



Public Nuisance!

The Joys—and Risks—of Landscaping with Native Plants

Fiona Solkowski, Urban Gardener

Eight years ago I bought my first home, a wonderful old house in the Fountain Square neighborhood of Indianapolis.

When I moved in during the spring of 2001, the landscaping consisted of two overgrown cedar trees, three yucca plants, grass, bare dirt, and a weedy privet hedge in front of the vacant lot next door. With many donations of plants from friends and family, I quickly began putting in some small flower beds around the foundation. I also felled one of the big cedars that completely blocked the front of the house and put in a tiny vegetable and berry garden in the back yard.

As the first growing season ended, I started to formulate the grand plan for the focal point in my landscaping—a wonderful bed of native prairie plants in the front yard.

Before moving to Indianapolis, I had spent my work days at natural areas in Illinois



and Indiana, doing prairie habitat restoration. With my new desk job at The Nature Conservancy, I really wanted to have a little bit of the native prairie that I love so much close to my home.

So before spring rolled around again, I did some research into the landscaping restrictions outlined in the Revised Code of Indianapolis and Marion County. In Chapter 731-219 b (2) a-c, the code allows for landscaping in front yards. In fact, except for paving or gravel for access from the house to the street, it requires that the rest of the front yard must be landscaped with grass, shrubbery, trees or hedges, or other similar and suitable vegetative ground cover materials.

Additionally, the code permits the growing of vegetables, grasses, fruits, flowers, shrubs, vines, and trees in any yard. There are also some restrictions about the

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To promote the appreciation, preservation, conservation, utilization and scientific study of the flora native to Indiana and to educate the public about the value, beauty, diversity, and environmental importance of indigenous vegetation.

Membership

INPAWS is a not-for-profit 501(c)(3) organization open to the public. For membership information, visit www.inpaws.org.

News and Views

Information to be shared with INPAWS members may be directed to membership@inpaws.org.

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Silver & Gold

A song we used to sing in Camp Fire Girls went “Make new friends, but keep the old, one is silver and the other gold.” This could be the theme song of INPAWS right now. We have exciting, brand spanking new projects as well as long-standing commitments and annual events to which we remain true.

Here's an example. This past winter, after years of service, leadership of the INPAWS South Central Chapter stepped down. There were no apparent successors. Were we going to let this old friend slip away? Local chapters are considered vital to the INPAWS mission, the forum by which members meet each other and have programs and field trips of local interest. We're happy to report that Laura Hohman accepted the position of chapter president and has already enthusiastically reached out to South Central members.

As for “new friends,” we have the July 18 “Landscaping with Natives” Garden Tour of Indianapolis-area gardens. We'll have an active presence at the first Hoosier Outdoor Experience September 25–27 at Fort Harrison State Park. We've made a commitment to advocate for change in weed ordinance issues. And we're joining a group of organizations working toward greater use of native plants along Indiana roadways.

And of course we're planning the next Annual Conference November 7 with two fabulous keynotes: Don Leopold, author of *Native Plants of the Northeast: A Guide for Gardening and Conservation*; and Steven Apfelbaum, author of *Nature's Second Chance: Restoring the Ecology of Stone Prairie Farm*.

I thank all of you for your enthusiasm and contributions to our organization and, in a greater sense, for your commitment to the health and joy of our land and its inhabitants. INPAWS is rich indeed.

—Nancy Hill



INPAWS Small Grants Awarded

The Small Grants Committee announces the following awards for 2009:

1. \$497 to Jonathan Bauer, Department of Biology, Indiana University, Bloomington, to study the effect of planting paw paw (*Asimina triloba*) and spicebush (*Lindera benzoin*) after removing amur honeysuckle (*Lonicera maackii*) on the native plant community in Cascades Park, Bloomington.
2. \$500 to Pat Brown, Beautification Chairman, Irvington Terrace CrimeWatch, Indianapolis, to beautify the Washington Street highway entrance to the Irvington neighborhood by planting native shrubs and grasses.
3. \$500 to Roy Johnson, Agricultural Science Instructor, East Central High School, Saint Leon, for high school Landscape Management students to design, install, and maintain a planting bed using native plants.
4. \$500 to Michael Phelps, Town of Brookston, to plant an acre of native prairie grasses and forbs in the Heart to Heart Walking Park.

Members of the 2009 Small Grants Committee—Mary Damm (chair), Ella Ingram, Ellen Jacquart, Jackie Luzar, and Shaena Smith—lent their expertise in biological research and education, invasive species removal, landscape design, and urban conservation. The breadth of their experience was an asset in evaluating the proposals, Mary Damm noted.

The committee thanks the twelve individuals and organizations from across the state who submitted proposals.

The next deadline for applications is February 1, 2010. For details, visit www.inpaws.org.



The author's "fixer-upper" landscape as purchased in 2001.

height of dense hedges in the front yard, but as far as I could find, these were the only guidelines for landscaping in the city code.

Going Against the Flow

My reputation on the block as the crazy gardening lady probably began with my second year in the neighborhood. My neighbors saw me out in the front yard, covering up the lawn with newspaper and mulch. As that sea of mulch smothered out the turf, I began planting some tiny plugs of prairie flowers and grasses that are native to Indiana or North America. I also planted a loose hedge of red-twig dogwood shrubs to provide a border along the front sidewalk. Although this prairie planting looked a little absurd in its first year, it grew very well. The plants matured, and with more plants added over the next few years, it filled in pretty quickly. I was also able to purchase the empty lot next to my house and continued the prairie planting along the width of my whole yard.

At last count, I have planted more than 100 native plant species including a federally listed endangered species, Tennessee coneflower. Plants range in size from six-inch violets to seven-foot bunches of big bluestem and some nine-foot tall yellow flower spikes of prairie dock. More prairie grasses such as little blue stem, Canada blue rye, and bottlebrush grass are scattered around the planting with asters, butterfly weed, mountain mint, blazing star, royal catchfly, golden sundrops, black-

eyed susan, coneflower, cup plant, and compass plant.

A few years ago, I completed the last stage of this native planting—a rain garden to help retain stormwater run-off from my roof and yard. This part of the bed is filled with irises, phlox, culver's root, sedges, and other plants that can survive occasional flooding. The finished native planting spans fifty feet along the front sidewalk and runs fifteen feet deep into the front yard.

In addition to the front-yard native planting, I have continued landscaping all through the yard. The vegetable garden has grown into a nice plot in the sunny back yard, and mixed beds of ornamental flowers, shrubs, and other native plants surround the house and run along the property lines. This spring, I installed a big new pond in the back yard. The house is surrounded by a fair amount of well-maintained lawn as well.

Running Afoul of the Law

As the native planting in the front has grown into its full glory, I have unfortunately been cited several times with "tall grass and weeds" violations.

The Indianapolis Code, Chapter 575-2 (3)(a), specifies a violation called "environmental public nuisance," which is defined as

vegetation on private or governmental property which is abandoned, neglected,

disregarded or not cut, mown, or otherwise removed and which has attained a height of twelve (12) inches or more. [underlines inserted for clarity]

In 2007, several gardens in my neighborhood, including mine, received notices that we were in violation of this ordinance. Since our gardens were not abandoned, neglected, or disregarded, we promptly called our Mayor's Neighborhood Liaison and sent letters disputing the violation, with apparent success—no further violations arrived that year.

