



inpaws journal

Indiana Native Plant and Wildflower Society

Spring 2017

Indiana's nature preserve system marks 50th anniversary

By John A. Bacone

The Indiana Legislature passed the Nature Preserves Act in 1967, creating the Division of Nature Preserves. The division is charged with working with partners to set aside and preserve areas of unusual natural significance for pres-

416 plants considered endangered, threatened or rare have viable populations in Indiana nature preserves.

Nature preserves are the most widely and evenly distributed system of state-significant public properties in Indiana. As of January, 2017, there were nature preserves in 70 of Indiana's 92 counties. As of January, 2017, there are 274 dedicated nature preserves,



DNP staff photo

A scene from the Conrad Savanna Nature Preserve in Newton County.

ent and future generations to benefit from the scientific, aesthetic, cultural and spiritual values they possess.

Since the division was established, staff has worked with partners throughout Indiana to catalogue Indiana's flora, fauna and natural areas, striving to set up a system of nature preserves that includes examples of all the natural areas and rare species habitat that occur in Indiana. At least one example of almost every type of the 61 natural communities found in Indiana at the time of settlement is included in Indiana's nature preserve system. Ninety percent of the

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protecting 51,836 acres. A dedicated nature preserve has the highest level of protection of any land in Indiana, as it is intended to remain in its natural ecological condition in perpetuity. These nature preserves are owned by 46 different entities, including DNR Divisions of Nature Preserves, Forestry, State Parks, and Fish and Wildlife, land trusts, city and county park departments, and colleges and universities.

The average size of a nature preserve is 189.18 acres. The smallest nature preserves include German Methodist Cemetery Prairie (1.1 acres), Smith Cemetery Prairie (1.1 acres), and Orangeville Rise of Lost River (3.02 acres). The largest nature preserves are Ten O'Clock Line (3,339 acres), Kankakee Sands (1,708 acres), Rocky Hollow-Falls Canyon (1,608 acres),

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Dunes (1,530 acres) and Minton (1,301 acres).

Nature preserves protect portions of some of Indiana's most significant and natural landscapes. Examples include the dunes ecosystem (Dunes Nature Preserve), where examples of beach, foredune, high dunes, prairie, swamp forest, savanna and marsh are found. Nearby are protected examples of interdunal ponds and dune and swale complexes (Gibson Woods and Pine Station Nature

undeveloped lake, and an excellent kettle lake is protected at Spicer Lake Nature Preserve. Fens can be found at Mongoquinong (Pigeon River State Fish and Wildlife Area), Moraine and Prophetstown Fen Nature Preserves, and other nature preserves protect examples of bogs, seeps, floating mats, sedge meadows, marshes and northern swamp forests.

Large forested ecosystems, ranging from dry through mesic are found in Ten O'clock Line, Rocky Hollow-Falls Canyon and Brock-Sampson Nature Preserves, and in several nature preserves in the Whitewater Valley (Bolling Woods, Duning Woods). Old growth forests can be found at Donaldson Woods (Spring Mill State Park), Meltzer Woods, Wesselman Woods and Shrader Weaver Nature Preserves.

All of the known types of flatwoods are included in the nature preserve system: bluegrass till plain (Chelsea, Guthrie), boreal (Ambler), central till plain (Bryan, Stout, Bell-Croft), dry (Bloomfield Barrens), sand (Bill Barnes) and southwestern lowland (Section Six). An excellent example of a floodplain forest can be seen at Beanblossom Bottoms, and southern swamp forests can be viewed at Twin Swamps, Wabash Lowlands and Buffalo Pond.

Great examples of a karst landscape can be seen at Spring Mill State Park, Mitchell Sinkhole Plain and Donaldson Woods, and caves such as Donaldson's Cave are also found there. Various types of glades and barrens are protected at Leavenworth Barrens and Mosquito Creek (limestone glades), Flint Barrens (chert barrens), Bloomfield Barrens (dry barrens), Lookout Point (gravel slope barrens), Granville Sand Barrens (sand barrens), and Knobstone Barrens, Brock-Sampson, and Black Rock (siltstone barrens).

The rarest types of prairie currently found in Indiana are "black soil" prairie and gravel prairie. Black soil prairies can be seen at Smith Cemetery, German Methodist Cemetery Prairie and Cressmoor Prairie. A gravel prairie has been protected at Wabash Breaks.

Some interesting geologic features are also included in some nature preserves. These include natural bridges (Portland Arch), rock columns (Jug Rock), backbones (Pine



Lee Casebere

Above: a canyon wall at Portland Arch Nature Preserve in Fountain County.

Opposite: part of the Mongoquinong Fen Nature Preserve at Pigeon River Fish and Wildlife Area in LaGrange County.

Preserves). Sand prairies and sand savanna complexes are protected at Hoosier Prairie, Tefft Savanna, Beaver Lake, Conrad Savanna and Coulter Nature Preserves, and coastal plain ponds are protected at Jasper-Pulaski Fish and Wildlife Area. The Kankakee Sands restoration connects Bill Barnes and Beaver Lake (Willow Slough State Fish and Wildlife Area) to Conrad Savanna and Conrad Station Nature Preserves.

Glacial features are protected at Moraine Nature Preserve (ponds, fens, seeps, upland forests), and at Glacial Esker (Chain O Lakes State Park). Chains of lakes and wetlands are found in the Trine/Wing Haven/Marsh Lake Complex in Steuben County. Olin Lake Nature Preserve contains Indiana's largest

Field notes

By Patricia Happel Cornwell

Hills), canyons (Rocky Hollow-Falls Canyon) and waterfalls (Clifty, Hathaway Ross Run, Anderson Falls).

Some of Indiana's interesting trees and shrubs have been protected in nature preserves as well. These include eastern hemlock (*Tsuga canadensis*), jack pine (*Pinus banksiana*), Virginia pine (*Pinus virginiana*), white pine



Lee Casebere

(*Pinus strobus*), tamarack (*Larix laricina*), bald cypress (*Taxodium distichum*), Canada yew (*Taxus canadensis*), mountain laurel (*Kalmia latifolia*), yellowwood (*Cladrastis lutea*) and cucumber magnolia (*Magnolia acuminata*).

Check out the Division of Nature Preserves web site, www.in.gov/dnr/naturepreserve, and the web sites of Indiana's various land trusts to learn more about visiting these nature preserves. Some of those mentioned here might not be listed if they don't have sufficient public access. During 2017, and in the years to come, I hope you will visit as many of these special preserves as possible and enjoy these remnants of the "original Indiana" that have been protected for your enjoyment.

John A. Bacone is director of the Indiana DNR Division of Nature Preserves.

• Indiana Heritage Trust (IHT) has a new name, according to an article in the January/February, 2017, issue of DNR's *Outdoor Indiana* magazine, "Meet the new trust." The entity is now called the President Benjamin Harrison Conservation Trust, a nod to the Hoosier US senator and president. The environmental

license plate whose sales fund the land preservation effort will remain the same. Since its inception 24 years ago, the IHT – now the HCT – has preserved more than 70,000 acres in the state.

• The fall, 2016, issue of The Nature Conservancy (TNC) Indiana newsletter *Nature Matters* reports that TNC has developed a video with Indianapolis Zoo to highlight the link between Indiana waterways and the well-being of marine life in the Gulf of Mexico. The video is shown daily during dolphin presentations at the zoo.

