Wild Ones

NATIVE PLANTS, NATURAL LANDSCAPES

SPRING 2023 • Journal • VOL. 36, NO. 1

Cover Photo: Kay Searfoss

A voice for the natural landscaping movement.

What's blooming in 2023

By Barbara A. Schmitz

Barbara A. Schmitz

As I write this, snow still covers my yard and native plants. It's the time of the year I dislike the most as the best of winter is over and yet spring hasn't yet arrived. But thankfully, this issue of the Wild Ones Journal has me thinking warmer thoughts.

In 2023, the Wild Ones Journal will be highlighting news about monarch butterflies in each issue. I've spent a lot of time watching monarchs flitter around my yard, but I've never watched them do what our first story in this series looks at. Instead of gathering nectar from flowers, why do monarchs sometimes scratch leaves? Learn more in Nancy Lawson's story on Page 15.

Secondly, you asked for it and we're delivering. Starting in 2023, the Wild Ones Journal is including book reviews for both adult and children's books. We asked for ideas on which books to include, as well as names of people willing to write reviews, and you responded in droves! Thank you! See our first two reviews on Page 30. If you know of books we should review in the future, email us at journal@wildones.org.

But we're also keeping features you've told us you enjoyed in the past. Learn about Wendy Gochenaur's native garden in Bloomington, Illinois in our Member Garden feature. Take a trip to Las Vegas to discover Joshua Tree National Park as Matthew Ross educates us about the plant life of the Mojave Desert. The story begins on Page 11.

Learn and be inspired by what other Wild Ones chapters are doing. The Wild Ones St. Louis (Missouri) Chapter, for instance, helped inspire a teen to care for our Earth. Do you have a story on how your chapter is inspiring youth to plant native? Email us your story at journal@wildones.org.

Naturally, there are also stories on how best to convert your yard to native landscaping. Learn more about 'ungardening' on Page 37 or going beyond plant lists to create robust habitat on Page 26. Lastly, check out the 10 new plans in the Native Garden Designs program.

And if you live in one of those cities or towns with officials who don't appreciate native landscaping, there is one story in this issue you ***need*** to read: "What to do when the 'weed police' knock on your door," by Wild Lawyer Rosanne Plante. Unfortunately, there have been too many stories throughout the United States of communities and homeowner associations making people take out their native plant beds, all because someone deemed them "eyesores."

In fact, in a recent Maryland case, the homeowner, who happens to be the sister of Lawson, one of our writers mentioned above, not only won, but paved the way for a new 2021 law that limits homeowner association control over eco-friendly yards in Maryland.

The Plante story also includes a link to a sample native planting ordinance on the Wild Ones website, which is meant to be a starting point for municipalities interested in including native plant language and law in their ordinances, thus protecting those homeowners who practice natural landscaping.

So enjoy this issue and the spring season. And if you have ideas for future articles, contact us at journal@wildones.org.

Wild Ones
NATIVE PLANTS, NATURAL LANDSCAPES

Promoting environmentally sound landscaping practices to preserve biodiversity through the preservation, restoration and establishment of native plant communities

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Established in 1977, Wild Ones is a national not-for-profit organization of members who teach the benefits of growing native plants and work together to grow and restore natural landscapes.

Wild Ones' definition of a native plant:
A native plant is a species that occurs naturally in a particular region, ecosystem and/or habitat and was present prior to European settlement.

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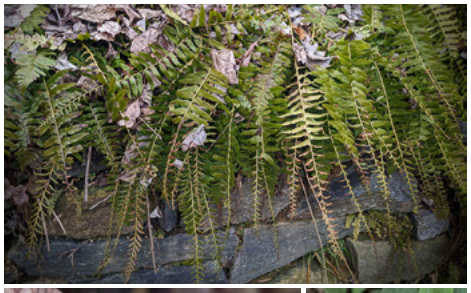
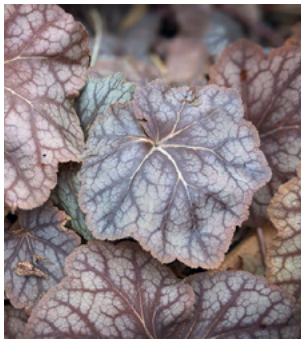
BOOST YOUR COVERAGE WITH EVERGREEN GROUNDCOVERS

We know groundcovers pack all kinds of ecological power—improving soil, reducing erosion, slowing stormwater runoff, providing cover for wildlife, reducing weed competition—but we tend to focus on the growing season when selecting them. It's equally important, and arguably more important, to ensure we're attending to those benefits during winter. During the growing season, there may be tons of coverage, but does the winter garden have enough? Use late winter through early spring to check for big bare patches and select plants to fill those areas.





Add a few of these favorites to improve your coverage and boost the ecological value of your garden:

- ***Carex cherokeensis*** (Cherokee sedge)
- ***Carex laxiculmis*** (blue wood sedge)
- ***Heuchera americana*** (American alumroot)
- ***Pachysandra procumbens*** (Allegheny spurge)
- ***Packera aurea*** (golden ragwort)
- ***Polystichum acrostichoides*** (Christmas ferns)
- ***Sedum ternatum*** (woodland stonecrop)
- ***Tiarella cordifolia*** (heartleaf foamflower)

For more recommendations, visit our blog.

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NEWS

ACROSS THE NATION

By Morgan Vogt

CALIFORNIA

More than 335,479 western monarch butterflies were counted by the Xerces Society for Invertebrate Conservation across 272 overwintering spots across the state from Nov. 12 - Dec. 4. That's a notable jump from 2021, when 247,237 were counted in California, and 2020, when 1,899 were counted, The Sacramento Bee reported. It provides hope that the western monarch butterfly population could be on the rebound. The majority of the 335,000 monarch butterflies overwintered in groves in Santa Barbara and San Luis Obispo counties. However, despite this good news, monarchs are still considered on the verge of collapse.

CONNECTICUT

The Connecticut Audubon Society became the owner of the Stratford Point preserve, a 28-acre coastal habitat, in late December. Stratford Point had previously been home to a shooting range until 1986, after which a large-scale cleanup of the area was completed in the early 2000s.

The Connecticut Audubon Society maintained an office there conducting conservation work until the current owner donated the land. The peninsula features coastal grasslands and shrubs, salt marsh, a beach and a coastal trail. It attracts migratory songbirds and waterfowl, and birders have spotted 300 species. With this acquisition, Connecticut Audubon now stewards 22 sanctuaries around the state.

IOWA

Scientists at Iowa State University (ISU) have a special colony of butterflies at the ISU science laboratory that is helping them answer questions about the habits of monarch butterflies, KCCI Des Moines reported.

Different methods of study have included computer modeling and attaching radio transmitters to monarchs, with the goal of understanding how female monarchs make decisions. "You have to know how a female butterfly makes decisions. So, she comes to a patch of milkweed. How many eggs does she lay? How long does she stay there, how does she find the next patch?" said Iowa State University butterfly expert John Pleasants.

This investigation is part of ongoing studies to determine how to save monarchs. Research has shown that the best way to help the monarch population is by planting milkweeds. Iowa alone needs to plant over 1 billion milkweed plants in both rural areas and backyards to help monarch populations. Considering that researchers predict 2023 will be another bad year for monarchs, planting milkweed is more important than ever, they said.

MAINE

New bipartisan legislation was signed into law as part of the 2023 government funding package that will promote the use of native plants on National Park Service and Bureau of Land Management land. According to U.S. Sens. Susan Collins and Maria Cantwell, the Native Plant Species Pilot Program Act will create a new program intended to preserve biodiversity while preventing the spread of invasives. The pilot program will start with Acadia National Park, and the results of the program will be submitted to Congress detailing the cost-effectiveness of using native plants.

Debbie Oliver, president of the Garden Club of America, said this bill "will inform a government-wide approach to the use of native plant species across all our public lands."

NEW ENGLAND AND LOUISIANA

During the recent record-setting Arctic cold snap in December and January, hundreds of sea turtles were trapped in the Atlantic along the New England coast. The extreme cold stunned the turtles, a condition that is the turtle equivalent of hypothermia.

Fortunately, more than 700 of the endangered Kemp's ridley sea turtles were rescued from Cape Cod and moved to rehab facilities, NOLA.com reported. The turtles were flown to their various rehab facilities by a volunteer organization called Turtles Fly Too, Inc., which recruits citizen pilots to help rescue marine mammals and sea turtles.

The Audubon Coastal Wildlife Network in New Orleans is rehabilitating 18 of the turtles, with plans to release them into the Gulf of Mexico this spring.

Wild Ones member Morgan Vogt moved to a community known as the Windings in 2020 that is devoted to protecting and restoring the local ecology, and since then, she has been an advocate for native planting. Morgan is currently a digital marketer for a book publisher and spends her time reading, scrapbooking and learning as much as she can about native gardening.

Member Garden

Wendy Gochenaur
Illinois Prairie Chapter

All photos courtesy Wendy Gochenaur

Colorful native plants line the front of Wendy's home in the spring and summer.

By Mackenzie Seymour

In the middle of an urban-dominant environment, the home of Wendy Gochenaur provides a small, yet impactful oasis for wildlife to congregate and thrive. With over 95 native plant species, Wendy's yard provides sanctuary for pollinators, birds and snakes.

After moving to her home in Bloomington, Illinois in the fall of 2017, Gochenaur discovered her passion for native landscaping and gardening after attending a local plant sale through the Wild Ones Illinois Prairie Chapter. Wendy had always wanted to pursue native landscaping, but never had the opportunity since she was living in an apartment up until the purchase of her new home. It was at the plant sale she discovered she could receive free education and a discount on future plant sales with a membership through the chapter, so she jumped at the opportunity to pursue her dream of native gardening.

"Being a member of Wild Ones has helped me understand more about native plants and which plants are native to this area," Gochenaur said. "Wild Ones tipped off my journey, and I hit the ground running as far as native plants go."

Her passion for native landscaping and gardening came from her motivation to create a wildlife habitat. "The sterile, chemical controlled insectless lawns were never appealing to me and a lot of nonnative plants have no benefit for wildlife."

Although she does not have prior gardening experience, Gochenaur said that "gardening runs in the family–it's in my blood," and explains that her father and grandparents frequently spent their time gardening. She describes herself as a "nature-loving hippie" and now loves gardening, finding the activity to be a major stress reliever.

"I feel like I am helping the environment," Wendy said. "It's such a rewarding experience. Everything about it is positive; there's nothing negative about gardening, and I feel so accomplished."

Native plants cover Wendy's small backyard. Plants shown include Jacob's ladder (*Polemonium reptans*), bloodroot (*Sanguinaria canadensis*), prairie alumroot (*Heuchera richardsonii*), a couple species of trilliums (*Trillium spp*), and wild geranium (*Geranium maculatum*).

Member Garden

Wendy Gochenaur
Illinois Prairie Chapter

All photos courtesy Wendy Gochenaur

Working on a relatively small lot with 1,500 square feet for the garden, Gochenaur and her spouse have been able to "plant a pretty extensive garden with a wide variety of natives," including bleeding heart (*Dicentra spectabilis*), Virginia waterleaf (*Hydrophyllum virginianum*), wild ginger (*Asarum canadense*) and wild geranium (*Geranium maculatum*).

When it comes to planning her garden, Wendy's motto is to "wing it," and she has learned her gardening techniques along the way. "I just kind of follow my own process. My partner and I do all our own gardening. I take it section by section. I like curved whimsical shapes, and I use old bricks for my garden borders so I lay them out in the shape I want and then from there I dig up all the grass. Then, I shake out as much dirt as I can and compost the grass."

Wild bergamot (*Monarda fistulosa*)

Gochenaur's garden is mostly self-sustaining, as native plants are adapted to the local environmental conditions. She starts preparing her garden for summer after the last frost in spring so that the insects can come out of hiding.