But last August, I received another weed violation. With an updated letter requesting a hearing to dispute the violation, including a landscape design, species list, and photos of the prairie bed in bloom, I visited the Office of Weed Ordinance Enforcement and spoke to a supervisor about my "weed" issue. I was told that I could request the hearing to dispute the weed violation, but that it would be pointless since the inspectors had already determined that I was in violation of the weed ordinance. What's more, in the supervisor's opinion, the photos I brought in did look like weeds.

She suggested that the only way to avoid this situation in the future was to have my yard designated as a native garden. Since I already had applied for and received a Wildlife Habitat Certification from the National Wildlife Federation, I hoped that this could be the solution, but it seemed that I needed certification specifically from the City of Indianapolis. Although the supervisor was sure there was a program to do this in Indianapolis, she did not know whom I could contact. She suggested that I consult the Indianapolis Health Department for more information.

Throughout last fall and winter, I contacted the Health Department and many other agencies in Indianapolis and throughout Indiana, only to discover that we have no certification program for natural or native plantings on private property. Through correspondence with the Mayor's Office, my issues with this weed violation had been filtered up to Rick Powers, the Director of the Office of Code Enforcement for Indianapolis-Marion County. It seems that there is one section in the Indianapolis Code that allows an exclusion to the weed ordinance for a "nature habitat area." Unfortunately, my little piece of natural habitat is too close to occupied structures to meet this exclusion.

Rick Powers emailed the suggestion that we wait and see if there is another neighbor complaint about my "weeds" this year,

and then deal with the situation—a solution I am leery of, since last year's letter informing me of the violation gave me less than a week to resolve the problem. I was taken aback, too, by certain comments in the Director's email:

This may be an area of consideration for future greening initiatives; however, I would urge caution. As was noted by staff today in legal review, it is one thing to accept a "single" yard covered in this condition, but imagine a street full of yards in the same condition as exceptions, and then the undesirable wildlife the condition can attract. This is a tough line to hold for me, because I am super appreciative of nature, but we must be considerate of the point-of-law going forward as an enforcement agency. An old adage, cops don't debate the speed limit.

So the notion of prairie plantings attracting undesirable wildlife is still used to argue against natural landscaping! And, although the Indianapolis Mayor is trying to "green" Indianapolis, native plant gardens are considered a nuisance rather than encouraged as an alternative to turf grass.



Fiona in the garden.

Troubled by this response from the City, I was not willing to wait for another weed violation. It seemed to me that the Code contained a contradiction—"weeds" seem to include any vegetation taller than twelve inches, yet "landscaping" permits hedges, trees, shrubbery, flowers, and vines that could readily top twelve inches. I began researching the issues in earnest.

Toward a Native-Friendly Weed Ordinance

I found hope when I discovered the Wild Ones website. Wild Ones, a grassroots leader in the natural landscaping movement, has put together some great information on how to change local ordinances to be more supportive of native landscaping. Many cities around the country have amended their weed ordinances to exempt native plants from the height restriction on weeds.

Changing our City Code seemed like the easiest solution to my own "violation" as this would allow for natural landscaping as an alternative to lawns. I began contacting people and organizations around town to garner support and guidance on how to change the weed ordinance in Indianapolis. In the process, I heard many stories of other gardeners who have run into problems using native plants in their landscaping. Clearly I was not alone in my struggle.

For the last few months, I have been talking with a lot of individuals, organizations, and City offices about this issue. INPAWS and Keep Indianapolis Beautiful, Inc., have offered to support a change to the weed laws in Indianapolis, and many City employees are working with me to find a solution. I have also heard from the Indianapolis Office of Sustainability, which is aware of the weed ordinance as a barrier to implementation of green infrastructure city-wide and is setting up a process to get this ordinance changed. I'm hoping they come through with some good changes.

Despite the difficulties that my native planting has caused, I remain happy that I planted it and willing to fight for its continued existence. Although not the typical urban landscape—lawn, round-pruned shrubs, and a few flowers—my yard is well-maintained and, to my eyes, pleasing to look at. Although the weed inspectors disagree with me, I believe it also falls within the restrictions set by the City Code.

My native planting dances with color and draws wonderful butterflies, hummingbirds, and songbirds into the neighborhood. In the late summer, when hot weather and lack of rain have sapped the energy out of most gardens in my neighborhood, mine is still putting on an amazing show.



The prairie planting encompasses more than 100 species of native plants.

INPAWS Action

Hearing Fiona Solkowski's story at their May 6 meeting, the INPAWS Board of Directors discussed the issues and unanimously passed the following motion:

INPAWS should actively encourage the adoption of local codes, ordinances, and covenants that permit landscaping with native plants.

Solkowski's landscape is among those featured in INPAWS' inaugural Garden Walk on July 18.

Meetings

Herewith the grand finale of our saga about boreals and Atlantic coastal plain disjuncts (CPs). The miracle: you can see both in the same Duneland habitat, sometimes even growing side by side.

But first, the BioBlitz.

From noon to noon on May 15 and 16, the Indiana Dunes National Lakeshore, under *National Geographic* sponsorship, celebrated "The BioBlitz," a kind of biodiversity festival in which 300 scientists were to guide thousands of adults and school children in teams of four to ten on concurrent four-hour surveys of every living thing throughout most sections of the park.

Fate said somewhat otherwise. The recession meant the *Geographic* severely reduced publicity, in turn reducing the number of participants. Torrential rains on the 15th caused some teams to cancel. A washed-out bridge didn't help.

This BioBlitz was the third of ten the *Geographic* is sponsoring to honor the 100th Anniversary of the National Park Service in 2016. The ten parks are all adjacent to urban areas with potentially numerous visitors.

One of the Lakeshore's merits is that, though covering only 15,000 acres, it is seventh in the number of plant species in our 391 national parks. The Dunes host not only 1,250 or so native plants but are also a plant crossroads: Eastern deciduous forest and tall-grass prairie species grow with boreals and CPs as well as a few southern and western species.

As leader of Team 145, fern expert David Hamilla assisting, I took my team of three

to an old-growth forest, also designated as hydromesophytic swamp forest, the survivor of an unsuccessfully drained subdivision now evidenced mostly by the vacated roads serving as hiking trails. As members of a team with official permits, we were privileged to try to jump dry shod over water-loving skunk cabbage (*Symplocarpus foetidus*), blue flag (*Iris virginica shrevei*), and lizard's tail (*Saururus cernuus*) to hummocks where tulip (*Liriodendron tulipifera*), beech (*Fagus grandifolia*), and spice bush (*Lindera benzoin*) hadn't yet shaded out spring ephemerals like spring cress (*Cardamine bulbosa*) and dwarf ginseng (*Panax trifolius*).