• The Native Plant Conservation Campaign, an affiliate of the California Native Plant Society, warns in a December, 2016, email that "noxious weeds" are being disseminated in some seed mixes intended to bolster pollinator populations in the Midwest. Personnel at the University of Illinois discovered the seeds of Palmer amaranth (*Amaranthus palmeri*), also known as "carelessweed," in seed mixes sold to the US Dept. of Agriculture.

• In his column "Quick Takes" in the January/February, 2017, issue of *Bird Watcher's Digest*, Paul Baicich asks "Are we really plant-blind?" He cites studies that show humans are attracted to and appreciate animals, but that most "barely notice" plants

Field Notes – continued on page 5

Propagation

Breaking seed dormancy

By Kevin Tungesvick

In order to propagate native plants from seed, an understanding of seed dormancy is essential. Different species of native seed ripen throughout the growing season during a long period from late April for some

early spring wildflowers to the middle of November for many fall wildflowers. Oftentimes, these seeds are dropped at a relatively inhospitable time for germination relative to seasonal weather patterns. While a few species of grasses and sedges germinate readily when fresh, most species have built-in dormancy mechanisms that prevent germination at inhospitable times of the year. Breaking these dormancy mechanisms typically requires the seeds to be exposed to various degrees of cold temperatures and moisture.

It is most advantageous for seeds in temperate climates like Indiana to germinate in the spring when soil moisture is high and the entire growing season is available for establishment. Therefore, to break their dormancy, most seeds must go through a period of cold to simulate winter conditions. When duplicating this period artificially, it is ideal to store them in a cooler at about four degrees Celsius (39 Fahrenheit) for 60 to 90 days. This type of storage is often referred to as “cold dry stratification” and is typically sufficient to break the dormancy of most grasses. In fact, a few cool-season grasses such as those in the genus *Elymus* have no seed dormancy at all.

Most forbs (herbaceous flowering plants) and sedges, however, require simultaneous

exposure to both cold and moisture, a technique known as “cold moist stratification.” Typically, the seed is mixed with a moist medium such as sand or a sterile germination mix. The medium should be moist to the touch but not so saturated that you can squeeze out water. The mixture is placed in an airtight container to prevent it from drying out and stored in a cooler for 30 to 120 days, depending on the requirements for that species. The catalogue from Prairie Moon Nursery in Winona, MN, is an excellent reference for stratification techniques and time periods.

In the western United States, many seeds have their dormancy broken by the heat of a wildfire. In Indiana, one of our small shrubs of savannas and prairies shares this requirement. New Jersey tea (*Ceanothus americanus*) requires a heat treatment to break its seed dormancy. This treatment is readily duplicated: bring a few cups of water to a boil. Remove the water from the heat source and dump the seed into the hot water. Allow water and seed to cool to room temperature before draining off the water and sowing the seed immediately.

In addition to stratification, many species will only germinate in cool soil temperatures, another adaptation to help them establish during favorable spring weather. This is particularly true of spring-blooming species and many woodland residents.

While most seeds can dry to relatively low moisture levels and then imbibe moisture for germination from a moist medium, others lose viability if their moisture level drops below a certain point. Seeds that may be stored dry are referred to as “orthodox seeds” while seeds that are killed by desiccation are known as “recalcitrant seeds.” Many of our ant-dispersed spring wildflowers such as bloodroot (*Sanguinaria canadensis*), celandine poppy (*Stylophorum diphyllum*), trilliums (*Trillium* spp.) and Dutchman’s breeches (*Dicentra cucullaria*) have recalcitrant seeds.

Developing the appropriate protocols for breaking the seed dormancy of each species is one of the most challenging and reward-



Lynne Tweedie

Bloodroot seeds are spread by ants who enjoy tasty attachments called elaiosomes. Ants take seeds to their nest, eat the elaiosomes, and toss seeds in their nest debris, where seeds are protected.

Dormancy – continued at right

Field notes – from page 3

although they are “essential habitat” for both animals and humans. He points out that, while plants make up 57% of US endangered species, they receive less than four percent of funding from the Endangered Species Act.

- The Perennial Plant Association has chosen butterfly milkweed (*Asclepias tuberosa*) as 2017 Perennial Plant of the Year, notes Rosie Lerner in the January, 2017, issue of *Electric Consumer*. More information is at www.perennialplant.org.

- The fate of the rusty patched bumblebee (*Bombus affinis*) is up in the air. Per *USA Today*, in January the species became the first bumblebee ever placed on the federal endangered species list. But in February, the *Washington Post* reported the Trump administration had halted protections for the species whose population has declined 87% in two decades. Once common in 28 states, the bee is now in only 13, including Indiana. According to the *Post*, the Natural Resources Defense Council has sued the Interior Dept. and US Fish and Wildlife Service for halting the bee’s listing without proper public notice or comment.



rusty patched bumblebee
(Wikimedia)

- The Jan./Feb., 2017, issue of *The Backwoodsman*, a publication for those who like to “live off the land,” has an article on “Autumn Olive” by William Myers that begins, “It truly baffles me sometimes how unpopular this plant can be.” Myers disagrees that *Elaeagnus umbellata* is a “noxious

Dormancy – from left

ing aspects of native plant propagation. It often entails several years of failures before the successful combination of stratification periods, soil temperatures and other factors leads to high germination rates. Further complicating this process is variable spring weather which may foster high rates of germination in one year and little, if any, germination the following year in spite of having followed the same protocol. Even closely related species may have very different requirements. For example, the common purple coneflower (*Echinacea purpurea*) germinates easily under a variety of conditions, while pale purple coneflower (*Echinacea pallida*) requires a long moist stratification period and germinates only in cool soil.

So enjoy this challenging aspect of growing native plants from seeds and be certain to record your efforts for future reference.

Kevin Tungesvick is the ecologist at Spence Restoration Nursery in Muncie and a member of INPAWS East Central Chapter.

invasive weed,” citing its profuse production of edible, nutritious berries. He does not address the reasons the species is considered invasive, i.e., its devastating effect on native plant species and habitats. Autumn olive was introduced to the US from eastern Asia in 1830.

Editor’s note: Lee Casebere, retired assistant director of DNR’s Division of Nature Preserves, has this to say about the scourge of autumn olive: “Autumn olive is widely considered an invasive species by the natural area preservation, management and restoration community. I saw it last summer in surprising numbers in a remote area of northern swamp forest (yellow birch, red maple, tamarack, swamp white oak) at Pigeon River F&W (Fish and Wildlife) Area in LaGrange County. I would never have guessed that it would become naturalized in that habitat. Knowing that it invades that particular community bothers me greatly.”

If you see a newsworthy item affecting Indiana species or ecosystems, please send a paragraph, with the date and source where you found it, to journal@inpaws.org.

Prescribed burn from an oak's point of view

By Thomas Gunn

The mighty white oak – *Quercus alba* – stands tall on the hillside. It has weathered many snowy winters, summer droughts and hungry deer nibbling the acorns and the seedlings that sprout from them. On this brisk sunny afternoon, it sees something it has not seen before, a group of humans. They are wearing green

pants, yellow shirts and hard hats.

In the weeks before, the mighty oak heard the roar of chainsaws, the buzzing of brush cutters and, earlier this morning, the whirl of a leaf blower. What could all this mean? A prescribed burn, of course! Now it all makes sense to our mighty white oak. The chainsaws, brush cutter and leaf blower were used to prepare fire lines along the ridge and down to the stream below, and our

white oak is in the middle of it all.