"It is fairly low maintenance. I don't have to fertilize, and I don't really have to water because everything is used to this climate." She will remove any weeds, such as dandelions, and nonnative grass that creeps into her garden.

"I love the spring ephemerals like bloodroot, trillium and Jack-in-the pulpit, but the beauty of prairie flowers like black-eyed Susan (*Rudbeckia* spp.), compass plant and echinacea just make for a show-stopping scene in midsummer."

Her garden also contains edible plants, such as chokeberry (*Aronia* sp.) and wild nodding onion (*Allium cernuum*). She enjoys using wild bergamot (*Monarda fistulosa*), crimson beebalm (*Monarda didyma*) and the branches and leaves of spicebush (*Lindera benzoin*) in teas.

Not only do native plants cover both the front and back yards, but the side yard as well, which Wendy calls her "sun yard" because of the high amount of sunlight this area receives during the spring and summer. Plants such as prairie smoke (*Geum triflorum*), tall coreopsis (*Coreopsis tripteris*), obedient plant (*Physostegia virginiana*) and common milkweed (*Asclepias syriaca*) are specifically placed in this area because they thrive in significant sunlight.

In fact, Gochenaur is planning to expand her sun yard by at least another foot because the "plants are so happy that they are getting so big that they are flopping over. This coming year, it's going to be all about the sun yard."

Gochenaur's native plants are not the only sustainable feature in her yard. In addition to composting

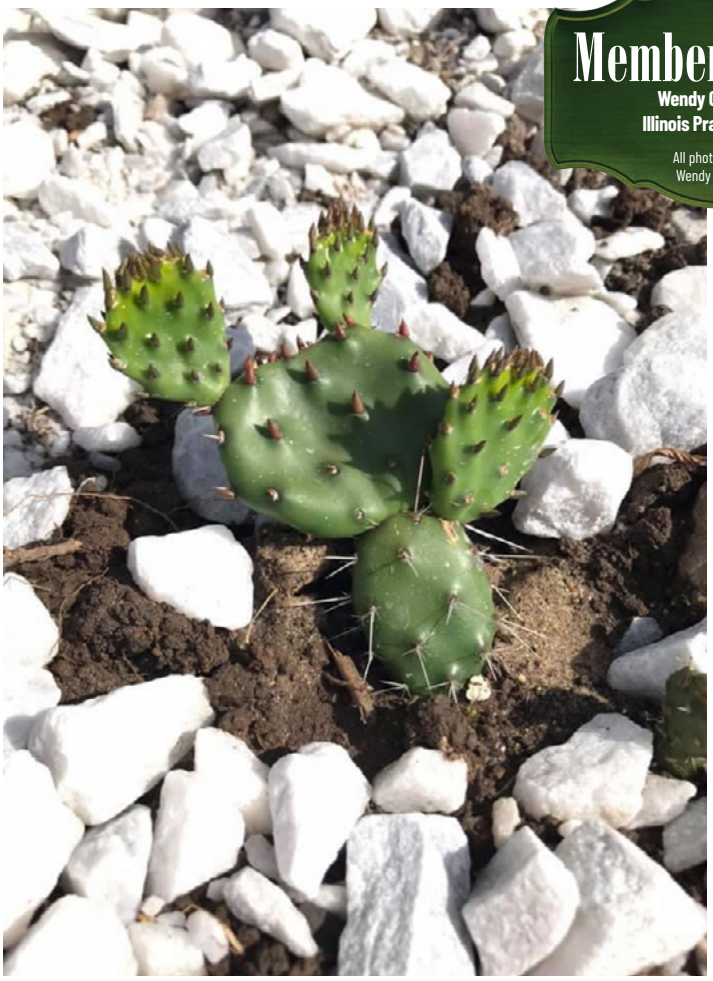
About the property

- In spring 2018, about six months after Wendy Gochenaur moved into her new home with her spouse, she started planting native plants on their small lot in Bloomington, Illinois.
- Although the lot only allows room for about 1,000–1,500-square feet for native plants, the plants have made a difference and attract many birds, butterflies, bees and other animals to the yard.
- The yard is currently home to 95 native plant species and about 20 nonnative species, including grass. But she said, "I am always up for digging out more grass and adding more natives…"
- Her favorite feature is the cactus garden since many people don't know that cacti can be native.
- Gochenaur recently won the Bloomington Beautification Award for her house and garden. "It's a great reminder that native plants not only have great function, but are also quite beautiful," she said.

Member Garden

Wendy Gochenaur
Illinois Prairie Chapter

All photos courtesy Wendy Gochenaur



Above, left: Wendy's favorite feature of her garden is the eastern prickly pear (*Opuntia humifusa*), which is a native cactus in Illinois. RIght: A monarch nectars on common milkweed (*Asclepias syriaca*).

vegetable matter and shredded paper, she also has an owl and bat house. Admittedly, she has yet to see these animals occupy the houses, but is hopeful that one day she will. She has installed bird feeders, bee baths and black slate rocks for snakes to sunbathe "to encourage the wildlife to see our yard as a little oasis."

A variety of wildlife visit her yard, including hummingbirds, hummingbird hawk moths, tiger swallowtails, monarch butterflies, great black wasps, mason bees, honey bees, sweat bees, garter snakes and goldfinches.

Wendy also plants an abundance of milkweed to encourage monarch butterflies to come to the yard. "They love our yard. I can go outside and find five caterpillars a day!"

When asked about her favorite part of her garden, Wendy said: "My cactus garden is one of my favorite features. It literally stops people on the sidewalk. A lot of people don't know there are cacti native to Illinois."

Not only has Gochenaur's hard work provided habitat for local wildlife, her garden has also received recognition for its beauty. After being nominated by friends, Wendy and her spouse received the Bloomington Beautification Award from the city's Citizens' Beautification Committee in November of 2022 for making "a positive contribution or improvement to Bloomington's appearance through dedication and efforts towards the landscaping, architecture, and maintenance of their property."

"A lot of plants and animals are becoming more endangered," Wendy said. "It's nice to know that I have food for migrating birds and a habitat for caterpillars. I adore the insects and different birds we get. It makes me feel like I am giving back to the native landscape that used to be there."

Mackenzie Seymour graduated from the University of Wisconsin Oshkosh with a bachelor's degree in biomedical science and a minor in neuroscience. She is currently the experiential learning and marketing coordinator at Burpee Museum of Natural History in Rockford, Illinois.

Editor's Note: We'd like to feature members' native gardens, large or small, in upcoming issues. If you're interested in sharing your native garden, send four to six high-resolution photos, as well as a brief description, to journal@wildones.org. Please include your contact information so we can follow up.

Photos by Matthew Ross

Living alongside Las Vegas: The plant life of the Mojave

By Matthew Ross

Las Vegas … the city known for nightlife, casinos and entertainment that has cemented its place as one of the most talked about towns in modern U.S. history. It's a vacation destination for many, a place to renew vows with an Elvis impersonator, hit it big on the slots, or lose it all in a single roll of the die.

What you would least expect in a city known for its lavish landscaping and a menagerie of iconic exotic wildlife collections, is a place that celebrates what existed far before Mickey Cohen, Benjamin "Bugsy" Siegel, and other entrepreneurs who first set up shop. Before its heyday as a railroad hub on the outskirts of the fledgling expansion westward, an intriguing ecosystem thrived. It was a place with a fascinating natural history, complete with some of the most unusual landscapes found in the continental U.S.

I recently made a return pilgrimage to Joshua Tree National Park after a 12-year hiatus and planned a trip with friends to explore the flora and a bit of the fauna of the Mojave Desert.

It was a trip that sparked a strong sense of responsibility in my own life and one that I hope you all get to experience first-hand the next time you visit Lady Luck's abode. I was compelled to share the need to look beyond the allure of the region, acknowledge the pitfalls of its exponential development, and see the implications it has on global climate change. But there's a glimmer of hope on the horizon too!

A rare rainbow in Joshua Tree National Park behind a large stand of Joshua Trees (*Yucca brevifolia*).

Spending a week getting a chance to explore the allure of the Mojave was an incredible experience which started at Joshua Tree National Park, a vast expanse of nearly 800,000 acres that spans between Los Angeles, San Diego and Las Vegas. The pilgrimage to see the majesty of the Joshua "trees" of *Yucca brevifolia* mixed alongside golden cholla cactus (*Cylindropuntia echinocarpa*) and the unbelievable geology is an enlightening experience. I spent several days climbing over rocks and canyons, hiking both day and night to experience the stature of these giants. While exploring this landscape, my colleagues and I listened to a recent edition of the "In Defense of Plants Podcast,"

A cottontop cactus (*Echinocactus polycephalus var. polycephalus*), one of many specimens within the nationally accredited Mojave Desert Collection at Springs Preserve.

The Sex Lives of Yucca Revisited, featuring the work of Dr. Kari Seagraves about the unique pollination relationship between yucca and yucca moths (a fabulous listen!). As we continued to explore the flora of the region, we learned the intricacies between each of the yucca species and were able to get a discerning eye for some of the other desert gems including Desert mistletoe (*Phoradendron californicum*), Mule fat (*Baccharis salicifolia*) and Dollarjoint prickly pear (*Opuntia chlorotica*).

I was astounded by how much plant life was layered throughout the Mojave. It was comforting to see several well landscaped homes that reflected the natural beauty of the desert plant ecosystem. Communities embracing xeriscaping with natives dotted throughout the hundreds of miles we traversed across the Mojave was encouraging. It was comforting to see a region that wholeheartedly embraced the local flora. It was a staggering juxtaposition to the few larger homes that chose to break from blending into the landscape with a lush looking landscape featuring a wide variety of palms, exotic broadleaf shrubs, and annuals.

The euphoria of being able to explore an incredible sample of the Mojave Desert with a horizon of nearby snow-capped mountains in close proximity was invigorating. I wish that the feeling didn't fade after hitting the road and making my way back to Las Vegas. We had set out to see the Hoover Dam and explore the emergent plant life surrounding Lake Mead. As we crossed the expansive canyons and towering geology of the region it was quite alarming to turn the bend and find ourselves right on top of the 725-foot-tall Hoover Dam. It was surreal getting a chance to explore a modern engineering marvel and learn the stories behind the creation of one of the largest man-made lakes on the planet.

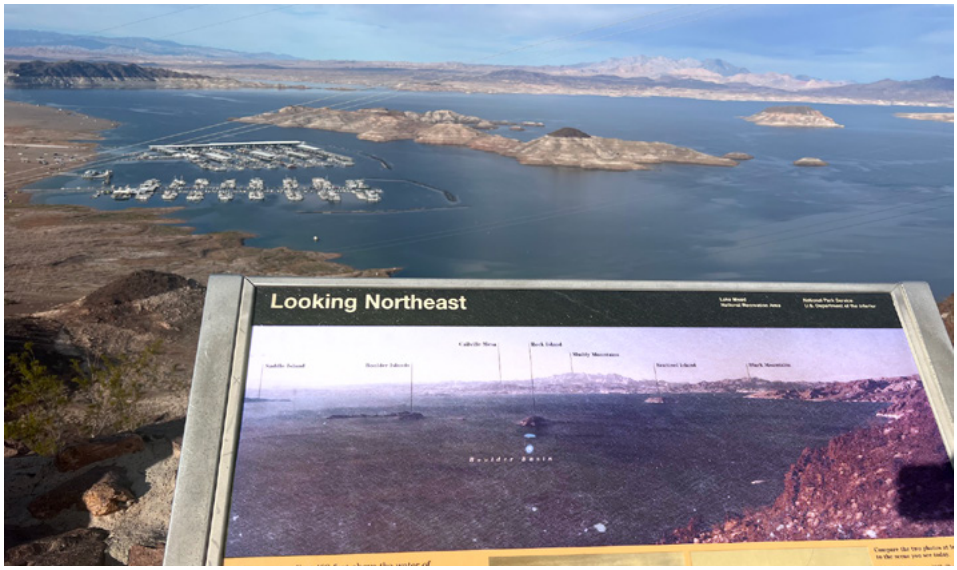
Viewing the overlook of the lake and historic images showing the lake level at its last peak height in 1984 with diversion systems in action, then witnessing the emptiness of its current levels, left us awe struck. It's unfathomable to see how low the levels truly are, and it heightened our awareness of the dire situation that the western states find themselves in, and more broadly the tremendous impact we have made on the planet's natural system.