We were inventorying plants, partly in hope of finding something new (no luck), partly to see whether any changes had taken place since earlier inventories (probably not). The rarest plant seen (it was GPS'd) was state-threatened golden saxifrage (*Chrysosplenium americanum*), an inconspicuous, petal-lacking but agreeably dense "water mat" with one-third inch or less, often roundish leaves. It flourishes only at 600 feet above sea level, here in

HEALING NATIVES

The Community Herbalist

Greg Monzel, Herbalist

Somewhere between the gardeners and botanists, physicians and pharmacists, activists and mountain men, whether on the countryside or in the heart of the city, one may meet that strange bird, the grassroots herbalist.

Nibbling a flower and sniffing a scratched twig, she gathers bundles of *Eupatorium perfoliatum* and *Verbena hastata* in the meadow along the creek. She wades through the sedge back to her garden, plucks a couple of calendula and yarrow stems before she lets herself in through the kitchen door. There at her dining room table sit her neighbors with their ailing daughter, beset with influenza, clammy and pallid. The herbalist puts the kettle on and readies two cups of tea: boneset, yarrow, and calendula for the girl's flu; and blue vervain for her own nerves. Two cups of strong brew later, and under layers of quilts, the fever breaks and the neighbors go home to bed. Before the



healer may sleep, however, she must hang the bundles of herbs in the loft where the warm, dry air will make quick work of their dehydration. Now she can rest with a peaceful mind and heart.

Herbalists wear many hats. There are plant gatherers (wildcrafters), gardeners, seed-saving herbalists, clinicians, advocates, educating herbalists, organic farmers, medicine-makers, and speakers. Most herbalists are combinations of these roles, wedding plant communion with an ethic of care and a good dose of outreach.

The traditional indigenous herbalist has provided healing and healthcare to the sick, poor, and wounded for millennia.

Plant medicine is still the most widely used healing system worldwide, with 75 to 80 percent of the population using herbal medicine for their primary care. Many choose herbal medicine over pharmaceutical medicine even when both are options; many more use both herbs and drugs for therapy. It serves the community well to have people who understand how medicinal plants work in the body and how drugs may interact with them, and it serves the community well to have caregivers who connect patients with their environment.

My path as an herbalist began when, in my teens, I frequently came down with strep throat. I would take a prescription for antibiotics as directed, my throat would clear up, and four weeks later I had strep again. Curious, sharp, and appreciative of nature, I was determined to find another way. How would I handle strep throat if there weren't doctors and antibiotic drugs? I turned to my grandfather's books on "natural cures" and pretty soon was treating my strep by chewing pineapple cores and gargling with lemon juice blended with cayenne and cinnamon. Not long after, I

At the 2008 BioBlitz, school children helped identify more than 1,200 plant and animal species at Indiana Dunes. Photo courtesy of National Geographic at <http://www.nationalgeographic.com/field/projects/bioblitz.html>.



water seeping from the Calumet Dune toward the south.

But pleasing me most was pointing out side-by-side starflower (*Trientalis borealis*), a hummock-grower from Labrador growing near swamp star sedge (*Carex seorsa*), an edge-of-water growing CP. Recognize starflower by its whorl of five-to-ten unevenly long lanceolate leaves, pointed

at both ends, from which rise one to three thread-like pedicels supporting delicate, seven-lobed white flowers. State-rare swamp star sedge does resemble other star-flowered sedges but is recognizable here by its numerous, densely packed clumps at wet edges.

Other CPs and boreals appear here, some later in the season. CPs include screw-

stem (*Bartonia virginica*), swamp beggar's ticks (*Bidens discoidea*), the elusive oval-winged sedge (*Carex alata*), and, nearby, meadow beauty (*Rhexia virginica*). Boreals include paper birch (*Betula papyrifera*), the above-mentioned dwarf ginseng—in carpets—mountain holly (*Nemopanthus mucronata*), and smooth Canada may-flower (*Maianthemum canadense* var. *canadense*). One botanist thinks this plant may be both a CP and a boreal.

Only the botanist Gerould Wilhelm has seen the mountain holly. This fall, I plan "The Great Nemopanthus Hunt." Then its long-stalked red fruits should be a give-away.

For still more adjacent boreals and CPs, visit the Lakeshore's Pinhook Bog (guided tours only; call 219-926-7561).

Books

Swink, F., and G. Wilhelm. *Plants of the Chicago Region*, 4th edition. Indiana Academy of Science, 1994.

Yatskievych, K. *Field Guide to Indiana Wildflowers*. Indiana University Press, 2000.

stopped having frequent strep infections, and I became hooked on healing foods, many of which are culinary herbs.

Over the following decade, I devoured books on nutrition and alternative medicine, worked between health food stores and organic farms, gaining more awareness of nutrition and our food supply, and traveled throughout the US. Leaving my job as a supplements manager in a national chain health food store, I studied with the herbalist 7song at the Northeast School of Botanical Medicine for a seven-month season in Ithaca, New York, while living in a tipi and tending vegetables in exchange for rent. I began clinical consultations, wildcrafting, medicine making, and land stewardship while in school, then returned to my birthplace in Indiana to settle and start a business as a community herbalist.

Being an herbalist sometimes brings me into controversy. Certain members of the medical establishment assert that there is no scientific basis for herbalism. Conservationists have concerns about the sustainability of wild plant collection. Law enforcement workers, too, are often suspicious when I look at plants along roadsides or easements. Many people have the misconception that being an

herbalist means I peddle *Cannabis*. Even when some clients first see my apothecary, their minds conjure images of mysterious potions and mad science as they read tincture labels such as witch hazel, beggars' ticks, or stream orchid. Such skeptics are always welcome, but their suspicions reveal sometimes incorrect assumptions about herbalists and their craft and a certain fear of the unconventional.

Herbalists are as diverse a group as the plants we collect; no two herbalists will practice exactly the same way. We draw upon clinical trials, biochemical assay and chemical property research, traditional use, and anecdotal evidence in clinical formulation. Scientific research is available through the MedLinePlus and HerbMedPro databases. A private non-profit organization called the American Herbalists' Guild (AHG) sets standards of practice for professional herbalists and offers the designation of Registered Herbalist (RH).

Regarding the ecological impact of wild plant collection, an organization of herbalists called the United Plant Savers (UPS) advocates ecologically sound wildcrafting practices, encourages cultivation of at-risk plants, and establishes medicinal

plant sanctuaries. One such sanctuary is located in south-central Indiana; it is Green Turtle Botanical Sanctuary, stewarded by herbalist Susan Clearwater, RH (AHG).

Herbalists understand the interconnectedness of human health and environmental health, and so are stewards for the conservation and propagation of uncommon and at-risk plants in the wild. Many of the herbs I collect are exotic or invasive, common, ubiquitous, or cultivated species. The AHG Statement of Purpose includes striving "to promote an ecologically healthy environment and to increase awareness concerning the interdependence of all life, especially the plant-human relationships." To facilitate the healing of plants and people alike, being an herbalist is about building relationships of trust between people and plants.

To be continued...

A practicing herbalist, Greg Monzel teaches classes about herbs and health, offers workshops, gives plant walks, and volunteers for conservation and stewardship projects. Contact him at primitiveoriginsbotanicals@gmail.com.

Teapot illustration by Andrew Rado at www.andygetstoplay.com.