At first, this brings alarm because wood burns and trees are wood. But this oak tree recalls a tale it heard when it was just a young seedling ...

The story goes that in the not so distant past this forest looked much different than it does today. The woods were once open and airy, with plenty of room for winged species such as bats, woodpeckers and migrating songbirds to maneuver between the trees.

There was plenty of sunlight and shade that were in perfect balance, allowing oaks and hickories to thrive.

But the oak trees had an unlikely ally: fire. In exchange for fire returning, on average every eight years or so, the oak trees would shower the ground with dry, crunchy leaves every autumn. This meant that when fire did return, it would have a nice layer of dry leaves and twigs to help it in its journey across the woods.

As a fire moves across a forest, the larger oaks and hickories are mostly unaffected because of their thick bark and tapered trunks. However, species such as red maple (*Acer rubrum*) and American beech (*Fagus grandifolia*), with their thin bark, cannot survive the flames. Remembering this, our oak tree looks around at the neighboring beech and maple trees shading out struggling oak and hickory seedlings and wonders if the old story is true.

The humans split up in two groups on the downwind side of the ridge top. The oak tree notices they are carrying cans with little flames and that as the groups move in opposite directions there is a line of fire slowly backing down the hillside. This “backing fire” consumes the layer of built-up leaves and twigs known as “duff” as it burns slowly into the wind.

As the day progresses, the “wildland” (wilderness) fire crew splits up into different roles. A few continue lighting along the edges of the fire line; one is regularly checking, recording and updating the rest of the crew on local weather conditions and comparing that to the forecast; others are patrolling the fire line with tools or water packs to watch for any embers that may try to cross the fire line. At the center of it all is the burn boss, orchestrating the crew, ensuring safety and the accomplishment of the crew's objectives.

Once the fire backs away from the fire line and down the ridge, crew members turn the corner and begin to light along the flanks of the burn area. By igniting while walking into the wind, the crew sees the

Burn – continued at right



R Kramer

Plant sale is May 13

By Tammy Stevens

With spring here, it's time to think about the INPAWS native plant sale and auction! This year's sale is Saturday, May 13, again in the gymnasium at Park Tudor School in Indianapolis, 7200 N. College Avenue, 46240. Imagine a full-size gym bursting with nothing but native plants, just in time for planting.

There will be something for every native plant shopper, from novice to expert. Along with common and hard-to-find native plants, there will be knowledgeable INPAWS members to answer questions.

Burn – from left

fire behavior increase as the fire changes from a backing fire to a flanking fire. Once enough “black” or consumed fuel is between the active fire and the fire line, the crew begins lighting along the base of the slope. Running with the wind, the flame lengths increase as the fire races up the hill. Called a “head fire,” these flames lick at the bark of smaller trees, and the hissing and popping of moisture under the bark can be heard. As the fire approaches the mighty oak, flames scorch the bark on its downhill side, curl around and burn the pocket of leaves on the uphill side at the base of the tree. The oak feels the sting of the fire but the damage is minor. The wound will heal. The mighty oak will live on.

With the sun setting on the horizon, the oak tree looks around at a successful prescribed burn. Other than the smoldering of a few large logs, the smoke has cleared from the air. As the day draws to a close, the oak agrees with the land manager's choice to conduct a prescribed burn. Hopefully, this day's work will knock back the competing trees and allow oak and hickory seedlings to grow, mature and keep this woodland as a diverse oak-hickory forest that will benefit numerous insects, amphibians, bats, birds and flowers.

Thomas Gunn is a stewardship forester with The Nature Conservancy.

We will kick off the morning with a half-hour presentation at 9:30 a.m. by Dawn Slack of The Nature Conservancy. A knowledgeable and passionate native plant expert, Dawn will speak about the impact invasive non-native plants are having on our environment and how planting natives helps offset this challenge to our native flora and fauna.

There is a \$10 fee for the presentation, but it counts as a \$10 coupon toward any auction purchase. Presentation attendees also get to enter the sale at 10 a.m., 15 minutes before the general public.

This year's event will include a book sale with many titles researched by INPAWS bookstore manager Suzanne Stevens.

An auction of the finest and rarest plants will begin at 11:15 a.m. The auction is a great way to learn more about natives, as each plant is described by experts for their foliage, preferred growing conditions and unique qualities.

If you have successful natives you'd like to donate, please dig them up a few weeks before the sale so you can settle them into pots and baby them so they will be at their loveliest by May 13. Please label them if possible. If you need help digging, email Dee Ann Peine at plantrescue@inpaws.org.

Donated plants should be dropped off at the school from 5 to 7 p.m. the night before or from 7 to 9 a.m. the morning of the sale.

To be part of this fun event, please volunteer by registering online at www.inpaws.org > *Gatherings* > *Native Plant Sale & Auction*.

Tammy Stevens and Kelly Spiegel are this year's plant sale co-chairs. You can email them at plantsale@inpaws.org.



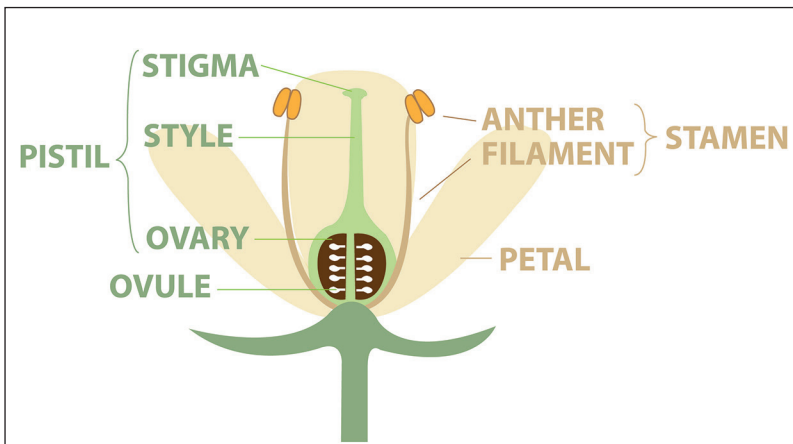
White oak (Quercus alba)

Flower structure

Botany Basics

By Adrienne Funderburg

Plants clothe their flowers in such a vast spectrum of colors, scents and shapes that it's easy to forget that, no matter how different their appearance, they all perform the same function: aiding reproduction. Each part of a flower performs a function vital to pollination and the subsequent development of healthy seeds. Knowledge of flower structure and terminology can help both professional and amateur botanists understand plant reproduction more fully, identify species and better appreciate the amazing diversity of flowers growing around us.



Heather Holm

The most recognizable parts of flowers are the petals. Often brightly colored and sometimes scented, some species' petals work to attract pollinators and increase the likelihood of cross-pollination. In other plants, such as wind-pollinated species, the petals may lack distinct pigmentation. The petals on a flower are collectively referred to as the *corolla*. While petals may seem simple to identify, they can often be confused with sepals, or the *calyx* of the flower. When the flower is in bud, the sepals cover and protect the rest of the developing structures. Once the flower has opened, sepals often appear as smaller leaf-like structures at the base of the flower. However, the sepals of some flowers, such as tulips, may simply look like an outer ring of petals. Together, the calyx and

corolla are referred to as the *perianth*. Many wind-pollinated plants, such as maples (*Acer* species), have reduced petals and sepals or none at all.