The lack of chlorophyll was evident as we continued on our journey to the overlook of Lake Mead. We were met with the uneasy feeling of being in a post-apocalyptic nightmare. When we got a first-hand glimpse of the primarily barren shoreline that was recently covered with tens of feet of water, it truly hit home. I had hoped to spend the day botanizing and seeking out what emergent native plants might

be present. But I was immediately overwhelmed with grief in less than an hour of exploring. Rather than finding an emergent seed bank that had been suppressed since the reservoir first filled in the 1930s, I was wading through a sea of wispy green foliage of salt cedar (*Tamarix*), an invasive species native to Eurasia and Africa waving in the blustering winds of the canyon, further compounding the challenges of the region.

We finished our journey by returning to Las Vegas. In a city that never sleeps, there resides a respite from the neon glow where western Las Vegas first started. We went to Springs Preserve, a collection of cultural institutions, natural trails and a botanic garden on a campus that's a quick ride from the end of the Las Vegas Strip.

Springs Preserve is 180 acres of museums and green space with its growing collection of plants native to the Mojave on display. While I was visiting at arguably one of the least interesting times of the year floristically, it was a space that exemplified the beauty of the textures, forms and habits of the native plant palette. While the botanical garden boasts several individual garden rooms, the edge of the formal gardens is surrounded by a mix of native herbaceous and woody plants indicative of the pre-development landscape including desert senna (*Senna armata*), ocotillo (*Fouquieria splendens*) and Mormon tea (*Ephedra nevadensis*).



Top: A panoramic view of the Hoover Dam. Above: The view showing the previous lake levels from the Lake Mead overlook.

One of the coolest formal gardens is the nationally accredited Mojave Collection. With a diversity of specimens of native agave, echinocereus, dudleya, and of course, yucca, planted in such close proximity, it acts as a living field guide to the taxa that are interspersed in the wild. We were also delighted to have had the opportunity to experience their commitment to water-wise gardening, signage and information about proper use of water in the landscape, and a display home showing advancements in sustainability. The preserve's trails include a 3.6-mile loop surrounding the springs, which were the birthplace of a place called Vegas, which translates from Spanish to English as "meadows." I hope one day you all get the chance to experience the layered ecosystem of the Mojave, see the inspiring Joshua trees, and fall in love with the landscape that lives alongside Las Vegas.

Matthew Ross is executive director of The Botanic Garden at Historic Barns Park in Traverse City, Michigan.

Part 1 of a 4-part series

Monarch Rx: Butterflies obtain 'drugs' from withering plants

By Nancy Lawson

My meanderings down the garden path always reveal interesting sightings: the first violet bloom of the season, a tree frog hiding in the coral honeysuckle, a hickory horned devil caterpillar munching on hickory leaves.

But one evening in June 2019, something more mysterious stopped me in my tracks: a male monarch sinking his proboscis into the leaves of late boneset (*Eupatorium serotinum*). Despite of a proliferation of flowers nearby, the butterfly didn't seem interested in gathering nectar. Disturbed only by an occasional passing car, he briefly circled around some milkweed blooms but headed straight back to his original task. Zooming in with my camera, I could see that the monarch was also scratching a leaf with one of his feet, focusing on tiny holes made by flea beetles.

What could an adult butterfly possibly need from leaves? Why wasn't he fueling up on nectar from blooming flowers instead? My questions to the great hive mind of Facebook gleaned an important clue from a retired Smithsonian lepidopterist, Don Harvey, who sent me a 1983 paper titled, "Leaf-scratching—a specialized behavior of danaine butterflies (*Lepidoptera*) for gathering secondary plant substances."

I read with fascination as the paper's author, chemical ecologist Michael Boppré, described similar behavior among butterflies and plants in Kenya. As a professor at the University of Freiburg in Germany, Michael also studied the phenomenon in Central and South America.

Photo: Nancy Lawson

The author saw both a male and a female gathering PAs on a late boneset (*Eupatorium serotinum*) that was withering on top after the stem partly broke.

Reading as much of his work as I could find, I learned that the behavior has a name —pharmacophagy, which refers to the gathering of plant compounds for reasons other than nutrition. Specifically, the monarchs and most other danaini butterflies—as well as some moths, grasshoppers, beetles and flies—collect pyrrolizidine alkaloids (PAs) from injured and dried plant parts for use in their defenses.

We can think of larval host plants like milkweeds as a kind of grocery store, Michael noted in his papers, while PA-containing plants serve as drugstores. PAs are concealed in intact plants and are detectable to insects only when cell walls start to break down. To access them from dry leaves, stems and roots, monarchs apply a fluid that dissolves the PAs and then reimbibe it.

When my subsequent search for information about PA-pharmacophagy in the U.S. proved mostly fruitless, I eventually reached out to Michael for help, and to my delight, he sent an encouraging reply. Based on existing science, Michael already knew that monarchs in the U.S. were gathering PAs and wondered why more people weren't reporting it. Records were scant but included a sighting by a scientist in Florida in the 1970s and a more recent observation in Missouri, where a gardener found dozens of monarchs congregating on the roots of a dug-up pond plant in 2009. Researchers have also found pyrrolizidine alkaloids in the bodies of monarchs in California and Mexico.

PA-pharmacophagy is likely a common behavior in monarchs, so why haven't more people reported it? Even though the butterflies are not abundant in my central Maryland habitat, I've continued to see both male and female monarchs visiting withering and dried leaves of late boneset, sometimes for an hour or more at a time.

But if people don't look closely, they might assume the insects are just perching. Monarchs gathering PAs can also be hard to spot; last summer, I noticed that they often flew low in the meadow, several feet beneath the flowers, presumably because boneset leaves were withering from the ground up.

Plants use PAs in their own defenses against herbivores, and bonesets are far from the only ones that produce the compounds. By comparing species known to produce PAs with those that occur in the U.S., Michael posits that many plants in the Echiteae, Senecioneae, Eupatorieae, Heliotropiaceae, Boraginaceae, and Crotalarieae families are potential sources of PAs for monarchs. That means that in my habitat alone, Joe-pye weed (*Eutrochium* spp.), Virginia stickseed (*Hackelia virginiana*), American burnweed (*Erechtites hieraciifolius*) and blue mistflower (*Conoclinium coelestinum*) might also produce the compounds.

After publishing a paper in *Ecological Entomology* and launching a community science project, Monarch Rx, we've received reports of monarchs gathering PAs from drying marbleseed (*Onosmodium molle*) in Iowa, dug-up Virginia bluebells (*Mertensia virginica*) in Michigan, dried Joe-pye in Florida, and cut blue mistflower in New York. The latter sighting came from Janet Allen, founder and president of the Wild Ones chapter Habitat Gardening in Central New York, after she intentionally placed the cut plants as baits on her patio table. Other gardeners and scientists have reported observing monarchs probing withering leaves in the past, but they weren't sure what they were witnessing at the time.


Photo: Janet Allen

Monarchs gathered PAs from the roots of blue mistflower and Joe-pye weed in the garden of Janet Allen, president and cofounder of the Wild Ones Habitat Gardening in Central New York Chapter. PA-content within a given plant may vary and in some cases is highest in the roots. You can learn more about creating these "baits" at the Monarch Rx community science page.

Through Monarch Rx, we aim to gather as much community science data as possible to help answer some pressing questions. Which plants do the monarchs rely on? How many monarchs gathering PAs are male, and how many are female? Are they infected with Ophryocystis elektroscirrha (OE), the protozoan parasite that causes crumpled wings and can lead to early mortality?

In many related butterflies and moths, PAs not only boost defenses but also act as precursors for male courtship pheromones. But monarchs' courtship strategies are unique among danaini, involving more of a quick takedown by the male, so male monarchs aren't thought to need PAs for such purposes. Is it possible that the PAs are helping some monarchs bolster their offspring's defenses against OE infection? That's one of Michael's working hypotheses. Perhaps female monarchs who gather PAs—or possibly receive them during mating—pass the compounds along in eggshells. If so, monarch larvae who eat the eggshells might be able to fend off OE sporozoites.

At this point, we have many more questions than answers. We invite everyone with an interest in monarch biology and conservation to keep your eyes open for this behavior, record as many details as possible, take photos and videos, and submit your observations to Monarch Rx. Though we don't yet know all the reasons for monarchs' PA-pharmacophagy, one thing is certain: Monarchs gather pyrrolizidine alkaloids from withering and dried plant parts, and they invest a significant amount of time and energy doing so. With your help, we hope to unravel the mysteries of this little-known, but likely important behavior in the world's most famous butterfly.

Find articles with more details and references by joining Monarch Rx at https://citsci.org/projects/monarch-rx.

Nancy Lawson is the author of "The Humane Gardener: Nurturing a Backyard Habitat for Wildlife," a habitat consultant, and a national speaker on garden ecology. She founded Humane Gardener to pioneer creative planting strategies and other animal-friendly landscaping methods.

Combatting climate change leads youth to Wild Ones

By Donna Short

Ryan Cutrell isn't just a teenager concerned about things like grades, athletics and school clubs. The high school senior is also concerned about the environment, and the Wild Ones St. Louis (Missouri) Chapter helped him take his interest to a whole new level.

Four years ago, Ryan, then 13, watched the 2016 National Geographic documentary "Before the Flood," which describes the impact of climate change on the environment. He decided to research what action he could take individually. His research led him to the effects of nonnative honeysuckle and how it smothers native plant growth.

He decided to remove the honeysuckle from the common ground that abuts his family's property. Ryan spent more than 100 hours on what quickly became a family project. Work included cutting down the honeysuckle and injecting weed killer into the stumps (by Dad, of course). The next step was the tedious job of hauling the brush streetside for the yard waste pickup. But Ryan decided to ask for help; he approached a City Council member who agreed to have the park maintenance department pick up the invasive species instead.

Ryan's mother, Amy, had heard of Wild Ones from a co-worker and thought this group might be a good match for Ryan's developing interest in nature. Ryan attended his first Wild Ones gathering in 2018 in Kirkwood, a suburb of St Louis. Amy said that when he heard people talking about removing honeysuckle and about the benefits of native plants, he knew he had "found his people!"

Top: Ryan spent more than 100 hours removing honeysuckle from the common ground that abuts his family's property. Above: View of the area after honeysuckle removal. The current view shows how the native foliage subsequently developed and revealed two healthy pawpaw trees (*Asimina triloba*) and a black walnut (*Juglans nigra*).

Ryan attends his first Wild Ones gathering in 2018. Photo by Marsha Gebhardt

As the honeysuckle project progressed, Ryan and Amy decided to tackle the erosion problem in their yard caused by a neighbor's runoff that often resulted in large puddles in their yard. They contacted St. Louis Audubon Society's Bring Conservation Home program for on-site advice. Based on the recommendations, they planted rain garden plants on the hillside and eliminated the erosion problem and puddles.

Ryan has participated in various Wild Ones St. Louis planting projects, participated in the group seedling order, and shared plants and seeds at Garden Gatherings, in addition to winning the 2020 Landscape Challenge, an annual competition for a native plant front yard makeover that includes the services of a native landscape designer, up to $600 worth of native plants, as well as volunteers to install the landscape. Wild Ones St. Louis Chapter, with the support of Grow Native!, sponsors the annual competition.