Where Do I Start?! Prioriti

*It's important to think through a plan for managing invasive plants on your land **before** you start the attack. Without a plan, it's easy to underestimate the time and resources it will take to control a species. You can end up overwhelmed and give up in frustration.*

Ellen Jacquart, Chair, INPAWS Invasives Awareness

An important part of planning is to prioritize the work ahead of you, deciding what species you should start on first, and where you should attack first. That way, at least you'll know that what you *did* accomplish was more important than what you didn't have time or resources to complete.

Here are some tips for prioritizing invasive plant control.

Prioritizing by species....

You walk through your woodlot and wince when you see the garlic mustard, which looks like it's spread considerably since last year. Then you notice the burning bush shrubs in the understory and realize your neighbor's landscaping has made itself at home in your woods. And that vine....those orange berries...geez, where did the oriental bittersweet come from?!

Like potato chips, it seems nobody can have just one invasive plant species. There are usually multiple species invading a given area, which can make the job of managing a site much more difficult. Where do you start when you have more than one species to deal with?

A lot of us have struggled with this, and fortunately there are some easy rules to help sort out which species to go after first. What follows is a simplified version of a prioritization template created by The Nature Conservancy. The complete tool can be found at <http://www.invasive.org/gist/products.htm> by clicking on the Weed Management Plan Template. Many other resources on the identification and control of invasive plants can be found on that site.

Before you start prioritizing, though, you need to know three things:

Know what you have.

Use a good field guide or a knowledgeable botanist friend to double-check that you've identified a real invasive plant rather than an innocent look-alike.

Know how much you have.

The priority you place on 50 plants of garlic mustard will be very different from 5 acres of garlic mustard, as you'll see in a moment. Map the invasive plants, circling each area of infestation and estimating what percent within the circled area is invasive species versus native. A handy way to do this is to use Google Earth to zoom in on your property and print out an aerial photo. Draw your property boundary on the aerial, then walk through your property in a grid-like fashion and mark what you see. Those of you with GPS units and GIS software on your computers are welcome to do it the high-tech way.

Know what you want.

This may be very easy for you, or very difficult. What do you most want to protect on your land? Is it the ovenbirds that nest there? The bluebells that bloom each spring by the creek? The deer habitat? The ability to walk through the woods without having to fight thorny shrubs? Deciding what you want to manage your land **for** is important. Think this through, and even map the areas you most want to protect against invasive plant species.

Now you're ready.

The following four questions will tell you which species should be your top priority. You should already know the answers to number one and two from figuring out above how much you have and what you want to protect. Numbers three and four are answered by reading information about each invasive species or talking to professionals who work with invasive species in your area.

For each species, answer these questions and add the points:

1. How much do you have?

1 pt—I don't have any, but it's near my land

2 pt—Just a small amount, but it's spreading

3 pt—A fair amount, and it's still spreading

4 pt—A LOT! It's covering the whole area completely

2. What's the value of the habitat being invaded?

1 pt—It's invading my favorite area that has the stuff I want to protect

2 pt—It's invading the disturbed edge or areas that I don't care as much about

3. What impacts is it causing?

1 pt—All is lost; it changes the area so much that few species survive

2 pt—It invades undisturbed areas and outcompetes native species

3 pt—It doesn't outcompete native species, but natives don't regenerate

4 pt—It invades disturbed areas like edges

4. How hard is it to control?

1 pt—Not too bad; one treatment and it's pretty much gone

2 pt—Takes multiple treatments, but eventually it's gone and natives replace it

3 pt—Takes multiple treatments and natives don't come back in readily

4 pt—No effective treatment has been found

Now add the total points for each species. *The lower the score, the higher the priority.*

To summarize it another way—*cheap and easy is often your top priority!* It is common to be mesmerized by the acres of garlic mustard in bloom and completely

zing Invasive Plant Control

miss the one oriental bittersweet vine that snuck in while you weren't looking.

If you have unlimited time and money, congratulations! Hire a big crew and go after them both. If, like most of us, you have limited time and money, turn your back on the garlic mustard and kill the oriental bittersweet. Nipping it in the bud, so to speak, means you can spend a small amount of time and money and keep it from becoming a huge infestation a few years from now. When it's dead, then go work on the garlic mustard.

Prioritizing at the site....

Alright, you say bravely, the oriental bittersweet vine is dead and I'm ready to tackle this huge area of garlic mustard. But it's a big project, and I'm not sure where to start. Here are a few more rules of thumb to help prioritize where to work first at a site.

First, identify and map invaded and un-invaded areas as shown below (that's a map of my woods). Then follow steps 1 through 4.

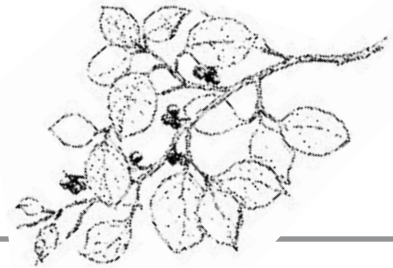
A few last things to keep in mind:

- If the invasive plant produces bird-dispersed fruits like berries, control the large seed source populations first (which in a forest will usually be along the edge where there is more light), then follow the four steps.
- All roads, trails, and watercourses are invasive corridors. Survey them regularly to detect new invaders quickly.
- If the invasive species is coming from adjacent land (for instance, the garlic mustard in the figure below appears to be coming from the land to the southwest), it's time to have a conversation with your neighbors to see if they will

also work to control their infestation. I suggest bringing chocolate chip cookies as incentive.

- Keep your focus on what you are managing *for*, not against—just removing invasive plants may not be enough. The unfortunate reality is that invasive plants aren't the only threat to your land. If you love the bluebells that bloom at the creek each year and have worked hard to control the garlic mustard to protect them, keep in mind it's still possible for an overpopulation of deer to browse them all away. Don't lose sight of the big picture and other things that impact your land.

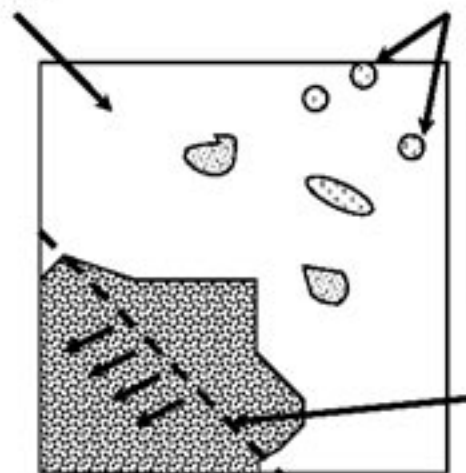
Controlling invasive plants can be challenging, but prioritizing your battles before you begin will make your success much more likely. Go get 'em!



1 Focus on large blocks of un-invaded areas – and keep them un-invaded

2 Control small, younger outlier populations first

4 Reverse the invasion: expand the un-invaded area outward



3 "Unfragment" boundaries of invaded areas

Hike Preview: Fisher Oak Savanna Restoration

In its 220 acres, Fisher Oak Savanna Nature Preserve encompasses black oak sand savanna, pin oak flats, restored sand prairie, and restored black soil prairie.