The reproductive parts of flowers, usually in the center, are categorized into the *androecium* (male) and the *gynoecium* (female). The androecium is the set of pollen-producing structures; it is made up of a number of individual *stamens*. The stalk of a stamen is called the *filament*, and on top of the filament sits a structure called the *anther*, which produces and carries pollen. The androecium and its pollen are easily observed on flowers such as lilies (*Lilium* spp.).

The gynoecium is a bit more complicated. The primary structure of the gynoecium is most often referred to as the *pistil*, but a single pistil may be made of a single or many fused *carpels*. At the top of a pistil is a sticky structure called the *stigma*, which works to catch pollen for fertilization. The adhesive texture of the stigma holds in place any pollen that lands there, and pollen grains may germinate and fertilize the flower if they are of the same species. From the stigma runs a hollow tube called the *style*, leading into the *ovary*. The ovary contains individual ovules, which produce the egg cells. After fertilization the ovules will develop into seeds, while the ovary will develop into the fruit. In some flowers, the petals, sepals and stamens attach below the ovary, and the ovary is referred to as being "superior." In other flowers, those structures are fused to the ovary and don't diverge until they reach the top. This is considered an "inferior" ovary, but only in terms of its position, not its ability to do its job!

Some gynoecium structures are internal, and some may be covered by other parts of the flower, but they can be observed with a small knife and some careful cutting. You may want to use a magnifying glass or dissecting microscope, if you have one available. Lilies, cherry blossoms (*Prunus* spp.), and daffodils (*Narcissus* spp.) are a few examples of flowers with a large, easy-to-see gynoecium.

Structure – continued at right

Structure – from left

All the parts of a flower (petals, sepals and reproductive components) attach to a base referred to as the *receptacle*, which can be recognized as the swollen part located at the top of the flower stem. The flower stem itself also has a botanical name: the *peduncle*.

Large, uncomplicated flowers such as lilies and geraniums (*Pelargonium* spp.) are good specimens for studying flower anatomy because the parts are relatively easy to identify and each flower contains both an androecium and a gynoecium. Flowers with both reproductive sets are called “perfect,” while those with only male or only female structures are referred to as “imperfect.”

While it can be a diverse and complicated subject, basic flower anatomy can help you form a deeper appreciation for these colorful beauties. Try taking a magnifying glass with you on your way to a garden or on a spring walk and see if you can identify some of these flower parts. You'll be amazed at how much there is to learn and see at every level!

Citation

Bidlack, James E. and Shelley H. Jansky. Stern's Introductory Plant Biology. 12th ed. New York: McGraw-Hill, 2011. Print.

Adrienne Funderburg is a junior at Huntington (IN) University, where she studies biology and environmental science. Her favorite Indiana wildflower is butterfly milkweed (Asclepias tuberosa).

Natural History Book Club

By Adam Barnes

From Aldo Leopold to Michael Pollan, E.O. Wilson to Edward Abbey, fiction and biography to poetry – Holliday Park Natural History Book Club has read them all!

Book club members, including some INPAWS members, share some favorites:

The Brother Gardeners by Andrea Wolf

What a Plant Knows by Daniel Chamovitz

Dune Boy by Edwin Way Teale

Feathers: The Evolution of a Natural Miracle by Thor Hanson

The Outermost House by Henry Beston

Braiding Sweet Grass by Robin Wall Kimmerer

The Golden Spruce: A True Story of Myth, Madness and Greed by John Vaillant

The Hidden Life of Trees by Peter Wohlleben

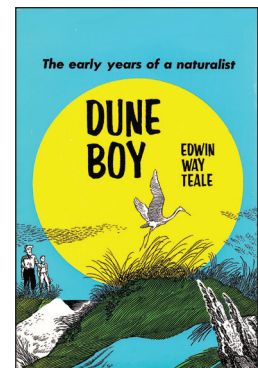
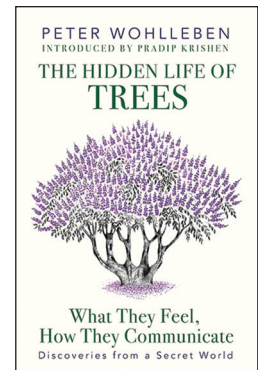
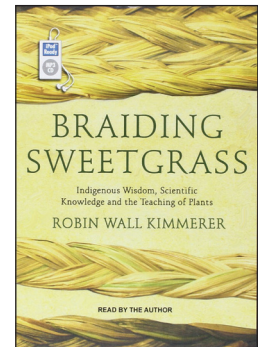
The Living Great Lakes: Searching for the Heart of the Inland Sea by Jerry Dennis

Started in 2007, the Indianapolis club is in its 11th year of offering adults a chance to learn about nature and environmental issues through the words of nature writers. Book selections focus on local topics and authors when possible, but subjects have covered everything from feathers to seashores.

The club typically meets in the library at Holliday Park Nature Center on second Fridays from 10:00 to 11:30 a.m. to discuss a current book and enjoy conversation and company.

For a complete list of upcoming meeting dates and book selections, visit www.hollidaypark.org or call Holliday Park Nature Center at 317-327-7180. The park, an environmental education property of the Indianapolis city park system, is located at 6363 Spring Mill Rd. New members are always welcome.

Adam Barnes is manager of Holliday Park.



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Mission

To promote the appreciation, preservation, scientific study, and use of plants native to Indiana.

To teach people about their beauty, diversity, and importance to our environment.

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Submissions

All are invited to submit photos, articles, news and event postings. Acceptance for publication is at the discretion of the editor. INPAWS welcomes differing points of view.

Please submit text and high resolution photos (300 ppi) via e-mail to journal@inpaws.org. Submission deadlines for specific issues are:

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Summer – April 22 for July 1 mailing
Fall – July 22 for Oct. 1 mailing
Winter – Oct. 22 for Jan. 1 mailing

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Letha's Fund gets kids outdoors

By Angela Sturdevant

INPAWS Letha's Youth Outdoors Fund continues to connect children with nature. For the fall, 2016, semester, we awarded \$3,322 in grants to five schools and one youth organization, providing outdoor opportunities for over 1,500 students. We've already awarded another \$1,856 in grants for the spring, 2017, semester, with more applications coming in on a rolling basis.

This fall, we awarded a grant of \$597 to Penn High School in Mishawaka to fund transportation to the Indiana Dunes. On two days in September and October, 357 ninth and tenth graders hiked the West Beach Succession Trail and got to see a water-spout. For many students, this was their first visit to the dunes, even though they live only an hour away. Some had never been on a hike before. They discovered that cactus grows in Indiana and sassafras smells, well, "sassafras-y."

Here are a few memories from the students:

"I've never spent much time looking at the animal and plant life around the dunes, and I've never walked through the dunes before."

"Thank you for allowing us to adventure and learn at the same time!"

#thankful #dunes #sandev-
erywhere

"I actually connected with my friends outside of my iphone. :)"

"Im glad i got to go because i got to see grass that holds up dirt #sandygrass"

"It was cool to be in a forest with sand. I've

never seen trees growing from sand."

"I was glad I got to learn about my surroundings and actually see it rather than read about it in a textbook."