The chapter also holds a monthly gathering at the home of one of its members or an interesting community native plant garden. One of the summer gatherings was at the Cutrell home. In addition to volunteering as a garden host, Ryan has the distinction of being the youngest member of the St Louis chapter.

In order to save up for college and expand his knowledge of plants, Ryan is working at a local garden center with a dedicated native plant area. He answers questions and advises on native plant care and use.

A high school senior, Ryan has accumulated more than 300 service hours of which 90% are environment/ecology oriented in locations such as the Sophia M. Sachs Butterfly House, Shaw Nature Reserve, Great Rivers Greenway and Operation Stream Clean.

Ryan's accolades for his home's native landscape include Gold Certification from St Louis Audubon Society's Bring Conservation Home and inclusion in the 2022 St. Louis Native Plant Tour. His home also received the City of Maryland Heights Eco Award given by the City Beautification Commission. Ryan consistently receives academic recognition and is a member of his high school tennis team, science club, chess club and the Junior Academy of Science.

He volunteers regularly at his former elementary school's STEM Lab, helping children in grades K-5 understand and appreciate science. There wasn't a lab when Ryan was a younger student, and in the fourth grade, he successfully addressed the board of education to advocate for a lab and dedicated science instructor at Rose Acres. He said teaching youth science is as rewarding as learning science.

Ryan intends to specialize in evolutionary and biological sciences in college, eventually hoping to earn his doctorate degree as he works to discover solutions to major environmental problems. Right now, Ryan is submitting college scholarship applications. One of his scholarship application essays is about scaling up his honeysuckle removal project to a national level! Of course, as a senior he needs the necessary senior pictures and naturally, his native plant garden provides the background.

Ryan said that he really appreciates Wild Ones.

"It's such a great knowledge pool and it's wonderful to associate with people who share my interests in ecology and plants," he said.

Of course, Amy has been a key component providing encouragement and sweat equity along the way. His advice to other teens is not surprising. "Go outside and learn about nature!"

Donna Short is a member of the St. Louis (Missouri) Chapter of Wild Ones. She became committed to native plants after Wild Bird Rehabilitation, where she volunteers, converted their urban landscape to natives and immediately saw an influx of pollinators and birds.

Do you have youth in your Wild Ones chapter who are inspiring other members to do their part to protect the earth and its resources? Email us their details at journal@wildones.org.

What to do when the 'weed police' knock on your door

By Rosanne Plante

In January, the Wild Lawyers published a model code to help address the ongoing issue of municipalities misunderstanding native plantings and their benefit to landscapes.

The purpose of these model regulations (found here) is to establish codified minimum standards for the design, installation and maintenance of landscaped areas that require the use of appropriate native vegetation and to promote the preservation of indigenous plant communities on site.

The ordinance is intended to be a minimum standard and/or a starting point for municipalities to incorporate native plant language and law to use in application for all types of public and private buildings, developments, subdivisions and land within the incorporated and unincorporated areas of a municipality.

So, what should native plant owners do if the "weed police" knock on their door? This article will give you a plan of action.

First, above all else, don't panic! Let me say that again—don't panic! Don't immediately become intimidated and cut all your native plants down. Instead, listen to local officials and hear what they have to say. Stay calm. Are they asking questions that neighbors have posed to the municipality? Are they giving you a warning? Do they have an actual citation for you? If so, what law/code/ordinance have you allegedly violated? This leads to the next step and question — show me the law!

Second, if you are receiving a warning or an actual "ticket" because you have allegedly violated a local law/code/ordinance, ask which law you have broken. Ask for a written copy of your violation and the law it is based upon.

A few years ago, I was accused of constructing a mailbox out of materials and in a location that was supposedly "illegal" in my county. A county official told me I was out of compliance and offered to remove my brand new, large cement mailbox. After a lengthy lecture from him, I simply asked to see the law I had violated. I also firmly — but politely — told him

Besides being a volunteer Wild Ones Lawyer, Rosanne Plante is the reigning Mrs. Midwest States Agriculture America 2022-23.

I objected to his request to move the mailbox until I could review the law I allegedly had violated.

Turned out there was no law at all, but an internal policy (one that citizens had no way of knowing) against mailboxes such as mine! The county official threatened to turn me into the county attorney's office, to which I responded positively. In fact, the county attorney and I knew each other since I am an attorney in the area. I never heard from the county attorney and my mailbox is still right where it was when built. In short, you need to see the law/code/ordinance you are accused of violating to see if, in fact, you are guilty of anything. Does the ordinance define weed? If so, can you provide information showing that your native plants are not weeds? Perhaps the official is just visiting you because your neighbors don't know your native plants are not weeds. Use the opportunity to educate your local official.

This leads to the next step: find out who you need to contact and by what deadline or date. Use this contact person to educate your local community leaders about the value of not only your own native plants, but native plantings in general. I have assisted Wild Ones members and suggested they invite local leaders to tour their gardens and learn all the positive reasons why native plants should be incorporated into lawns, landscapes and public areas. Throw a neighborhood garden walk and invite others in your area for a glass of lemonade and a presentation about native plants, their stages of development and their benefits. With knowledge comes understanding and often peace with city officials and neighborhood busy bodies.

If contacting your local officials and educating them doesn't lead to the citation being dismissed, the next step is to know when you must appear in front of the court or city officials. Preparing for such a meeting should include reading your citation, knowing the local law involved and reaching out to professionals who can help. Experts in the field are helpful, such as the Wild Lawyers (WL) team. The WL team cannot

represent you but can offer suggestions on how to handle the situation and resolve the matter amicably for all parties.

Hopefully, contact with local community leaders may not only dismiss or clear up alleged violations of local law(s)/code'(s)/ordinance(s), but may lead to new understanding of native plantings. Take the opportunity to use the new model ordinance to set a precedent or update outdated local language regarding native plants and their use throughout the community. Does your area have a local Wild Ones chapter or a citizen's group that addresses and educates about native plants? If not, this may be a great time to launch a Wild Ones seedling chapter or suggest the local municipality establish such a group with you as the leader. The more our communities know and understand native plants, the more they will become mainstream and accepted by homeowners and planted in publicly enjoyed common areas such as city parks, greenspaces and gathering centers.

In conclusion, for native plantings to be more accepted, accessible and mainstreamed, community leaders and members must be educated regarding their use and benefits. Native plantings conserve resources such as water, reduce erosion and help mitigate against extreme and adverse climate change. It is time to change the culture and narrative of what is acceptable in home yards and gardens and public green spaces. No longer is turf grass and manicured parkways the only option, nor are they a smart use of our resources. Native plants will be the wave of the future if we emphasize their essential ecological value and resilience in our landscapes.

Now is the time to look to our past – what grew prior to widespread development -- for progress in the future. The new model native plant ordinance is just one step in this overarching mission we are all pursuing for the benefit of the environment.

Rosanne Plante is a member of the volunteer Wild Ones lawyer team called Wild Lawyers. She is an attorney, mediator, lobbyist and the reigning Mrs. Midwest States Agriculture America 2022-23. She is also a member of the Wild Ones Loess Hills (Iowa) Chapter, and is a certified Iowa Master Gardener and Conservationist, and has *been awarded 10 year and 500+ community service hours lifetime achievement awards*.

Need help from a Wild Lawyer?

Contact Support@wildones.org.

Habitat rehabilitation and public engagement through goatscaping

By Jim Vallem

"The way this year has been going, we NEEDED this."
That was a common reaction to a habitat rehabilitation project at Thurston Nature Center (TNC) in Ann Arbor, Michigan, during the 2020 pandemic lockdown. Our neighbors were starved for entertainment, as well as engagement with nature and other humans.

The project was part of a 20-acre natural area located mostly on the grounds of Thurston Elementary School. Used by the public school district for science and environmental education, it was established in the 1960s and includes a remnant oak-hickory woods, a 7-acre pond and a tall grass prairie and oak savanna, both created by TNC volunteers. TNC is a birding hotspot on eBird, with 144 species recorded since 2012.

A sub-committee of the school's parent-teacher organization manages the environmental work. We spend much time removing buckthorn, honeysuckle and other invasives, and use various methods including controlled burns. We have a "natives only" and "steward approval required" planting policy guiding our restoration work.

At the height of the 2020 COVID-19 lockdown, we picked a long, narrow 1/5-acre area, bounded by two heavily used walking paths, to rehabilitate.

Several years earlier, the buckthorn and honeysuckle had been cut, and without being treated, the invasives came back with their usual vengeance. By 2020, they were 5-8 feet tall. In most spots, you could not see 6 feet into the area. We considered a burn, but it was too shady, and thus damp, so the leaf and pine needle litter would not burn well. The best alternative was to recut and treat the stems, but we could not maneuver through the area, nor even see what we were doing.


Photos: Jim Vallem

Diamond and friends wrap up work on Day 10.

Hence, goats. They would eat the foliage and upper stems, allowing us to work in the area. We felt this would be an ideal spot to try goatscaping:

- High priority for invasives removal
- Few desired plants that would be damaged by the goats
- Invasives were a good size for the goats to reach all the vegetation
- The area was along heavily traveled paths and could be easily enclosed with fencing
- A long open area allowed for good goat viewing and proper social distancing

We contacted Twin Willow Ranch, which had previously supplied goats for a similar experiment in one of the Ann Arbor city parks. They estimated that a 10-goat herd would be needed for 10 days (they finished in seven, so we opened up a new area for them). The cost was about $950, which we thought we could cover with donations.

To start, we launched a major outreach effort:

- We asked the goat farm for a photo and bio of each goat, which we put on our website (https://thurstonnaturecenter.info/goats).
- We included a donation link on the web page.
- We had signage explaining what we were doing, with a QR code to the web page.
- We used Facebook and our 600-person e-mail list to advertise the project.

A day ahead of the goats' arrival, Twin Willow put up a fence around the area. It was a very low voltage electrified fence, which put out a short pulse every few seconds. A person could easily hold onto it, but it kept the goats in and dogs out.

Our publicity worked. When the goats arrived in mid-September, a small number of people were already waiting, and the crowds quick-

ly ballooned as word spread. Over the next 10 days, there was always someone there watching, sometimes as many as 30 people, who used the opportunity to reconnect with neighbors. We used this time to talk with people about what was going on and why. It was fun to see several children who had memorized all the goats' names and ear tag numbers point out their favorites to anyone nearby. The donations covered the goat rental, plus the native plant seed we needed with an additional $750.

Once the goats were gone, our work really started. Unlike cutting or burning, which either removes or kills the above-ground portions of the plants, the stripped stems would just re-leaf. So, we went in with brush cutters, and daubed the cut stems with a 25% glyphosate solution. We missed the smallest plants, but eliminated all the large ones. We moved some of the cut brush to another location and burned the rest along with the leaf and needle litter (it dried enough once sunlight got into the area). We now had bare soil for a seed bed.

In April 2021, we sowed mostly grasses and sedges. We purchased

Mandy, 2, works on Day 3.

bottle brush grass (*Elymus hystrix*), Virginia wildrye (*E. virginicus*), silky wild rye (*E. villosus*), fox sedge (*Carex vulpinoidea*) and prairie brome (*Bromus kalmii*). We also added some palm sedge (*Carex muskingumensis*), prairie dropseed (*Sporobolus heterolepis*), sideoats grama (*Bouteloua curtipendula*), narrow-leaf blue-eyed-grass (*Sisyrinchium angustifolium*), tall thimbleweed (*Anemone virginiana*), butterfly weed (*Asclepias tuberosa*) and eastern red columbine (*Aquilegia canadensis*) that our stewards had harvested. The grasses, which did not require stratification, started the first year. The rest needed the next winter to break dormancy. While waiting for the area to fill in, we spot-treated poison ivy and invasives that we had missed earlier. By the end of 2022, we had a beautiful grassland growing under the area's pine trees, which were planted by Thurston students in the 1960s. We intend to begin occasional controlled burns after the third growing season.

