with plant news and receive action alerts. Of course we appreciate donations. You will find a Donate button on the NPCC homepage. We also need volunteers for all sorts of projects from photography and fundraising to outreach and species management. The NPCC Jobs page offers descriptions of volunteer positions. Check out the ‘Speak Out for Plants!’ page for tools to help you communicate with the media and elected officials on behalf of native plants. Request our Save Plants Save the Planet Brochure or Ecosystem Services Infographic and share them at events. Register yourself and a friend to vote—and let us know. Tell us if you know of reliable sources of locally appropriate native plants in your area so we can add them

to our resource list.

Native plants give us the air we breathe, clean and store water, buffer extreme weather, and create the soil that nourishes us. Native plant diversity offers staggering beauty while stabilizing our food supply and providing medicines that keep us alive. The goal of the NPCC is to establish sound native plant science and conservation as a foundation for land and species management. We will all live in a healthier, more sustainable, secure, beautiful, and bountiful world when that becomes the case. To learn more, go to PlantSocieties.CNPS.org.

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Carex Corner #9: Groovy Sedges

by Lindaeus

Groovy, not as in how you feel about sedges, but in description of the corrugated lines on the seed sacs (perigynia). The grooves are 40 or more impressed nerves on a perigynium, only 3-4 mm long, about an eighth of an inch. Similar to our fingerprints, the line pattern of nerves on the perigynia is a clue to identify the species.

In the US, 20 groovy species grow in the Midwest and southern United States. Many are endemic and only grow in one region.

One of our grooviest Illinois sedges is *C. conoidea*, (Fig 1), prairie gray sedge, found in wet sand prairies along the Lake Michigan Lake Plain, but also in Midwest Illinois prairies such as the 3,600-acre Nachusa Grasslands in Lee County (Fig 2). “*Conoidea*” means cone-shaped with a rounded top like an ice cream cone. Prairie gray sedge perigynia are beakless or have a tiny beak-like tip.

In 1848, *C. conoidea* was named *C. illinoensis*, but proved to be the same as the species discovered earlier in 1805. Too bad, as a groovy state sedge could be as pleasant as a state flower.



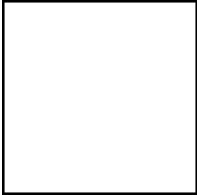
The groovy *Carex* were grouped in section Grisea, referring to the term *griseus*, which is a grey to bluish color, a character of wood gray sedge, *C. grisea* (Fig 3). While named a variety as *C. amphibola* var. *turgida* in 1942, it was returned to an original species status of *C. grisea* as set in 1803. Authors of botany manuals differ and some are “lumpers” that keep the varieties under one species name, and others are “splitters” that raise the varieties to species rank. The history of each *Carex* species’ name changes are included in Dr. Mohlenbrock’s [Illustrated Flora of Illinois: Carex](#), 2011, 2nd ed. Some are head-shakers.

Lindeaus is Linda W. Curtis, author of *Woodland Carex* and *Bog-Fen Carex*. Enjoy her short stories at www.curtistothethird.com.

ILLINOIS NATIVE PLANT SOCIETY

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Frost flower.
Photo: Mike Chervinko.

The Harbinger December 2017

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Eriogenia, our scientific journal, is now available digitally as well as in print.
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