Letha's Fund 2016 Donors

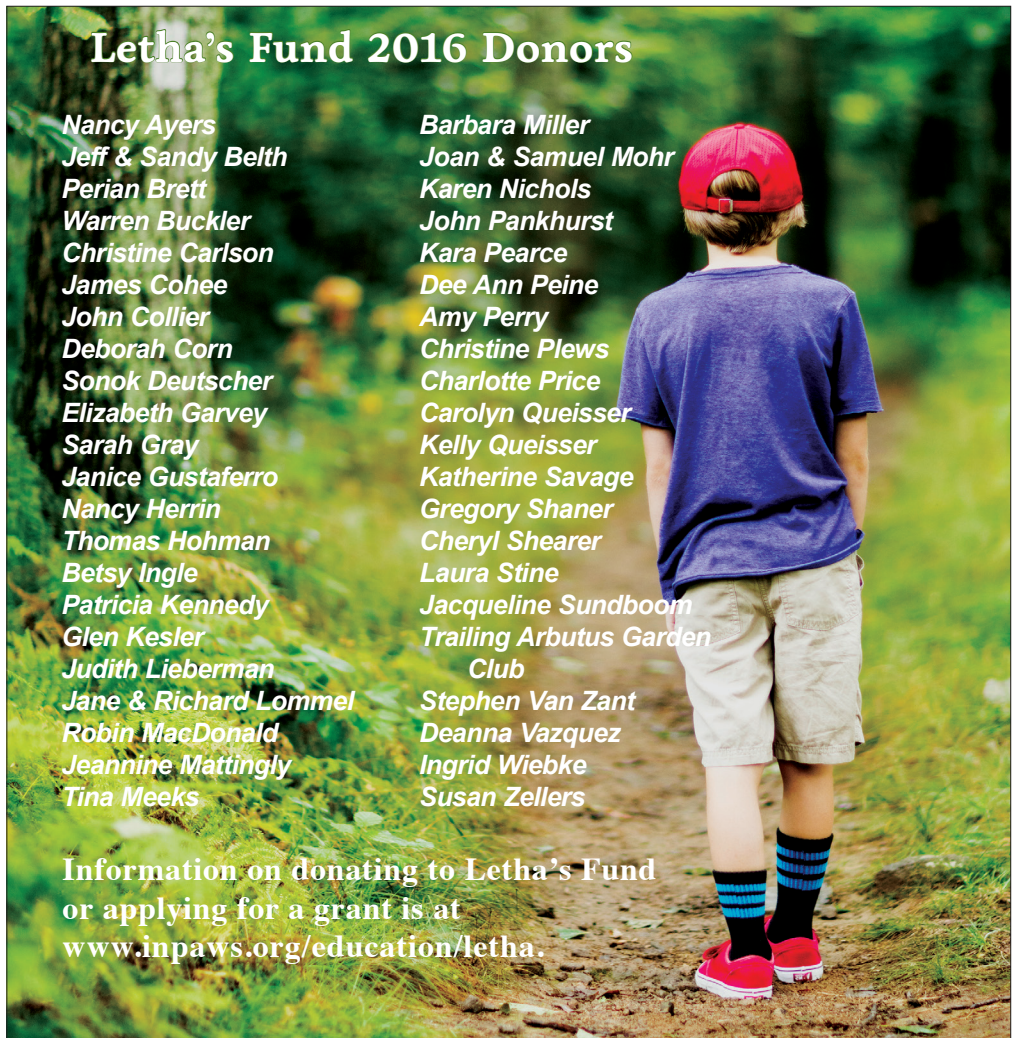
*Nancy Ayers
Jeff & Sandy Belth
Perian Brett
Warren Buckler
Christine Carlson
James Cohee
John Collier
Deborah Corn
Sonok Deutscher
Elizabeth Garvey
Sarah Gray
Janice Gustafarro
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Betsy Ingle
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Glen Kesler
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*Barbara Miller
Joan & Samuel Mohr
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Dee Ann Peine
Amy Perry
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Kelly Queisser
Katherine Savage
Gregory Shaner
Cheryl Shearer
Laura Stine
Jacqueline Sundboom
Trailing Arbutus Garden
Club
Stephen Van Zant
Deanna Vazquez
Ingrid Wiebke
Susan Zellers*

Information on donating to Letha's Fund
or applying for a grant is at
www.inpaws.org/education/letha.

"Thank you for giving us the chance to spend the day in such an amazing place like the dunes."

*Angela Sturdevant is Letha's Youth
Outdoors Fund program leader.*



Wikimedia

Ft. Wayne group creates

By Kimberly Miser

The morning of December 8, 2016, was downright chilly. At 7:15 a.m., the overnight temperature had dropped to 22 degrees with 20 mph winds whipping snow flurries around. Daybreak on this morning was gloomy and grey at Southwest Conservation Club (SWCC) on the southern edge of Fort Wayne. Turns out, it was a perfect day for planting.

Because of a grant from INPAWS, a full acre of SWCC's property was being restored to native prairie.

"It was cold, cold, cold. And windy," says Nanette Coble, a Purdue Master Gardener. She and her husband Eddie Coble co-chair the SWCC prairie restoration committee. Huddled together, they watched years of planning and labor take root. "We were excited to watch,

but we had to keep darting into our car to keep warm."

On any given day at the SWCC, local police officers use a rare within-city-limits firearms range, archers string bows for target practice and sport shooters launch skeet. Amidst all the sporting equipment, this urban property may seem an unlikely place to find native prairie enthusiasts. Yet conservation is a big part of what this club does.

Founded in 1938 on 37 acres, SWCC encompasses four ponds, a wooded hiking trail, a campground and nature study areas. In 2011 club members began brainstorming ways they could make a large open expanse on their property more wildlife friendly.

"Honestly, I was just tired of seeing weeds," says Eddie.

Plants were donated or purchased, and club and community members pitched in hundreds of volunteer hours to help return a section to a more natural state. They removed invasive species and installed several native plant "welcome" gardens. Work was slow-going and expensive for the member-supported club. It was a start, but it wasn't enough.

In 2015 Southwest Honey Company (SHC), an organization dedicated to public education

By the numbers, SWCC planted

- 45.5 pounds "Pure Live Seed" (PLS)
- 12 wildflower species
- 6 grass species
- 1 cover crop (seed oats)

about bees and other pollinators, set up a four-hive apiary on the grounds. Alex Cornwell, SHC manager, says the bees helped membership think differently about club goals.

"Members started taking ownership of the bees, asking what more they could do to help," Cornwell says.

That's when Nanette received a bit of inspiration. "Bees and prairie flowers go hand in hand," she said. "I looked around and saw few food sources available to the bees." To Nanette, the open parcel of land and weeds in front of their clubhouse started to look less like an eyesore and more like an opportunity.

"I thought the large one-acre area would be the perfect place for a restored native prairie," she said. With visions of attracting birds, butterflies, bees and other pollinators, club members shifted strategy.

"The entire multi-year process brought the conservation club back into conservation mode," Cornwell says.

Eddie said the club discussed ways to obtain funds to help further their conservation cause. The idea of reaching out to INPAWS grew from that discussion. Club members, Purdue Master

**INPAWS
in action**



Alex Cornwell

In brisk weather, Judith Nastally, Nanette and Eddie Coble realize their dream – planting a native prairie.

one-acre prairie

Gardeners, native plant nurseries and landscape designers all chipped in expertise to help formulate a plan and write the grant.