The project was a huge success in many ways:

- Engagement: We constantly had people watching the goats. Many returned daily.
- Education: In addition to our website, we were regularly onsite to explain why we were removing the invasives and replacing them with natives.
- Financial: We raised enough money to cover the costs of the goat rental and the native seeds.
- Aesthetic: We opened up a beautiful view of our pond.
- Ecological: We created a new native habitat to replace a densely invaded area.

Questions & Answers

Burning vs. goatscaping? Burning kills small invasive shrubs and top-kills the rest. Goatscaping does neither, so it requires additional work to make it worthwhile. Occasional follow-up burns can keep newly germinated invasives in check.

Would we do it again? None of our other areas have all the advantages of this first site, though we're considering a low, shaded area that's generally too damp to get in a good burn. Our neighbors would love to see the goats come back.

Do the goats eat plants you don't want eaten? They left our evergreens alone. They will go after small deciduous trees and shrubs, but asides from the invasives, we had little of those. They loved the poison ivy.

Poison ivy? Yup. Goat candy, apparently. Our signs suggested not petting the goats because of the ivy.

Was it smelly? A bit, but it certainly didn't deter the crowds. The droppings weren't even noticeable (same with the ivy) when we went in for our follow-up work.

Was the electric fence dangerous? No. You could hold it if you wanted to, though our signs said to keep away. It surprised the heck out of some dogs though.

Timing? If you plan to cut and treat the stems like we did, timing isn't that critical. Bring in the goats any time after leaf-out and when you have time to do the follow-up.

Can you just do the cutting and treating without the goats? And miss out on all the entertainment? Seriously, the goats thinned the invasives way down so we could maneuver, and there was less brush to deal with after cutting.

Jim Vallem is one of the volunteer stewards at the Thurston Nature Center. He is a Master Rain Gardener, and has added 70 native plant species to his own yard.

Pollinator gardens – going beyond the plant lists to create a robust habitat

By Shaun McCoshum

With drastic declines in insect pollinator populations, gardeners have heard the call and are doing the work to help build better, wildlife-friendly landscapes. Efforts are growing with more and more platforms providing information on how to plant gardens for pollinators.

Extension offices and local environmental groups often create native flower plant lists, and every so often there are even informational tidbits about creating bee hotels or watering areas. These informational articles are extremely helpful, but they tend to leave folks thinking about pollinator habitat as an isolated plant community.

As with most topics, the simple ideas are only a summary of complex, nuanced realities. Scientists are still learning about the incredibly elaborate systems that are pollinator habitats. One of the very clear things the data tell us is that pollinator habitats are more than just plants.

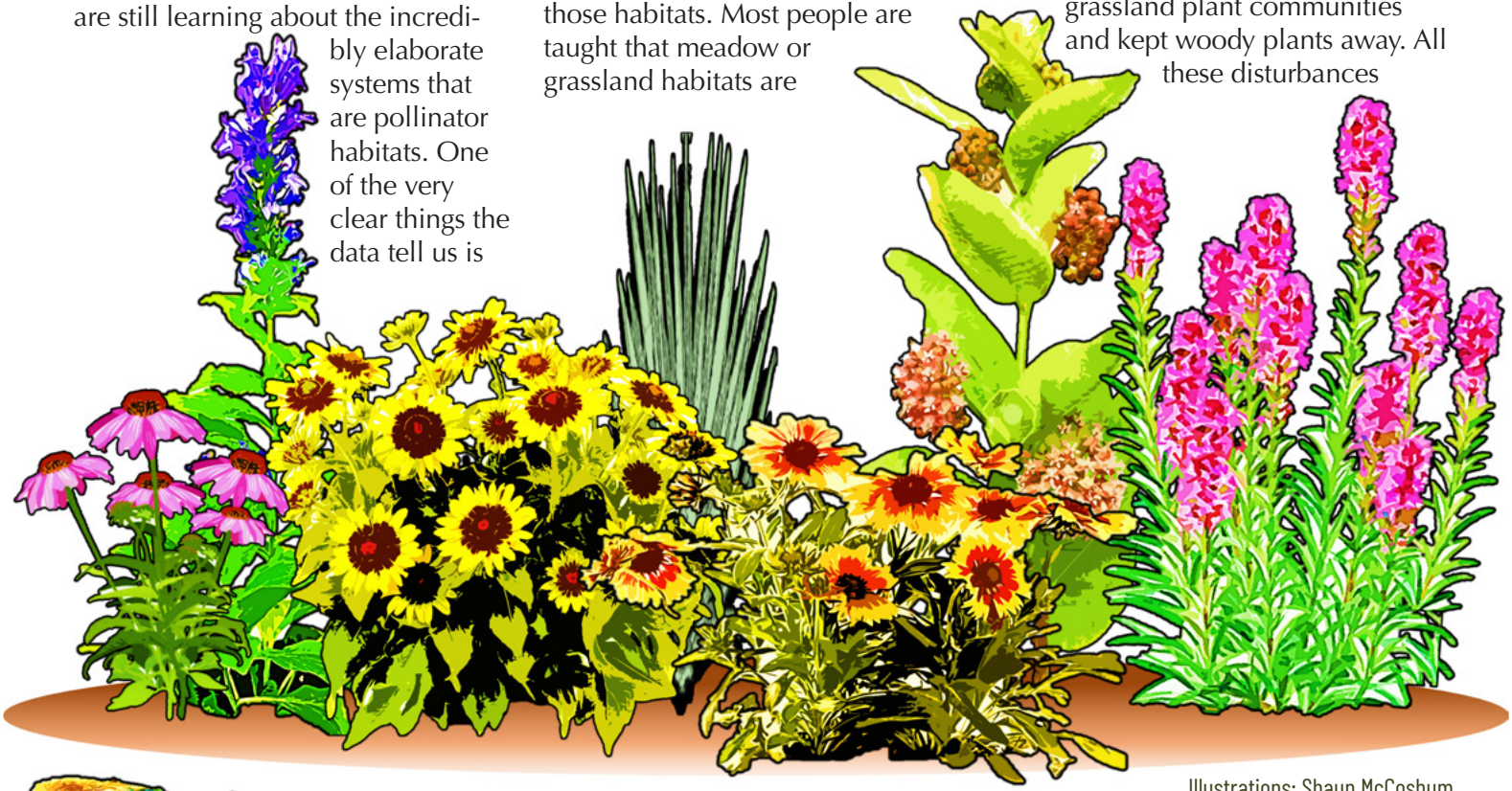
In this article, I provide information on how to contextualize a pollinator garden within the ecosystem. Following that section, I explain different non-plant resources, as well as ways to recreate those resources.

Contextualizing pollinator habitat

Before we get too far into the details of creating robust pollinator habitat, it is important to understand the natural cycles that these habitats evolved with, and should experience in, native landscapes and ecosystems. When we consider that the majority of plants included in pollinator plant lists grow in full sun, we can assume the natural plant community that we are emulating is supposed to be meadow or grassland, so this article will focus on those habitats. Most people are taught that meadow or grassland habitats are "pioneer habitat," which can be true, but in many ecoregions and especially those in the Great Plains and Arid Southwest, these habitats are also "climax communities."

Furthermore, the typical model of succession that is taught in biology courses tends to give us the idea that these early successional plant communities exist only as plants on barren landscapes. This is the same problem we see with the plant lists for pollinator gardens.

However, for about two-thirds of the ecoregions in the United States, meadows and grasslands form where a disturbance kills off trees. In a more holistic model, in the Great Plains and various savannah plant communities, disturbances like fire and annual grazing from bison, elk, pronghorn and deer facilitated the grassland plant communities and kept woody plants away. All these disturbances



Illustrations: Shaun McCoshum

So much to eat, but no place to nest

have been removed from our gardens, so it is important to recreate the resources and nutrient cycles in our pollinator habitats to keep them healthy.

For every region, the ecological disturbances that create and maintain meadows and grasslands will be different. However, the ways a gardener can identify the ecological disturbances and the resources that would be created is the same, everywhere. First, identify the different plant communities that exist in the ecoregion. If large trees would grow in any of those plant communities, dead wood is going to be an important resource for pollinators and other wildlife. If the garden is in an ecoregion where large woody plants are rare, then dead wood is less important, at least above ground.

Underground plant structures are important as well. This includes the woody root systems of oaks, as well as dense underground stems and roots of plant species in regions without forests or wooded areas. As these non-living woody structures break down, both above and below ground, microhabitats are created where species will nest, overwinter and take refuge. Incorporating woody materials into gardens can be simple or complex and can easily make a garden more beautiful.

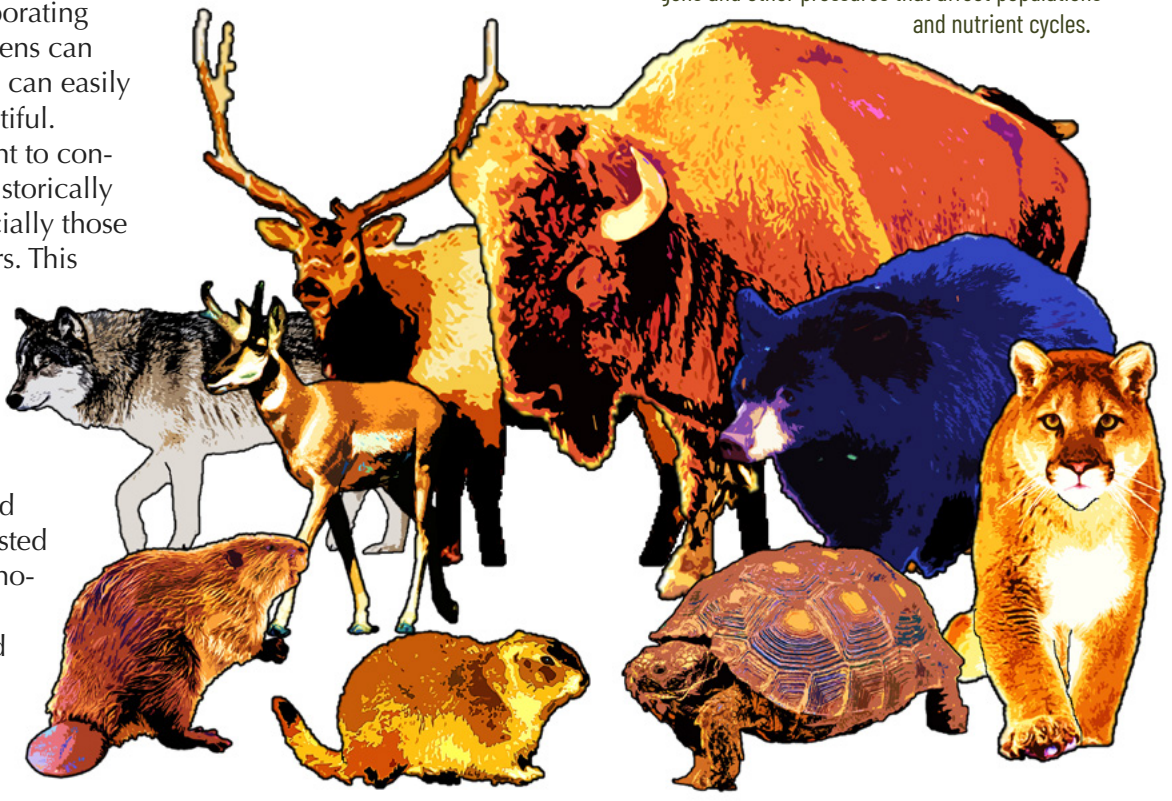
Similarly, it is important to consider which animals are historically native to the region, especially those called ecosystem engineers. This includes animals that create burrows like prairie dogs, gophers, tortoises and ground squirrels; disturb plants and soils like large herbivores; beavers that create wetland networks and can kill forested stands; and predators, pathogens and other pressures that affect populations and nutrient cycles. Unfortunately, the actions of previous generations have drastically altered the ranges of many of these habitat-altering animals, so it might be most helpful to visit a local natural history museum or simply use the internet to discover which ecosystem engineers are native to your location.