The preserve is owned and managed by the NICHES Land Trust. On July 25, Gus Nyberg, Executive Director of NICHES, and Kevin Tunesvick, Vice President of INPAWS, will lead a field trip to view the varied habitats of the preserve with a focus on the prairie restoration efforts.

The original 133 acres were purchased in 2003. These acres contained high-quality oak savanna, degraded oak savanna, pin oak flats, and several agricultural fields. The property is unique in that it straddles two divisions of the Grand Prairie Natural Region: the Grand Prairie Section, and the Kankakee Sands Section. In 2005, a 67-acre black soil agricultural field was added to the south of the original property. The most recent purchase was made in 2007, adding 20 acres of savanna to the west side.

The field trip will focus on the restoration efforts that have occurred on the property. Communities being restored include sand savanna, dry sand prairie, mesic black soil prairie, and wet prairie.

Restoration of the agricultural fields was begun soon after the initial purchase. In the spring of 2004, the western fields were sown to wet and dry sand prairie. A simple mix consisting primarily of grasses was used because, during the prior year, the area had been treated with a persistent agricultural herbicide detrimental to forb germination.

The 12 acres that made up the southern field were sown to Roundup™-ready soybeans. These were deemed the ideal crop to prepare

the site for dormant installation of prairie seed in the fall; the soybeans allowed for weed control with Roundup, which leaves no residual that might affect prairie seed germination.

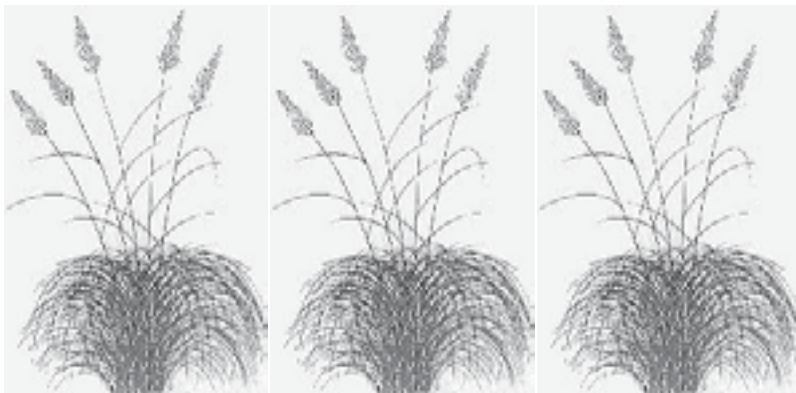
A diverse prairie mix including 8 grasses and sedges and 32 species of wildflowers was dormant sown in the southern field in December 2004. All the seeds were of Indiana genotype, most from within 50 miles of the site. Due to the wetness of the site, it was sown after the ground froze using a no-till prairie seed drill. Dormant sowing enhances the chances of successful seedling recruitment by providing appropriate stratification, permitting the seeds to germinate when the soil reaches the optimal temperature, and thwarting the effects of growing season drought.

Seed germination the following spring was excellent, creating a carpet of prairie plants by the end of the first growing season despite a summer drought. After four growing seasons, every species in the seed mix has been recorded in the planting, including conservative species such as prairie dropseed (*Sporobolus heterolepis*). Prescribed burns were performed twice on the planting (spring 2007 and 2009) to improve establishment.

The diversity of this planting makes it one of the most successful prairie restorations in the eastern Midwest.

In February 2009, the southern 67 acres were sown to a diverse wet to mesic prairie mix funded by the Wetland Reserve Program (WRP), U.S. Fish and Wildlife Service, and a grant from Northern Indiana Public Service Company (NIPSCO). We will be able to observe seedling development in the first growing season during the July 25 field trip.

Restoration of the sand savanna has taken place primarily over the past two winters. Grant money from the Wildlife Habitat Incentives Program (WHIP) has provided funding for the work. Efforts include removal of invasive trees such as black locust and white mulberry, removal of non-fire adapted



Prairie dropseed (*Sporobolus heterolepis*). © Missouri Conservation Commission. All rights reserved.

New INPAWS Members

CENTRAL

- Carol C. Beck
- Deb Ellman
- Susan Fordyce
- Sara Friedline
- Karen Gilliland
- John Hazlett
- Cloyce Hedge
- Cathy Hurst
- Jacqui Johnson
- Jane Lommel
- Tom Park
- Patricia Sanders
- Bill & Stacy Sanford
- Karen Schnyder
- Linda Shikany
- Amy Smith
- Carol & Stephen Trippel
- Mike & Becky Wigginton

EAST CENTRAL

- Stephen H. Hayes

SOUTH CENTRAL

- Kathy Anderson
- Janette Biggs
- Chris & JudyKay Edwards
- Linda Figen
- Laura Gabbard
- Joan Middendorf & Matt Wysocki
- Chris Muir
- Eric Rensberger
- Angie Roepke
- Marion Sinclair

WEST CENTRAL

- Cathryn V. Bomberger
- Steve & Sarah Sass
- Lou Stephenson

species, thinning of the understory sapling layer, and introduction of prescribed fire. These measures will help open up the canopy, providing an opportunity to develop a more diverse herbaceous layer as well as improving habitat for savanna-dependent fauna such as red-headed woodpeckers.

Please join us on July 25 to see the excellent progress made by the NICHES Land Trust in restoring this significant block of habitat in an otherwise heavily agricultural region. The restoration performed at this site is an excellent example of the potential of reestablishment of native plant communities to preserve our natural history and create habitat for declining prairie and savanna-dependent species.

Watch the mail for your hike invitation with directions and details, or visit www.inpaws.org.

Extirpated

When forest blanketed the land and passenger pigeons still flew, browsing black bear followed the trail beside the stream flowing to the river. The land near the stream held the wetness, making the soil black. In a nearby clearing, a swamp white oak sprouted.

Map makers defined the land as Indiana. Settlers cleared most of the trees and farmers dug out the stream to make it straight for the land to drain. The swamp white oak grew, perhaps the lone seedling that escaped the digging.

I find the black soil when my shovel turns the earth. The swamp white oak, now tall, is the only native tree on my land not deliberately planted. The erstwhile stream flows in a ditch across the street, a deeply cut "V" meant to abate flooding during rain in an industrial park three-quarters of a mile away.

And the browse still grows, now untouched by nibbling bear, ready to sprout forth again when the mower is put away,

Pokeweed (*Phytolacca americana*) and its rambunctious native (but not planted) counterparts—black raspberry (*Rubus occidentalis*) and wild grape (*Vitis* spp.)—are common, sometimes defined as troublesome, plants that grow on their own and seem to have no purpose except to feed a few birds and pesky urban wildlife such as opossum and raccoon.

But when all the pieces of the land are reviewed and the extirpated animals are restored to mind, poke and other wild berries become dessert for black bear, fisher, porcupine, and spotted skunk. More of the plants' purpose is revealed. Their place on the land makes more sense.

Extirpated, as defined by The Nature Conservancy, means that a species "has ceased to exist in a chosen area of study but still exists elsewhere." More to the point, "if an animal has been absent from the state as a breeding population for more than 15 years, then it is considered extirpated."