"We asked for a lot in our grant proposal to INPAWS, almost \$1,000," Eddie said. "Honestly, though, I thought we had a 100% chance of success because it was a community effort." INPAWS made a small grant award of \$992, the entire amount requested.

Nanette adds, "Before, we were the dreamers. Now we're the doers."

On that cold December morning, their dreams became reality. Heartland Restoration Services, a local native landscape restoration company, brought its heavy equipment and the Midwestern ecotype seed purchased with the INPAWS grant. Mike Van Laeken, director of restoration services for Heartland, said the December date and cold temperature gave the planting a great start to successful germination.

"We pick those kinds of mornings because our native seed no-till drill can penetrate that frozen ground," Van Laeken says. "And the snow, along with the frost-thaw cycle, can help push the seed further into the ground."

The seed mixture consisted of wildflowers native to the area and short and tall native grasses.

Van Laeken says that's an important distinction. "We don't bring in species, say, from Texas," he said. "We only use species from sources that will handle the climate of the Great Lakes region."

The Cobles were impressed. "The drill planter looked a bit like a garden tractor, but the process was very precise," Eddie said. "Heartland fully planted that acre. I just can't say enough about its professionalism." Within two hours, Indiana had gained a new prairie.

SWCC is grateful for the INPAWS grant. The club knows its new prairie exists because of investments made by INPAWS members

throughout the state, so it takes its stewardship responsibility seriously. Now that the seed is in the ground, other plans can move forward.

Nanette shares the club's five-year vision, which includes a trail through the prairie, a path to the beehives, garden signage and programs. "With the prairie and the apiary, we can educate children about the crucial role native species play in a healthy Indiana ecosystem," she says. "They'll be able to interact with nature in a beautiful, colorful way."

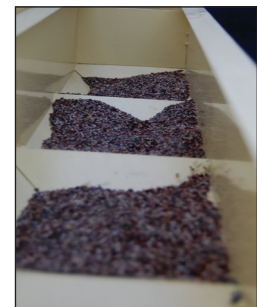
In addition to an increase in educational opportunities, Eddie says the club is excited to see an increase in wildlife. "We can hardly wait for spring!"

Want more information?
Southwest Conservation Club: 5703 Bluffton Rd, Fort Wayne, 260-747-4677
Heartland Restoration Services: 14921 Hand Rd, Fort Wayne, 260-489-8511
Southwest Honey Company: Alex Cornwell, 260-241-6060

Kimberly Miser is communications chairperson of INPAWS Northeast Chapter.



Eddie Coble



Eddie Coble

At left, Ben Sobczak, field services supervisor, Heartland Restoration Services, loads the native seed mix into the no-till seed drill (above).

INPAWS 2016 Financial Summary

By Don Gorney, INPAWS Treasurer

At publication time, complete chapter financial information was not available for 2016. The financial statements and this commentary reflect only state-level operations.

The financial position of INPAWS remains strong. During 2016, INPAWS had a small operating deficit of \$6,135 compared to a small net profit of \$2,668 in 2015. At year-end 2016, the organization had liquid cash assets of \$63,185 and no liabilities.

Net assets (equivalent of capital or net worth in for-profit accounting) includes temporarily restricted assets of \$4,859 for Letha's Fund. "Temporarily restricted assets" is a term used in nonprofit accounting to indicate that these funds are restricted to a specific purpose. Donations to Letha's Fund must be used for grants to Indiana schools or youth organizations to pay for nature-oriented field trip expenses. 🌿

Balance Sheet December 31, 2016

| | |
|-------------------------|------------------|
| Assets | |
| Checking | 14,466.87 |
| Money Market | 48,718.57 |
| Total Assets | 63,185.44 |
| Net Assets | |
| Unrestricted | 58,326.02 |
| Letha's Fund | 4,859.42 |
| Total Net Assets | 63,185.44 |

Total Liabilities 0.00

Profit & Loss Statement Fiscal Year 2016

Income

| | |
|---------------------------|------------------|
| Membership | |
| Gross Membership Dues | 23,509.01 |
| Dues Transfer to Chapters | -3,835.00 |
| Total Membership | 19,674.01 |
| Donations | 1,535.00 |
| Total Plant Sale Income | 12,521.10 |
| Annual Conference Income | 32,090.41 |
| Interest Income | 54.94 |
| Letha's Fund Donations | 5,550.00 |
| Total Income | 71,425.46 |

Expense

| | |
|----------------------------------|------------------|
| Bank Fees | 130.04 |
| Legal Fees | 510.00 |
| Credit Card Processing Fees | 436.71 |
| Online Fundraising Portal Fees | 1,097.50 |
| Education Activities (brochures) | 7,516.37 |
| Outreach | 208.00 |
| Insurance | 2,527.00 |
| Printing and Mailing | 1,970.24 |
| Membership Coordinator | 1,800.00 |
| Journal Expense | 8,303.35 |
| Other Postage | 467.77 |
| Website Expense | 309.29 |
| Technology Expense | 336.95 |
| Office Supplies | 54.99 |
| Small Grants | 4,074.92 |
| Other Grants | 2,500.00 |
| Plant Sale Expense | 3,071.38 |
| Annual Conference Exp. | 31,555.62 |
| Letha's Fund Distributions | 10,154.47 |
| Meeting Expense | 337.82 |
| Misc. Expenses | 197.89 |
| Total Expense | 77,560.31 |

Net Income -6,134.85

Donors – 2016 General Fund

Barbara & George Bolesch
Mary Ann Brady
Jim & Chris Brewster
Jo Ann Bule
Deborah Danzeiser
Susan Ebershoff-Coles
Mary Anna Feitlier
Mary Annette Rose
& Jim Flowers
Kristin Fruehwald
Jean Gadziola
Eric Garton
Sarah Gray
Ruth Ann Ingraham
Anne Jay
Donna Keller
James Kincannon
Judith Metzger
Gerry Nagle
Judith Nelson
Noel Pavlovic
Amy Perry
Sue Nord Peiffer
Ruth Reichmann
Raymond & Rita Rust
Stephen Van Zant
John & Martha Bartlow
Mary Weeks

President's message

By Mike Homoya


Spring has officially arrived and hopefully wildflowers will be blooming by the time you read this. As I've often said, Indiana has some of the best (perhaps very best!) displays of spring wildflowers anywhere in the world. Each year as I walk into our wonderfully rich Hoosier forests I'm reminded how true it is.

One of the best ways to experience Indiana's "ultimate" flora is to partake of one of the many group hikes occurring this year. Group hikes are a great way to enhance your botanical and ecological knowledge while enjoying the camaraderie of family and friends. Several INPAWS chapters are scheduling hikes, as are various land trusts and the Indiana DNR Division of Nature Preserves (DNP). Be sure to check out their web sites for more information and registration.

One set of hikes I particularly wish to draw your attention to is being offered by the DNP. In partnership with other organizations, including INPAWS, the division is offering more hikes than ever this year in celebration of the 50th anniversary of the Nature Preserves Act and the birth of the division. For more information about this and the wonderful array of protected natural areas, check out John Bacone's article on page 1 of this issue of *INPAWS Journal*. Several of the preserves he mentions will be venues for DNP staff-led hikes this year. (See page 20 for hike information). By

the way, John, as director of the division for over 36 years now, has overseen a legacy of natural area preservation. There have been 226 preserves dedicated during his tenure, protecting just shy of a whopping 45,000 acres! And he's not done yet!