There are also important species that have not had their ranges drastically reduced, but that are eradicated from urban environments, like groundhogs, gophers and coyotes. However, the wildlife that depend on the structures and disturbances these ecosystem engineers create are often desirable. For example, most landowners and gardeners do not appreciate large burrowing animals digging new holes or killing plants, but many folks are excited when toads, box turtles or bumblebees – all of which need burrows but do not create them – find a home on their property. In many situations, recreating burrows, clearings and even wetlands can be done in such a way that it improves the habitat of the garden and makes a beautiful feature.

The third ecological aspect to consider for creating a robust pollinator habitat is the geology and soil structure of the natural landscape. This includes exposed rocks, floodplains and natural hydrological cycles like ponding, sand deposits, overall soil types and different slopes. In most areas, especially urban communities, soils are heavily modified and graded. In the wild, however, those soils are important for overwintering wildlife, soil nesting bees and a variety of other animals to carry out their life cycle. By simply recreating one or two of these areas in a garden, pollinator diversity and local abundance can improve dramatically.

Adding non-plant resources

Woody materials: Many gardeners already add aspects of naturally occurring woody resources like bird boxes and bee hotels without realizing what they are imitating. In natural meadows and grasslands, large dead trees would have hollow sections for birds to nest in and numerous small holes caused by wood boring insects that bees use for their



Ecosystem engineers include animals that create burrows like prairie dogs, gophers, tortoises and ground squirrels; disturb plants and soils like large herbivores; beavers that create wetland networks and can kill forested stands, and predators, pathogens and other pressures that affect populations and nutrient cycles.

nests. There are many "bee hotels" available for purchase, but most are bad for bees. A good bee hotel should have tunnels or tubes that are 6 to 12 inches deep, easily cleaned or replaced every two years, and not contain "butterfly houses" or slits, which usually attract predators and not butterflies.

Adding natural wood structures to gardens can be as simple as adding a log that is at least 6 inches in diameter by 12 inches long, either standing up or laying down. Logs are easily tucked into plant beds for plants to grow over or they can be used as borders and pedestals. More complex installations are also possible, including intricate log borders or focal features that use large, branched trunks to plant around. Tree companies will sometimes deliver these if you contact them. Tree species with thick bark will be used by pupating moths and butterflies as the bark peels away. Wood boring insects will create tunnels in the main wood and cavity nesting bees will eventually use those tunnels. Similarly, drilling a few holes into the log with a 5/16-inch drill bit will create nesting sites for bees. To recreate underground woody resources, dig a hole at least 12 inches wide and deep, then fill with untreated mulch (leaves and twigs work, too) and pack it down. This can be done under the log, or a stone shelter to save space. The underground, decomposing mulch mimics decomposing root systems and will be used by overwintering toads, bees and other insects.

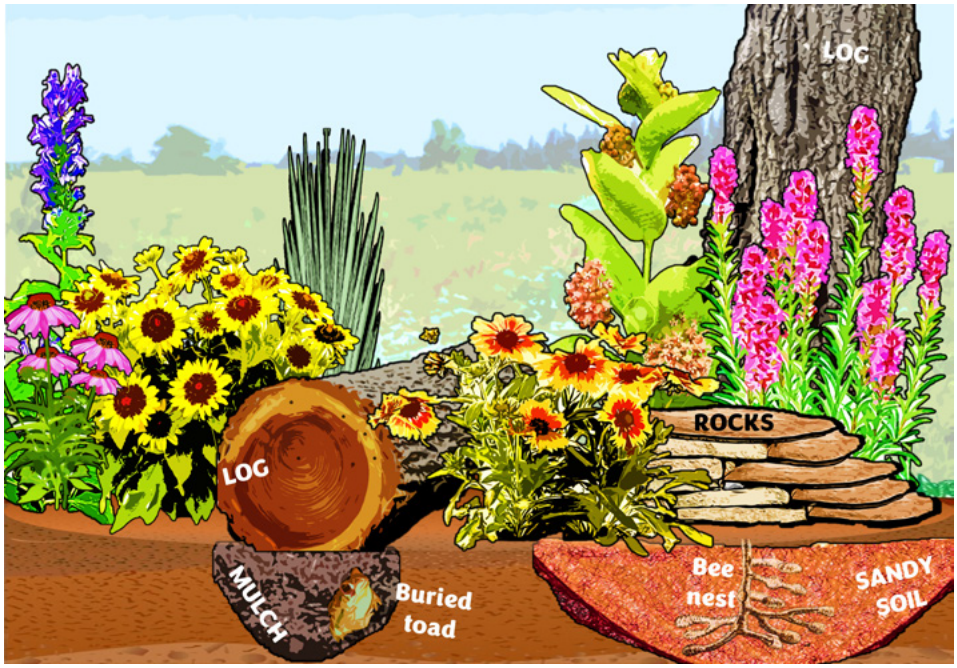
Soils: Gardeners often only think of soils as they pertain to plants, but just like plants, many species of wildlife need soils with specific characteristics. For example, many birds need dry, silty areas to take dust baths; butterflies need nutrient rich, wet soils to "puddle" or consume nutrients; and ground nesting bees will only nest in specific soils. There are more than 2,500 ground nesting native bees in North America and less than 500 species have their nests described, so it is difficult to create nesting areas for all the local species. However, most native bee nests that have been described use sandy to clay soils and rarely use heavy loam soils.

To encourage native bee nesting, excavate an area a minimum of 12 inches wide and deep in a dry, sunny location. Amend the soil with small grain sand, like paver sand, to about 50% to 80% sand and fill the excavated area. Adding different features to the top will appeal to some species over others. Features to add include a spattering of pebbles, large stones either flat on top or semi-covered, sprawling plants or nearby bunch grasses. These areas can be integrated in multiple locations across the landscape, including rarely used areas like by HVAC units, back corners or fence lines. The more soil diversity an area can have, including slope and sun-exposure, the more you will increase the nesting opportunities for native bees.

Rocks and crevices: Both soil-nesting and cavity-nesting bees can benefit from the addition of larger rocks in a garden, as well as many other species of wildlife like lizards, frogs and toads. If the area you live in has localized rock outcroppings, there are likely pollinators that use those resources. In places with geologic formations made of thin layers or rocks that readily crack, stacking wide, flat rocks in a sturdy design will create crevices for cavity nesting bees, as well as shelter for lizards, pupating insects and other wildlife. Similarly, installing rocks over a loose, sandy soil can create nesting sites for soil nesting bees that prefer to use the soil/rock interface.

By adding just one of the above resources to a pollinator habitat, local populations can be boosted. There are also a variety of resources specific to ecoregions not discussed here. For more information on projects and wildlife habitat, check out videos and presentations on YouTube, habitat-focused books, and the resources local pollinator or conservation groups have put together.

Shaun McCoshum, Ph.D., is a conservation ecologist with expertise in pollinator and plant communities. His published works include scientific articles, video presentations, wildlife gardening books, and a variety of informational pieces.

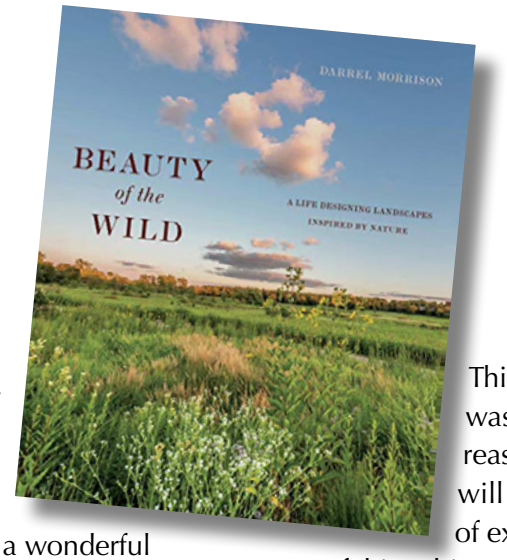


By adding rocks, crevices, logs and more to your habitat, you can help boost local pollinator numbers.

Book Review

At a glance:
Title: "Beauty in the Wild: A Life Designing Landscapes Inspired by Nature"
Author: Darrel Morrison
Published: June 15, 2021
Cost: $15-$25
Stars: ★★★★☆

By Gail Goldman



Even though it's not what I expected, it's clear why Darrel Morrison's "Beauty in the Wild: A Life Designing Landscapes Inspired by Nature" was named one of the Best Gardening Books to Read in 2022 by "Gardens Illustrated," and one of the American Horticultural Society's Top 10 Books of 2021.

What did I think it would be? More of a "how to" guide for designing landscapes with native plants. There could be no greater choice to write such a manual, given Morrison's many decades as one of the foremost experts in the field. What is it instead? More of a memoir. As Morrison notes in his acknowledgements, he was advised "to tell stories," which he does. Accompanied by his engaging prose, with gorgeous photos and artwork, this made for a book that is marvelous to behold and dive into.

Born in 1937, Morrison, a former Honorary Director of Wild Ones, has been involved with native plants his entire life. In this book, he takes us through that life, from his beginnings on an Iowa farm to his collegiate years studying landscape architecture and through his time teaching in universities and designing impactful landscapes throughout the United States. A couple of things are abundantly clear: Morrison has a wonderful sense of adventure and is not afraid of a learning curve, often electing to move to new parts of the country where he would have to master a new population of plants native to the area, happily noting that "there are always new plants to meet."

He seems fearless, seizing opportunities to explore the world, camp, hike, see plants from a canoe's vantage point, and generally exist differently than most people. These are the stories of a person who has lived life to the fullest.

But what may set Morrison most apart from others in the field is his melding of science with art. While he knows every correct name for every plant and could list the rules of what works best in landscape design, a huge part of his work is linked to art, both visual and musical. He routinely painted his landscape designs and site sketches in stunning watercolors that seem to reflect the way he conceived them, as artistic creations capable of great beauty and change.

He also often listened to music while creating garden designs and taught his students to experiment with doing the same, noting that different pieces of music would create different feelings and different resulting design expressions. This aspect of his story was both inspiring and reassuring. Most of us will never have the depth of experience and mastery of this subject that Morrison has, but his emphasis on the arts provides space for creativity, freedom and play in design.

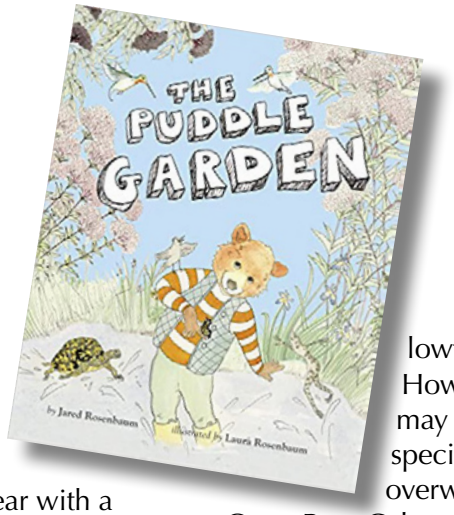
There's no single way to do things, of course, and drawing on visual and musical arts as part of the process potently underscores this fact and frees his readers up to experiment and evolve their own style.

It's difficult to rate such a personal book. While this one is a perfect expression of an exceptional and interesting life, I've opted for 4 stars instead of 5 because it is so chock full of activities, places, adventures and names that the sheer volume of what I didn't know was at times distracting from the stories themselves. If you are more well versed in the author's list of colleagues and influences, then you will probably award this book an easy 5 stars. Either way, I suspect that you, too, will be glad to have spent time in Morrison's excellent company.