The Indiana Department of Natural Resources lists 12 mammals as extirpated: American bison (*Bos bison*), gray wolf (*Canis lupus*), red wolf (*Canis rufus*), wapiti (*Cervus elaphus*), common porcupine (*Erethizon dorsatum*), mountain lion (*Felis concolor cougar*), wolverine (*Gulo gulo*), lynx (*Lynx canadensis*), fisher



(*Martes pennanti*), black rat (*Rattus rattus*), eastern spotted skunk (*Spilogale putorius*), and black bear (*Ursus americanus*).

The browsing habits of these mammals lost to Indiana tell a tale. Pokeberry has been documented to be included in the diet of the black bear, along with wild grapes, blackberries, elderberry, and thistle—plants often found growing in similar settings as pokeweed. The omnivorous eastern spotted skunk once ate small amounts of fruits in Indiana summers. The common porcupine, a generalist herbivore, nibbled on raspberry stems, apples, and currants. The fisher, also a generalist, ate fruit as well as porcupine.

Two elusive mammals, wild but not endangered or extirpated—the gray fox (*Urocyon cinereoargenteus*) and the red fox (*Vulpes*

vulpes)—have pokeberry, apple, wild rose, wild grape, and black raspberry documented as part of their diets. Throngs of passenger pigeons (*Ectopistes migratorius*), now extinct, are likely to have dined on the wild berries as well.

I like to think of black bear browsing on the pokeberries and wild raspberries that have sprung up in my "let-go" patch, where some new swamp white oak seedlings have taken root. The thought reminds me that, for more years than the land has been cleared, a carefully balanced system was in place that ran on its own without being managed or named. I am thrilled that wilderness plants keep growing even though they now reside in town. And I take a secret joy in the knowledge that wild berries are here waiting for the black bear if it ever comes back.

Resources

Alexander C. Martin, Herbert S. Zim, and Arnold L. Nelson. *American Wildlife & Plants: A Guide to Wildlife Food Habits*. Dover Publications, 1961.

John O. Whitaker, Jr., and Russell Mumford. *Mammals of Indiana*. Indiana University Press, 2009.

Black bear drawing courtesy of Pennsylvania Game Commission.

Landscaping with Natives

Want to know what that 4-inch prairie dropseed will look like in two years? Or that tiny start of cardinal flower? How about the one-foot black chokeberry or bottlebrush buckeye? Join us July 18 for this rare chance to peek at some mature Indianapolis-area gardens that use native plants to define the landscape and attract beneficial wildlife.

From small to large, country to city, these six gardens offer a huge variety of ideas on how to use native plants in our home gardens—ideas that will work for dense shade, full sun, and wet and dry soils.

Broad Ripple Bungalow

6106 Kingsley Drive, Indianapolis 46220

A visit to the gardens of Ruth Ann Ingraham, a founder of INPAWS, tells you immediately how passionate she is about native plants. She has incredible variety in her city-size lot—trees, shrubs, grasses, flowers, and ferns—and loads of ideas for planting in shade. Expect to see clethra, aralia, jewelweed, blue lobelia, spiderwort, coralberry, liatris, queen of the prairie, butterflyweed, and dozens more. This is a well-loved 40-year old garden that has been added to repeatedly, bursting at the seams with fully mature Indiana natives.

Gimme a Break

1527 Fletcher Avenue, Indianapolis 46203

Eight years ago, Fiona Solkowski, a staff member at The Nature Conservancy, bought a refurbished Victorian home in the Fountain Square area with a front yard consisting of two overgrown cedars, grass, and dirt. She transformed the yard to include over fifty varieties of native plants. She came head to head, however, with the City Weed Ordinance Enforcement Office, which issued her violations for “tall grass and weeds.” What the city calls weeds, we’d call a beautiful sunny border and one of the prettiest front gardens on the block. Come see for yourself how she uses plants like purple coneflower, sundrops, prairie dropseed, baptisia, New England aster, purple prairie clover, sensitive fern, and the rare Tennessee coneflower.

Saturday, July 18
10:00 a.m. – 4:00 p.m.

There is no charge for the tour, and you may visit the gardens in whatever order you wish.

Use Google maps or Mapquest to find directions to each garden. Please be considerate when parking in these neighborhoods.

Jens Jensen Inspiration

1035 Questover Circle, Indianapolis 46228

This garden is a gem. Homeowners Chris and George Plews have enthusiastically drawn inspiration from Jens Jensen, who designed Questover Circle in the 1920s for the F.D. Stalnaker family. The garden has large swaths of cool shade sheltered by mature sycamores, eastern redbuds, serviceberries, witchhazels, and hornbeams. In the sun are cup plant, boneset, cardinal flower, stiff goldenrod, and great blue lobelia. You’ll also see pagoda dogwood, bottlebrush buckeye, red and black chokeberry, wood sedge, persimmon, and paw paw. There is no way to list all the beautiful natives in this large garden that also features a faithful re-creation of a Jens Jensen council circle. A special treat is a stairway walk down to White River through beautiful woods.

No Work at Work

1440 West 30th Street, Indianapolis 46208

At their lovely location along the Central Canal Towpath, the offices of Peine Engineering beautifully demonstrate two things: 1) how a native plant landscape can suit a commercial building, and 2) how one can create a native plant garden that requires NO maintenance. These gardens are never watered or weeded and, other than a once-a-year clean-up, are never fussed over. You’ll see dozens of natives, including culver’s root, Carolina rose, white coralberry, native bittersweet, big and little bluestem, native smoketree and the endangered Kankakee mallow. The firm did a bioremediation on this land, sited on a former coal yard. They removed two feet of coal and gravel and back-filled with actual prairie soil and compost. They are the first company in Indianapolis to become a certified National Wildlife Federation habitat, encouraging the visits of wood ducks, foxes, herons, frogs, and nesting birds.

Prairie by the Pool

8670 Bay Colony, Indianapolis 46234

This is the country in the city. Located in the Eagle Creek area, this prairie creation is a stunning backdrop to a family’s recreation areas—a pool and large patio, tennis court, and soccer-size playing field. But it’s not too civilized, being a home to fox, weasels, and woodcocks. Nine years ago, these prairie areas were seeded with Indiana’s best sun-loving natives. Plants you’ll see include swamp hibiscus, wild quinine, southern bush honeysuckle, prairie dropseed, culver’s root, prairie coneflower, purple prairie clover, all the milkweeds, nodding wild onion, rough-leafed dogwood, and golden alexander. Also on the grounds is a Japanese garden

Garden Tour

where you'll find jack-in-the-pulpit, native stonecrop, liatris, and blue flag. As you walk through the many trails on this large property, stop and listen to the hum of nature and enjoy the aromas of a native prairie.

Country Garden

8351 E. County Road 200N, Avon 46123

This is the home garden of Hilary Cox, long-time INPAWS member, garden designer, author, and all-around plant expert. When Hilary first bought her 1828 settler's farmhouse and two country acres, she put in what she knew—an English garden. But she soon realized that what thrived there were plants that were either indigenous or of native parentage. For many years now, Hilary has gardened heavily with natives and entirely organically. Long ago she gave up worrying about weeds, bugs, and disease. "Once a plant is in the ground," she says, "I allow *it* to tell *me* if I have chosen the right place for it." She believes that a plant will, on its own, either thrive or fail or move to where it wants to be. The beauty of these grounds belies her hands-off approach. It would almost be easier to list the Indiana natives that Hilary does *not* have. Some highlights are goatsbeard, winecups, sneezeweed, evening primrose, spicebush, witchhazel, Indian grass, side oats gramma, ironweed, wild hyssop, rough-leaved dogwood, *Silphiums*, elderberry, and yarrow.