While there has been much progress in protecting natural areas, invasive species are a constant threat to their health and integrity.

One source of invasive species is the nursery and landscaping trade. Not all exotic plants are invasive but a number of them continue to be sold and used. An important initiative known as "Grow Native" is an effort to educate both plant sellers and buyers on the harmful effects of invasive exotic plants as well as to promote the sale of native plants. Any plant seller who sells native plants can be a Grow Native member, but those who also agree not to sell invasive plants will be certified as "invasive-free" and promoted through the Grow Native web site (grownativeindiana.org). Watch this web site and the INPAWS Facebook group for updates. 



2017 conference returns to Bloomington

October 28 will see a return to Monroe County Convention Center in Bloomington. The 2014 annual conference held there was a huge success, with 300 attendees and great facilities. Don't plan any vacations for that date, unless of course they include a trip to Bloomington for the event! Speakers will be announced in the next issue of *INPAWS Journal*.

Know a prospective member?

Email materials@inpaws.org to request brochures you can give friends or neighbors who are curious about what INPAWS does.

Chapters keep busy

Central Chapter

Central Chapter is gearing up for a busy 2017 that includes hikes, presentations, outreach and partnerships aimed toward a positive impact on our environment. The potential of our large group is unbounded.

Officers for Central Chapter were elected at the annual January "Ice Breaker," graciously hosted by Ruth Ann Ingraham. President is Jeannine Mattingly, vice-president Crystal Renskers, secretary-treasurer Claire Lane.

Past president Amanda Smith and past vice-president Ben Hess are working alongside new officers to plan a full agenda for the year.

waiting list. Speakers included representatives from native plant nurseries, a landscape architect, LRWP and the city of Fort Wayne.

Homeowners and business owners learned about Fort Wayne's native plant initiative in landscaping and riverfront development; discovered ways to beautify their property while supporting butterflies and bees; and heard how invasive species in their yards affect parks, rivers and nature preserves. Each participant received a seed packet courtesy of Cardno Native Plant Nursery in Walkerton. Because of the level of public interest, organizers repeated the workshop April 1 to another sold-out crowd.



Updates are sent to Central Chapter members monthly, but members of nearby chapters are also welcome.

Get to know other native plant lovers and join the camaraderie as we all learn from each other and work toward our INPAWS mission. Send your ideas to chapter president Jeannine Mattingly at central@inpaws.org.

Northeast Chapter

In November, INPAWS Northeast Chapter hosted a native plant workshop in Fort Wayne. The event was a joint effort with the Foellinger-Freimann Botanical Conservatory and Little River Wetlands Project (LRWP).

The workshop, which cost \$5, was a success; 56 people attended and 30 more were put on a

In January, members volunteered in support of two other efforts, an ACRES Trust invasives removal work day at Tom and Jane Dustin Nature Preserve at Hometown and a species assessment of a wetland outdoor laboratory at Norwell High School in Ossian.

North Chapter

November is always a busy month for North Chapter. It is the month of our potluck dinner and annual meeting. For the past two years it has been graciously hosted by Michael Huft and Charlotte Gyllenhaal at their beautiful home in Valparaiso. About 25 members came together to enjoy fellowship and a variety of homemade dishes. We viewed members' plant slides that represented either questions or highlights from

over winter

2016. Because December is also a busy month, we did not meet, so everyone was looking forward to the January 15 meeting. More than 40 members and friends gathered at the Indiana Dunes State Park auditorium to hear Dr. Noel Pavlovic speak on “The Flora of Indiana Dunes: A Wild and Fascinating Treasure of Plant Life.” Dr. Pavlovic, Midwest Region ecologist for the US Geological Survey, has been stationed at the Lake Michigan Ecological Research Station in Porter for 34 years. His research covers a variety of ecological studies including rare plants, restoration, effects of burning and invasive plant species.

Indiana Dunes is one of the richest parks in the country in biodiversity, boasting 1,445 plant species confirmed, among them 233 endangered species and 1,135 native varieties. He also discussed how history has influenced some plants; i.e., the South Shore Railroad Stations (no longer there) and the custom of plant-gathering and poaching that continued there until 1992.

On Feb. 19 Chris Benda, past president of the Illinois Native Plant Society, spoke at Potato Creek State Park about Illinois’s floral richness. On March 19 Dr. Scott Bates, a biologist specializing in microbiology who teaches at Purdue University, was North Chapter’s guest speaker at Elkhart Conservation Club.

South Central Chapter

A small group of South Central Chapter members met Oct. 22 with Paul Rothrock to hike the trail at Sycamore Land Trust’s Scarlet Oak Nature Preserve in Monroe County. Hikers compared scarlet oak with other surrounding oak species, looking at leaves, bark and acorns to identify the scarlet oak. President Steve Dunbar said, “It was a perfect morning to be in the woods with a professional botanist.”

On Jan. 21, the chapter had its winter gathering at Brown County State Park, with good attendance despite 60-degree weather. Several members showed pictures of their more interesting nature encounters in the past year. Kay Yatskievych gave a presentation on some of the projects she had been working on for Indiana wildflower identification. The group discussed plans for gatherings and hikes for 2017.

Southwest Chapter

“Starting Native Plants from Seed” was the topic presented by Judy Schneider Kron, a Master Gardener who owns a greenhouse, at the Southwest Chapter’s Nov. 19 meeting at Wesselman Woods Nature Center in Evansville.

On Jan. 21 at Wesselman Woods, a “Chew and Renew” meeting was held for members to update their membership and elect officers. Julie Smith is the new president; Julie Welden, vice-president; past president Laura Lamb, secretary; Pam Drach, treasurer.

Adam Hape presented a program on “Native Plant Activities Online” in two installments at the Jan. 21 and March 18 meetings. 🌿

Host plant: Monarda

Wild bergamot (*Monarda fistulosa*) is a summer-flowering member of the mint family that attracts many pollinators. These include bumble bees, honey bees, various beetles, wasps, moths and butterflies. It is the larval host for the hermit sphinx moth (*Lintneria eremita*) and snout moths (*Pyrausta generosa* and *P. signatalis*). Its nectar is also sought by hummingbirds. Fairly drought-resistant, wild bergamot grows two to three feet tall and likes sunshine and loamy soil. 🌿

Paperless option

If you would like to help INPAWS save money and resources and receive the *INPAWS Journal* electronically rather than receiving a paper copy, please send an email to membership@inpaws.org with ‘INPAWS Journal’ in the subject line, and include your name, mailing address, and email address. 🌿

CORRECTION

Jeff Belth, a member of South Central Chapter and author of *Butterflies of Indiana*, alerted us to some inaccuracies in “Binos a boon for butterfly hike” on page 12 of the winter issue. He notes: the photo is a gray hairstreak, not an eastern tailed-blue; monarch eggs do not overwinter; and West Virginia whites only fly in the spring. 🌿



Wackybadger

Above: Wild bergamot (*Monarda fistulosa*)

Below: Gray hairstreak butterfly (*Strymon melinus*)



Lynne Tweedie

Thinking Strategically, Part 3

How Do We Nurture the

By Wendy Ford

In the last issue of *INPAWS Journal*, we considered how INPAWS can help the public understand that native plants are foundational to healthy ecosystems. In the coming months, we will be working on targeted messages for different audiences.