Gail Goldman is a member of the Wild Ones Middle Tennessee Chapter. A recent transplant to Nashville from the Pacific Northwest, Gail is getting to know the plants of her new region and transforming her little patch of East Nashville.

Book Review

At a glance:
Title: The Puddle Garden
Author: Jared Rosenbaum
Published: January 2015
Cost: $20-$25 hardcover
Stars: ★★★½☆



By Kristin Bailey Wilson

My Great Aunt Lola-May read "Goldilocks and the Three Bears" to me many times as a child, so the bear with a butterfly perched on his finger drew me immediately to "The Puddle Garden" by Jared Rosenbaum and illustrated by Laura Rosenbaum. The book is appropriate for a 4- to 8-year-old audience.

Goldilocks was chasing butterflies when she happened upon the home of the three bears. Conversely, in "The Puddle Garden," a bear family has moved into a new home but found it empty. Bear Cub surveys each side of the house, finding only grass. "Just grass!" No friends. Just as Bear Cub was about to go inside, he found a puddle, and as he played in the puddle, he dreamed of friends playing with him.

After a talk with Papa Bear, they visited the plant nursery. This is where the illustrations of flowers, birds and butterflies take center stage. They are gorgeous. I would hang the illustration of a catbird perched on an elderberry shrub on my walls. Children will be drawn to the illustration of the Baltimore checkerspot butterfly, and I can hear parents and teachers alike saying, "Let's find paper, and see if we can draw one."

Alongside the illustrations are the names of flowers – cardinal flower, Joe Pye weed, and white turtlehead, as well as the names of birds and butterflies – catbird and tiger swallowtail and more. However, children may find the many specific names overwhelming.

Once Bear Cub returns home with his plant purchases, the story's vocabulary returns to the young audience, and we leave Bear Cub splashing in the newly planted puddle garden full of gardening friends, including butterflies. Without doubt, an adult will leave this book with ideas about what sorts of native plants will grow in the full sun near water. My concern is that all the plant, butterfly and bird names advance the readership beyond children.

My Aunt Lola-May was no kidder, so she read the original story of Goldilocks and every time Goldilocks breaks her neck or gets lost in the woods. Without a doubt, I much prefer the ending to "The Puddle Garden."

My rating is 3½ stars. Stories written for new readers are more engaging when they are lyrical with repetition. The many specific names of plants, birds and butterflies worked into the story seem to be planted there for adults. Nonetheless, the illustrations will draw readers young and old.

Kristin Bailey Wilson, Ph.D., is a member of the Wild Ones Middle Tennessee Chapter. A retired university educator, she now spends her time stratifying native seeds and hiking with her dog Suzie.

Giant hogweed: It's big and it's nasty

By Mackenzie Seymour

Giant hogweed (*Heracleum mantegazzianum*), also known as giant cow parsley or cartwheel-flower, is not a plant to mess with. Not only does this nonnative and invasive species aggressively crowd out native vegetation through solid canopies and tuberous root stalks, but it is also infamous for causing phytophotodermatitis, or severe swelling and blistering after sun exposure, when in contact with its clear, watery sap.

This plant is included in the Federal Noxious Weed Program under the Plant Protection Act, which states that importation and transportation between states is illegal without a permit. It is also listed as officially invasive in seven states.

Photo: Invasive Species Centre

Giant hogweed, identified by its white flower, can aggressively crowd out native vegetation and cause severe swelling and blistering after sun exposure.

Quick facts

Species name: *Heracleum mantegazzianum*
Date of U.S. introduction: 1917
Means of introduction: Ornamental
Impact: Skin irritation and blindness (phytophotodermatitis) when in contact with toxic sap; crowds out native vegetation
Source: USDA National Invasive Species Information Center

Photo: Rob Routledge, Sault College, Budwood.org

Heracleum mantegazzianum (giant hogweed) stem

Giant hogweed is native to Asia, specifically Georgia, Azerbaijan, and southern Russia. After its introduction to the United States in 1917, giant hogweed spread throughout the western and eastern parts of North America. Today, it remains restricted to British Columbia, Washington and Oregon as well as Newfoundland, Nova Scotia, western Ontario, Wisconsin, Maryland, New York, New Jersey, and parts of Indiana and Illinois.

According to the U.S. Department of Agriculture (USDA), giant hogweed was "likely introduced to North America as a garden 'curiosity' because of its extremely large size and impressive flower, but could have been introduced through spice importation, since its seeds are used in Middle Eastern cuisine."

As part of the family *Apiaceae*, giant hogweed can be distinguished by its umbel of small white flowers. It is a monocarpic (dies after producing fruit once) perennial that can grow between 8-20 feet tall. This plant frequently grows in moist soils near roadsides and stream banks, and is common in riparian areas, open woodlands and abandoned pasture or agricultural lands.

The climates in both native and nonnative areas where giant hogweed is frequently found are similar as these plants grow best in northern temperatures, which ultimately aid this plant's invasive success. Cold winters in the western and eastern United States do not inhibit giant hogweed's growth, and this climate is most likely necessary for germination.

This plant can easily be misiden-

tified with nonexpert eyes as it has several native look-alikes, including cow parsnip (*Heracleum maximum*), angelica (*Angelica atropurpurea*), and poison hemlock (*Conium maculatum*). Giant hogweed can be distinguished by its purple spotted and white bristled stem and large, alternate three-compound leaves. The lower leaves can grow up to 10 feet long and 5.6 feet wide.

Giant hogweed spreads in a variety of ways, including seed dispersal through waterways, insects, birds, cattle and humans. In fact, humans have had a significant impact in seed dispersal through collecting flowers, moving soil, intentionally planting and importing seeds. Giant hogweed is one of the most frequently intercepted invasive species at airports because its seeds are used as a spice in other countries.

According to the USDA, sheep and cattle grazing has proven most effective in containing this invasive pest. In addition, giant hogweeds are susceptible to herbicides, and it is recommended to wear protective clothing and equipment when physically removing the plants to avoid contact with sap.

Mackenzie Seymour graduated from the University of Wisconsin Oshkosh with a bachelor's degree in biomedical science and a minor in neuroscience. She is currently the experiential learning and marketing coordinator at Burpee Museum of Natural History in Rockford, Illinois.

For more information

New York State Department of Environmental Conservation

USDA National Invasive Species Information Center

Virginia Cooperative Extension: Giant hogweed – Identification and Control

Wisconsin Department of Natural Resources

Giant hogweed, left, looks similar to cow parsnip, right.

Donna VanBuecken: A legacy of leadership

By Loris Damerow

Donna VanBuecken has been a leading voice for native plants and natural landscapes for almost four decades. In the mid 1980s, Donna joined a young organization in Milwaukee called Wild Ones Natural Landscapers Ltd., which was inspired by the environmental work of fellow Wisconsinite Lorrie Otto.

In 1994, she helped found a chapter of that group, Wild Ones, in the Fox Valley (Wisconsin) region, and became the chapter's president. In 1998, the organization took a step forward hiring Donna as the first Wild Ones executive director.

During her 17-year tenure as executive director, she built many of the partnerships and programs that are the foundation of our work today: naming Otto and Neil Diboll as lifetime honorary directors and developing a relationship with Doug Tallamy, who would later become a Wild Ones lifetime honorary director, partnering with Monarch Joint Venture to promote monarch butterflies, creating the Wild for Monarchs Native Garden Recognition program, the Wild Ones photo contest and more.

Donna VanBuecken

Donna helped to raise $850,000 in donations and grants to open in 2008 the organization's headquarters called the WILD Center (Wild Ones Institute of Learning and Development), located on the 16-acre ecosystem on the banks of Little Lake Butte des Morts in Neenah, Wisconsin.

When VanBuecken began as Wild Ones executive director, there were 18 Wild Ones chapters and 2,356 members. When she retired in 2015, Wild Ones had about 4,000 members and 50 chapters.

In addition, from 2018-22, Donna served as an honorary director for Wild Ones, and as she ends her term as an honorary director, we thank her for her work and dedication promoting native plants and natural landscaping.

Loris Damerow is president of the Wild Ones Board of Directors.

All photos courtesy of MSD Rainscaping Small Grants Program

Rainscaping: A gateway to native plant gardening

By Allison Joyce

Rainscaping is a sustainable landscaping practice that offers a wide range of benefits to the conscientious gardener: stormwater management, habitat creation and water quality improvement. Technically speaking, rainscaping is any combination of plantings, water features, catch basins, permeable pavement and other activities that manage rainwater where it falls, rather than moving it someplace else. The goal of rainscaping is to slow water down enough that it soaks into the ground instead of running off to become a problem in storm drains and basements.

The best way to slow water down is to remove or reduce impervious surface areas, such as concrete and turf grass, and replace it with permeable surfaces populated with native plants. There are valuable non-plant-based solutions in the rainscaping toolchest like permeable paver patios and rain barrels. However, the deep roots of native plants are the most efficient at holding water in soil and, as Wild Ones members will appreciate, provide a host of collateral benefits.

Native plants are uniquely suited for rainscaping. Over millennia, these plants evolved to thrive with nature's flows of changes in environmental conditions that ambitious humans have instead strived to bend to our will.

The primary reason that native plants do such a great job managing stormwater is that they improve soil quality through their diversity of root systems. Whether deep and ropy or fibrous and mat-like, they fight their way into compacted, neglected earth.

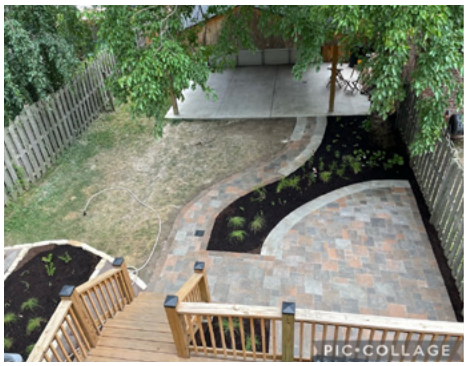
There is a wide variety of rainscaping solutions available to property owners. Learn more about the technical aspects of rainscaping from the Missouri Botanical Garden's Rainscaping Guide at www.mobot.org/rainscaping.

The roots aerate soils simply by being there, creating fissures as they grow. Eventually, even the hardiest plants die, leaving behind organic matter that decomposes in place to feed worms and fungal networks.

Rainscaping can provide a variety of micro-habitats that allow you to feature a diversity of plants in your landscape, such as in the prototypical rain garden. Rain gardens contain a shallow basin surrounded by a berm and have inflow and outflow areas. The basin should be planted with species that are happy with wet feet since water will collect there as it slowly percolates into the soil. For the lower Midwest, a few examples of plants that work well in the basin are soft rush (*Juncus effusus*), rose mallow (*Hibiscus lasiocarpus*) and bur sedge (*Carex grayi*).

Species in the rain garden berm should be OK in standing water during a rain event and be able to tolerate dry conditions as the raised elevation makes them the first to dry out. The same deep roots that can manage stormwater make many native plants very drought tolerant. Good plants to use on a berm in the lower Midwest are shining blue star (*Amsonia illustris*), swamp milkweed (*Asclepias incarnata*) and sneezeweed (*Helenium autumnale*).

Finally, native plants help improve water quality by removing, degrading and stabilizing pollutants, a process known as "phytoremediation." As if you needed another reason to plant a tree, a 2021 study by the USDA cites the success of fast-growing trees at waste clean-up sites near Lake Michigan and



Clockwise from above: When selecting plants for your rainscape, consider species that bloom in different seasons and will keep you and wildlife interested year-round; This before and after comparison shows how native plants and permeable paver systems can work together to create habitat for wildlife and people. RIght: Including people-friendly features such as walkways and benches will make your landscape an inviting retreat from the world.