Drawing by Greg Vacklavek, courtesy of nativeplant.com.

YOUTH OUTREACH

Letha's Fund Update

Letha's Youth Outdoors Fund is gaining momentum.

As a refresher for those of you who may still be unfamiliar with the fund, this INPAWS initiative seeks to provide financial support to groups, primarily elementary and middle school classrooms, who wish to take field trips to nature sites. The primary focus is on groups where a lack of funds might prevent the visit. Assistance is typically for transportation and/or naturalist fees.

This winter and spring, eleven applications were received and eight were funded at an average grant of \$250 per group. By the time all trips are completed nearly 600 students plus uncounted teachers and parent volunteers will have benefited from this program. Sites visited range from Holliday Park and Marian College EcoLab in Indianapolis to Merry Lea Environmental Center at Wolf Lake, Turkey Run State Park in Parke County, and Leonard Springs Nature Park near Bloomington.

Teacher feedback about the student experience so far has been spontaneous and glowing.

Char Thomas, a teacher from Chandler Elementary in Goshen, wrote, "We had our field trip to Merry Lea a week ago Friday and had a FANTASTIC time! It was a lot of fun to see the kids' excitement and see all the things they observed. The bus ride out was even a learning experience as we headed through farm country and lovely barn-cleaning smells were all around us."

Devonna Miltenberger, teacher at Craig Middle School, Indianapolis, reported, "The students LOVED it and they learned a lot about animals. They saw snakes and couldn't quit talking about it. They liked seeing the plants for the butterfly garden and being out in nature."

These early responses suggest the fund is meeting a significant need. They further confirm the mission INPAWS leadership envisioned when the fund was established. We believe there is strong potential for significant growth of the program. The Youth Outreach Committee will conduct a substantive program review this summer to gauge the future of Letha's Youth Outdoors Fund. A post-trip evaluation instrument is being sent to all participant schools to gather information for this process.

Watch for reports in future issues of INPAWS Journal, and please consider a donation to the work of Letha's Fund.

Gifts to Letha's Youth Outdoors Fund

Susan H. Lehmann
Jerry E. Clegg Botanical Garden
(% Jim Peterson)
Kelly Queisser

In Memory of Marvin J. Bareither
P. Lynn Goodin

*Donations of any amount are sought.
Please send a check, made out to
INPAWS, to P.O. Box 30317,
Indianapolis, IN 46230-0317.
Note "Letha's Fund" in the comment line.*

INPAWS Updates List of Native Plant Providers

INPAWS' revised brochure *Landscaping with Plants Native to Indiana* no longer includes a list of native plant vendors and landscape designers. In the interest of keeping the brochure up-to-date, the list has been moved to the INPAWS website.

This spring, Hilary Cox, Tom Hohman, and Marcia Moore evaluated all the entries and updated their contact information. The entities now listed:

1. Are all based in Indiana.
2. Do not sell or design with plants that are invasive in Indiana, as determined by the Invasive Plant Species Assessment Working Group (IPSAWG).
3. Provide Indiana native plants as part of their stock or use them in their designs.

Ellen Jacquart, who headed up IPSAWG and chairs INPAWS' Invasive Awareness Committee, wrote an article for the *Indiana Landscape Architects* journal noting that INPAWS now uses the IPSAWG determinations as the standard for listing native plant providers.

Note: Our thanks to Jackie Luzar who updated contact information for nurseries and garden centers throughout Indiana so that we could inform them that our new landscaping brochure was available.



He's Baaack!

At the instigation of Karen Hartlep and Kevin Tunesvick, we've invited Doug Tallamy for a return visit to Indy to give more people the opportunity to hear his message. His talk is set for Tuesday, November 3.

Becky Dolan has arranged for Butler University and the Center for Urban Ecology to be chief sponsor—they're letting us have Clowes Memorial Hall for free! INPAWS is paying the honorarium, and we anticipate the participation of Indiana Wildlife Federation and the IMA Horticultural Society as well.

Clowes holds 2,200 people, and we're going to do our best to fill the hall. You can help! Mark your calendar and invite all your gardening friends to Tallamy's eye-opening talk that puts gardeners in the forefront of wildlife conservation efforts.

Doors open at 6:30 p.m. for refreshments and informational booths from local gardening and conservation organizations. The lecture begins at 7:30, and Tallamy will sign copies of the new paperback edition of *Bringing Nature Home*.

Hoosier Outdoor Experience on the Horizon

Plans are being finalized for the first annual Hoosier Outdoor Experience (previously called Hoosier Outdoor Expo) to be held at Fort Harrison State Park on September 25–27. The event will introduce Hoosiers who are not actively involved in outdoor recreation and nature related activities to the almost endless opportunities that exist. Diverse groups representing hunting, fishing, hiking, off-road vehicles, birdwatching, and many other outdoor-related activities will be present to show attendees how much fun and how rewarding their interests are.

INPAWS will have a display in the Wildlife area, and will coordinate our presentation with Indiana Wildlife Federation and Amos W. Butler Audubon Society. The INPAWS display will highlight the importance of native gardens in promoting wildlife, particularly the connection with the life cycle of butterflies. Live demonstrations of monarch butterfly tagging will be presented.

Displays from INPAWS and other groups will be on September 26 and 27, Saturday and Sunday. Volunteers are needed to help with the presentations. If you are interested in helping and have not already volunteered, please contact Tom Hohman at 317-831-1715 or hohmantr@aol.com.

More detailed information on the event can be found in the Winter 2008–09 issue of *INPAWS Journal* or on the Dept. of Natural Resources web site, <http://www.in.gov/dnr/5009.htm>.

Central Chapter News

In May, about a dozen Central Chapter representatives helped Indy Parks rid Woollen's Gardens Nature Preserve of invasive plants. The group spent an enjoyable Saturday morning pulling and cutting bush honeysuckle, oriental bittersweet, purple wintercreeper, privet, garlic mustard, and multiflora rose. The group also had an opportunity to visit this hard-to-access Indy Parks property.

We were awed by several huge examples of wintercreeper and oriental bittersweet. Each was 4-5 inches in diameter and reached high into the trees! However, much of the time was spent walking through high-quality habitat, looking for isolated examples of the invasives and removing them. This maintenance work is important because it removes the invasives before they have a chance to establish a population and a seed bank for future reinfestation.

In June, Dan McCord of the Hamilton County Urban Conservation Association led a walk and discussion on the creation of a 6.3-acre nature park for the Ridgefield Subdivision in Fishers. The project included planting 4.5 acres of native prairie, planting native trees and grasses in a riparian buffer along Sand Creek, and planting native trees and shrubs for wildlife habitat cover areas.