We're especially concerned about how to gain "mind share" with the generation just coming up, many of whom seem to be out of touch with the natural world. Past generations of Hoosiers happily played outdoors for hours, but for today's children — and their young parents — time outdoors has been replaced with "screen time" in front of a TV, computer, smart phone or electronic game. How can these kids develop the bonds with nature that will inspire them to value and care for native plants? Can we create among them ambassadors for biodiversity to carry on the INPAWS mission?

INPAWS has conceived two programs to reach school-age children: the successful Letha's Youth Outdoors Fund and a fledgling Native Plant Wizard patch program.

Letha's Youth Outdoors Fund

INPAWS launched Letha's Fund in 2008 to bring kids to nature; the fund has enabled more than 7,000 school-age children to participate in outings and nature-related projects. Transportation funding enables children to visit environmental education centers, nature preserves and parks under the guidance of trained specialists and enthusiastic volunteers. The fund has also supported such projects as a Girl Scout troop's garlic mustard eradication project, the development of school yard environmental sites, the planting and maintenance of a butterfly garden for kindergarteners at a community center and an experience in the woods for handicapped youth.

Native Plant Wizard Patch Program

Developed in 2014, INPAWS' Native Plant Wizard program guides youth and their leaders through a series of exploratory activities that teach them about native plants. Sessions include the

upside/downside of our native poison ivy; a hunt for caterpillars in the forest; a visit to a rain garden that purifies storm water run-off; observation of a wildflower garden or prairie to note what critters they see; learning about plant invaders that crowd out Indiana native plants; and discovering how butterflies use native plants to rear their young. Kids who complete an age-appropriate set of activities earn a Native Plant Wizard patch.

The program has had limited trials in several locales and could be expanded throughout the state with the efforts of regional chapters. We envision the program eventually becoming part of the K-6 curriculum in Indiana schools.

Beyond Letha's Fund and the Native Plant Wizard program, INPAWS has struggled to have a real impact among youth, despite this being a major goal of the 2013-16 Strategic Plan. Leaders of the Youth Outreach team have been challenged to narrow the scope of endeavors to something manageable with their small number of volunteers. The good news is that many other organizations are on the horizon, working toward the same goal (e.g., Indiana Children & Nature Network, Environmental Education Association of Indiana, Project Learning Tree). Through partnerships with these organizations, INPAWS can support their efforts with the expertise and enthusiasm our members possess about native plants.

This brings us to the third major goal of Strategic Plan 2016-2020:

Nurture the Next Generation of Ambassadors for Biodiversity

To reach the next generation, we need to start by educating teachers about native and invasive plants and biodiversity. Most elementary school teachers are generalists and cannot be expected to have this knowledge. But INPAWS has this knowledge and could pilot workshops and develop materials for teachers. In line with this focus on teaching, we have changed the program name of Youth Outreach to Youth Education.

Here are the objectives we have spelled out to fulfill this strategic goal:

Next Generation?

1. Maintain steady growth in Letha's Youth Outdoors Fund.

- Increase promotion among schools and youth groups to generate applications.
- Increase donations to support additional grants.

2. Empower INPAWS chapters to engage with schools and youth organizations in their locales.

- Designate a Youth Education champion in each chapter and at the state level to promote sharing of outreach ideas and experiences.
- Cultivate relationships with schools and youth organizations where INPAWS might have an outreach opportunity.
- Expand the Native Plant Wizard patch program to sites around the state.

3. Collaborate with other Children in Nature organizations.

- Infuse sponsored outdoor experiences with good information about native plants.
- Verify the accuracy of teacher training materials and participate in training.

4. Publish a signature book or series on Indiana native plants for school-age children under the INPAWS imprint.

- Develop the concept, specifications and budget.
- Identify authors and illustrators.
- Release the first book in conjunction with INPAWS' 25th anniversary in 2018.

This article completes our introduction to Strategic Plan 2016-2020. Your INPAWS board of directors and council will be working on an implementation plan for all three of our Strategic Plan goals during the first half of 2017, so stay tuned for updates.

I hope you'll think seriously about which Strategic Plan goal you can support with your wisdom and energy. Contact your regional chapter leader or write to the state leadership. You can find their email addresses on the directory page of every journal issue or at www.inpaws.org under *About Us > Leadership*.

Wendy Ford is INPAWS communications chair, webmaster, a member of the board of directors and a member of Central Chapter.


Behind the Scenes

By Wendy Ford

Newly retired from The Nature Conservancy, **Ellen Jacquart** has served as INPAWS' Invasives Education team leader for years. She has lent logistical, moral, and informational support to our organization, including frequent stints on the nominating committee.

Ellen was a founder of Central Indiana Land Trust and a force behind creating the legislature's Indiana Invasive Species Council and the Invasive Plant Advisory Committee. She pioneered the Grow Native program, which incentivizes nurseries and garden centers to feature native plants and not sell invasives. She also founded Monroe County Identify and Reduce Invasive Species (MC-IRIS). Ellen's a thoughtful, well-spoken mover and shaker who makes things happen. We're grateful she's staying on with INPAWS to fight invasives and promote natives.

When native plant enthusiasts in southwest Indiana banded together to form a new INPAWS chapter, **Davie Sue Wallace** stepped up to lead them as their first president – and a robust chapter it has proven to be! Right away she spearheaded a deal with Lands' End that lets us order cool stuff bearing the INPAWS logo (see *About Us > Publications & Gear* at www.inpaws.org).

Davie Sue now serves at the state level as INPAWS vice president, charged with the support of our regional chapters. Her day job is business development for Pedia Research, LLC, which conducts clinical research studies on pharmaceutical and health care products. 



Above: Ellen Jacquart, left: Davie Sue Wallace





Indiana Native Plant & Wildflower Society

P.O. Box 501528
Indianapolis, IN 46250-6528
Address Service Requested

Non-Profit
Organization
U.S. Postage
PAID
Indianapolis, IN
Permit No. 229

DNR Field Days

Indiana DNR Division of Nature Preserves and its partner organizations will offer guided hikes in several state preserves in the coming months. Participation is free, but registration is required at www.in.gov/dnr/naturepreserve.

| <u>Date</u> | <u>Nature Preserve</u> | <u>Partner</u> | <u>County</u> |
|-------------|--|----------------|---------------|
| April 8 | Pine Hills | INPAWS | Montgomery |
| April 22 | Donaldson's Woods & Mitchell Karst Plain | INPAWS | Lawrence |
| April 29 | Burnett Woods | CILTI | Hendricks |
| May 6 | Moraine | SHLT | Porter |
| May 6 | Shrader-Weaver | INPAWS | Fayette |
| May 20 | Clark & Pine | TNC | Lake |
| May 20 | Portland Arch | INPAWS | Fountain |
| June 3 | Yellow Birch Ravine | INPAWS | Crawford |
| June 24 | Mounds Fen | INPAWS | Madison |
| July 19 | Biesecker Prairie | INPAWS | Lake |
| July 29 | Eby Prairie & Elkhart Bog | INPAWS | Elkhart |
| Aug. 5 | Chamberlain Lake | INPAWS | St. Joseph |
| Sept. 9 | Bluffs of Beaver Bend | INPAWS | Martin |

CILTI = Central Indiana Land Trust, SHLT = Shirley Heinze Land Trust, TNC = The Nature Conservancy