On July 18, Central Chapter hosts the first-ever INPAWS garden tour, and on October 17 will remove invasives at Gene B. Glick Nature Preserve, a CILTI-owned preserve on the northeast side of Indianapolis. INPAWS contact is Tom Hohman, hohmantr@aol.com.

2009 Plant Sale & Auction: Volunteers in Action!

Though we've witnessed it before, it is still an amazing sight to see INPAWS volunteers in action as they set up for the plant sale, assist plant sale shoppers, and stay to clean up afterwards. The chairs of other fundraising events would truly be envious of our volunteers!

As part of this year's sale, INPAWS members brought plants they had dug from their gardens and from plant rescues, a number totaling more than 600 pots! Nurseries and landscape contractors donated native plants, shrubs, and trees. Preliminary figures indicate the sale raised more than \$10,000 to support INPAWS' mission.

Plant sale volunteers and donors included Sophia & Dan Anderson, Cheryl & Andy Andrews, Nancy Ayers, Rosie Bonjouklian, Mike Campbell, Cira Coates, Hilary Cox, Debbie Davidson, Rebecca Dolan, Janice Gustafero, Marian Harcourt, Virginia Harmon, Karen Hartlep, Nancy Hill, Laura Hohman, Tom Hohman, Ruth Ann Ingraham, Ron Jackson, Christy Krieg, Chuck McCoy, Anna McLaughlin, Marian McKittrick, Donovan Miller, Martin Miller, Sheri Molnar, Dan & Melissa Moran, Monica Moran, Sue Nord Peiffer, Mark Outcalt, Dee Ann Peine, Raymond Rust, David & Jane Savage, Cristiana Joy Schmer, Laura & Arne Snipes, Deb Snyder, Kelly Spiegel, Rosie Springer, Charles & Marilyn Spurgeon, Dawn & Michael Stelts, Doris Thomas, Kevin Tungesvick, Reni Winter, Bill Wurster, and Susan Zellers. If we have omitted anyone from this list (not all volunteers used the sign-in list or accepted a receipt for their donation), please accept our apology and let us know.

The plant sale would not have as diverse a selection, nor as significant quantities of shrubs and woody plants, were it not for our business sponsors who donate plant material so generously. The nurseries and contractors who donated materials and expertise for the sale are listed below. Please support these key supporters of INPAWS with your patronage.

Hobbs Nursery/Becker Landscape, Indianapolis
Beineke's/The Land Nursery, W. Lafayette

Clegg Botanical Garden, Lafayette
Leescapes Garden Design, Avon
Mark M. Holeman, Indianapolis
Munchkin Nursery & Gardens, Depauw
Native Plants Unlimited, Fishers
Spence Restoration Nursery, Muncie
Winterhaven Wildflowers, West Point

To all who supported the plant sale, INPAWS' primary fundraiser, please accept our gratitude!

Melissa Moran and Ron Jackson
Co-chairs, 2009 Plant Sale & Auction

Chicago Ban Protects Native Flora

Chicago has added 14 terrestrial plants to its list of "invasive species" that threaten native plant life. Businesses caught selling invasive species in Chicago face a fine of \$1,000 to \$5,000, while a private grower can be charged between \$100 and \$500. The Chicago Department of Environment will prosecute sellers and hobbyists alike who import, sell, or possess the following:

Akebia quinata (Chocolate vine)
Ampelopsis brevipedunculata (Elegans porcelain berry vine)
Anthriscus sylvestris (wild chervil)
Celastrus orbiculatus (oriental bittersweet)
Humulus japonicus (Japanese hops)
Leymus arenarius (lyme grass)
Ligustrum spp. (privet)
Miscanthus sacchariflorus (Amur silver grass)
Paulownia tomentosa (princess tree)
Phellodendron amurense (Amur corktree)
Phellodendron japonica (Japanese corktree)
Polygonum cuspidatum (Japanese knotweed)
Quercus acutissima (sawtooth oak)
Ranunculus ficaria (lesser celandine)

These plants join the list of restricted flora and fauna established in Chicago's Invasive Species Regulations of May 2007. The agency is especially concerned that global warming is rendering the ecosystem more vulnerable, opening the door to new invasive flora that can survive Chicago's milder winters and hotter summers.

Coming Up

Saturday, July 18
INPAWS Landscaping with Natives Garden Tour, Indianapolis area, hosted by Central Chapter, 10:00 a.m. to 4:00 p.m.

Saturday, July 25
INPAWS Hike in Fisher Oak Savanna Nature Preserve (Jasper County) led by Kevin Tungesvick and Gus Nyberg

Saturday, August 29
INPAWS Hike in Yuhas Woods (Randolph County) led by Dr. Don Ruch and Dr. Bryan Torke

Friday–Sunday, September 25–27, **Hoosier Outdoor Experience**, Fort Harrison State Park

Tuesday, November 3
An Evening with Doug Tallamy, Clowes Memorial Hall, Butler University, Indianapolis

Saturday, November 7
16th Annual INPAWS Conference, Athenaeum, Indianapolis. Keynote speakers: forest ecologist Don Leopold, author of *Native Plants of the Northeast*; and prairie ecologist Steven Apfelbaum, author of *Nature's Second Chance: Restoring the Ecology of Stone Prairie Farm*.

Watch for announcements of INPAWS events and field trips in the mail, via e-mail, and at www.inpaws.org.

Phytoplasma

A pathogen usually found in subtropical plant crops such as sugarcane and coconut is causing symptoms in our native purple coneflower. The culprit is a *phytoplasma* which has been recorded in Wisconsin, Maryland, and Canada. Symptomatic coneflowers were even spotted recently outside the Holliday Park Nature Center in Indianapolis.

Two principal symptoms are seen on coneflowers: *Phyllody* is the production of leaf-like structures where flowers are expected, and a sort of witch's broom effect. The organism is thought to interfere with the gene involved in petal formation, causing sepals to form where petals should be. *Virulence* is the development of green flowers due to the loss of pigment in petal cells. Yellowing of leaves is also seen, possibly indicating an adverse effect on the phloem that transports carbohydrates through the stem.

Like viruses, phytoplasmas cannot be cultured, making it difficult to diagnose their presence. However, with the molecular diagnostic techniques now available, scientists have been able to detect the pathogens in diseased tissue and an absence of pathogens in healthy tissue. Aster Yellows is the specific phytoplasma that affects purple coneflower. It is also seen in goldenrod and aster.

Phytoplasmas are spread primarily by insects, specifically leafhoppers and planthoppers, which feed on the phloem tissues of infected plants and transmit the pathogens to the next plant they feed on.

If you spot suspicious symptoms in your coneflowers, destroy the infected plants as soon as possible to reduce the number of leafhoppers that will pick up the pathogen when feeding on an infected plant. You can also mow tall grass and reduce tall, brushy areas to minimize the leafhopper's overwintering sites.

Sources

Phytoplasmas. <http://en.wikipedia.org/wiki/Phytoplasma>

G. R. Stanosz and M. F. Heimann, Department of Plant Pathology, University of Wisconsin, Madison 53706; and I.-M. Lee, USDA-ARS Molecular Plant Pathology Laboratory, Beltsville, MD 20705



Phyllody on purple coneflower (*Echinacea purpurea*). Photo courtesy of Wikimedia.



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