Lake Superior, including landfills. Trees and woody shrubs that take up stormwater in the lower Midwest include river birch (*Betula nigra*), bald cypress (*Taxodium distichum*), button bush (*Cephalanthus occidentalis*) and prairie willow (*Salix humilis*). In all cases, check with your Wild Ones chapter or regional native plant program to identify the best plants for rainscaping in your area.

Rainscaping is a valuable way to put native plants to work in your landscape. Where to start? As with any gardening initiative, start by evaluating the current conditions in your yard. Wherever you live, you can readily determine if a rain garden is right for you:

- Is the site already populated with trees? If your site is wooded, you can't excavate, ruling out the necessary rain garden basin. Instead, you can rainscape by removing any invasive species and replacing them with natives.
- Is the soil permeable enough to absorb water? Conduct a simple percolation test to find out. If your soil drains slower than ¼-inch an hour, consider a lawn alternative strategy instead.
- Is your site on a gentle or moderate slope? A gentle slope helps the rain garden basin collect more water as it runs away from your home, but a steep slope is not a good place for a rain garden. You need to focus on controlling erosion by stabilizing the slope.
- Is there enough space to build a rain garden at least 10-15 feet from nearby buildings? Rain garden basins encourage water to soak into the ground right there, so avoid this anywhere drainage issues might be exacerbated.

Rainscaping to the rescue

By Dan Pearson

When we applied for a rainscaping small grant in 2015, my partner Leah and I were new to our century-old house and trying to figure out what to do about the tremendous amount of water gushing through the stone foundation into our basement with every rainfall. The main downspout from the flat roof was apparently not making its way into the sewer lateral as originally intended.

We now regard this as a lucky defect that set us on a path of learning about rainscaping and the ecological necessity of stormwater management in general. We learned about the devastating environmental impact that our city's old, combined stormwater and sewer system has had.

As we explored ways to bypass the sewer altogether, we soon discovered that we would need far more than a single rain barrel to handle the estimated 26,000 gallons of rainwater from our roof each year. We needed at least a 250-gallon rainwater harvesting system, a rain garden and a plan for overflow. Unfortunately, this was far out of our financial reach at the time. But fortunately, we happened to be eligible for a grant through MSD Project Clear to completely cover the cost of our planned installations.

By June of the same year, everything was installed. We were thrilled with how well the system worked and looked in our yard. And it has only improved with time.

By the second year, the rain garden was producing colorful blooms throughout the seasons and attracting a variety of birds and pollinators. The deep-rooted plants were helping even more rainwater soak into the heavy clay soil. Eight years later, we have eliminated nearly all stormwater runoff with many more rainscaping enhancements such as bioswales, a dry well, more trees, replacing concrete walkways with permeable brick, and converting every inch of our grass lawn to native gardens.

The grant requirement to use Missouri native plants for the original raingarden planted a seed in me that blossomed into a deep interest and passion for native landscaping. The St. Louis Audubon Society and their Bring Conservation Home program provided a consultation about what more could be done to restore wildlife habitat in our yard. After several years of implementing their recommendations, they came back to assess our progress and awarded us with a platinum level wildlife habitat certification. They also trained me to volunteer as a habitat adviser, which ultimately resulted in a major career change and administering the program full time. And it all started with a leaky basement!

Dan Pearson is the Bring Conservation Home program manager with the St. Louis Audubon Society.

If you went through these questions and found that your site is unsuitable for a rain garden, there are still plenty of rainscaping options available. It is far better to work with your current conditions and avoid complex, highly engineered projects. Take a cue from native plants and adapt to the existing landscape, rather than forcing it to conform to your idea of how it should look.

Native plants and soil functionality vary by ecological zone. Therefore, the species best suited to anchor a high-performance landscape like this will come from your own native plant community. Work with local landscape professionals who specialize in ecological planting to explore and implement a project that will meet your needs, whether the result is called xeriscaping, rainscaping, green infrastructure, or simply sustainable gardening.

Climate change is affecting both average rainfall and rain extremes from coast to coast. Functional landscapes are much better equipped to handle the full spectrum of moisture extremes. While a rainscaping feature does not guarantee against water in your basement, it is a good investment against property damage, whatever your "normal" precipitation pattern may be.

The St. Louis region is fortunate to have programs that provide financial support for rainscaping installations at residential, institutional and commercial properties, such as MSD Project Clear and the Deer Creek Watershed Alliance. If your region does not have this kind of resource, maybe the time is right to start one. Tap into your local Wild Ones chapter to learn about how existing grant programs got started and how they might work for your area.

Rainscaping is a powerful way that native plants are proving their worth and reaching new audiences. Financial resources, stormwater management and habitat creation are all part of the repertoire of incentives bringing people to the wild side. Whatever brings you here, we are glad to have you.

Allison Joyce is sustainability coordinator on the rainscaping team at the EarthWays Center of Missouri Botanical Garden in St. Louis. Learn more at the Missouri Botanical rainscaping guide.

An Eastern swallowtail nectars on milkweed.

The art of 'ungardening' allows for discovery, experimentation with native plants

It's not all or nothing. Sometimes the best way to landscape is to work with your existing landscape.

By Suzy Nicksic

Over my career as a landscaper, my design aesthetic has morphed as my awareness of native plants has grown. The Morton Arboretum and Chicago Botanic Gardens sounded an early alarm, warning that our forests were being threatened by Japanese barberry (*Berberis thunbergii*) and winged euonymus or burning bush (*Euonymus alatus*). This moved me to include native plants in my garden designs despite their limited availability. My hope is that young designers take less than 25 years to learn about native alternatives.

Recently, I moved from Chicago to Atlanta. Not only did my new home come with a nice big yard, but the warmer zone meant a few more months to garden. Immediately upon arriving, I noticed signs saying "Ivy Kills Big Trees" posted randomly throughout neighborhoods. My new backyard was covered in it, and I knew removal was first and foremost. After repeated mowing, the ivy was 99% gone. My backyard became a relatively empty canvas aside from mature native trees, red buds and a few invasive shrubs. Living in the "city in the forest" meant rain, making erosion a big problem almost year-round. So, I built a retaining wall from reclaimed granite, added a rain garden and French drains, and began my new installation.

The front yard was professionally landscaped in the 80s and was overdue for a facelift. English ivy (*Hedera helix),* liriope (*Liriope muscari*) and a million evergreen azaleas *(Rhododendron*) rested under the shade of mature loblolly pines (*Pinus taeda*) and a struggling southern magnolia (*Magnolia grandiflora*). The lawn was mostly weeds.

I began relocating the azaleas and moved a few to the hill in the back. For Mother's Day, I asked my husband to take me to my first native nursery. Five different species of ferns made it home with me, along with swamp milkweed (*Asclepias incarnata*) and, unbeknownst to me, a volunteer jewelweed (*Impatiens capensis*), a native understory annual that vigorously reseeds. My yard should have a couple hundred this summer and I'm looking forward to it.

A small area in the back allocated to lawn has been challenging, as a



Above, from left: Trilliums are about to blossom in Nicksic's front yard; Ivy climbs a tree, and it can kill trees too, if not controlled or eradicated; Suzy Nicksic works in her garden. As a recent transplant to Atlanta, she is enjoying the longer growing season.

part of it gets morning sun, a part gets blazing afternoon sun, and another gets no sun at all. I found a native sedge that can take both sun and shade, and wet or dry soil. The seeds were sown last spring and have been spreading slowly. Sedges are my new obsession due to their versatility; they have now replaced ornamental grasses in my landscape designs.

Since joining the Wild Ones Georgia Piedmont Chapter, my views of natives have refocused on plants that thrive in the moist dappled shade of the forest. Many of the natives I bought, while technically native to the southeast, are not Piedmont natives and many didn't fare well. Now alumroot or coral bells (*Heuchera*) and green and gold (*Chrysogonum virginianum*) have found a happy home on the shady side of my hill. The foamflower (*Tiarella cordifolia*), which took a while to root, has finally bloomed. And, to my surprise, removing the invasive and nonnative plants made room for volunteers like crossvine (*Bignonia capreolata*), passionflower (*Passiflora incarnata*), blue-eyed grass (*Sisyinchium angustifolium*) and grape fern (*Sceptridium* spp.). This year, my list is Piedmont specific, making my purchases more deliberate.

In the front, the azaleas were first moved and then thrown away. In lieu of monoculture grass, I spread the seeds of five different native grasses. If I lived on a prairie, this might have worked. Instead, I have pine straw and leaves littering my yard, mimicking the forest floor, the definition of low maintenance. With my new laser focus, I'm seeing more success as Piedmont azaleas (*Rhododendron canescens*) , hearts-a-bustin' (*Euonymus americanus)*, bigleaf magnolia (*Magnolia macrophylla*), parsley hawthorn (*Crataegus marshallii*), beautyberry (*Callicarpa americana*) and sweetspire (*Itea virginica*) thrive in the understory gaps. I added American holly (*Ilex opaca*), sparkleberry (*Vaccinium arboretum*), Christmas fern (*Polystichum acrostichoides*) and red cedar (*Juniperus virginiana)* from a few rescue events last fall. And on our chapter's wildflower walk this summer I witnessed new ground covers and perennials in the woodland garden and couldn't leave the nursery without picking a few up.

My friend, a long-time gardener, often says she's "ungardening" today. With 25 years of design experience under my belt, I find this comforting as I've "ungardened" almost as much as I've gardened in my new yard. Discovering and experimenting with natives is making my yard look better, attracting a lot more wildlife and giving me more confidence in my landscape designs. Restoring yards is now my goal.

Suzy Nicksic is a member of the Wild Ones Georgia Piedmont Chapter. Her mother's love of roses influenced her enthusiasm for landscaping. Although working as a graphic designer at the time, flowers were a passion that she couldn't resist. So she started a landscaping company even though her knowledge was limited. After some hard lessons, she moved to Chicago and began Organic Garden Co. that focused on maintaining gardens naturally and treating the soil organically. Now, after five years of living in Atlanta, experimenting in her new garden and helping to restore forests, her company, Origin Native Gardens, focuses on updating existing gardens with native Piedmont plants.

Wild Ones announces 10 new plans in Native Garden Designs Program

By Katie Huebner

Wild Ones is proud to announce the release of 10 new, free native garden designs for the ecoregions of Columbia River Basin, Grand Rapids, Greensboro, Lafayette, Las Cruces, Philadelphia, Portland, Princeton, Tucson and Washington, DC. The designs were created with the premise that using native plants in landscaping can be beautiful, beneficial and achievable for people of all skill levels and budgets.

The designs can be viewed and downloaded from Wild Ones' website: nativegardendesigns.wildones.org.

Native plant communities do critical work supporting pollinators, providing food and habitat for wildlife, reducing erosion, mitigating flooding, sequestering carbon, conserving and purifying water, repairing soil and enhancing the mental, emotional and physical well-being of people of all ages.

Wild Ones Executive Director Jen Ainsworth said: "It's crucial that we re-examine our approach to stewarding the spaces we own (our yards), as well as the public spaces in our communities. We need to adopt landscaping methods that are sustainable and promote the health and wellbeing of all forms of life. We hope our native garden plans inspire, encourage and motivate individuals throughout the United States to make this important shift in their approach to landscaping. Nature is depending on the participation of all of us."

The 10 new designs are a part of a larger initiative, Wild Ones Native Garden Designs Program, to create free, beautiful, nature friendly, native garden plans in a variety of ecoregions across the United States. The program, supported by a grant from the Stanley Smith Horticultural Trust, also provides native garden designs for the ecoregions of Boston, Chattanooga, Chicago, Denver/Front Range, Milwaukee, Minneapolis, St. Louis, Tallahassee and Toledo.

The designs incorporate a variety of region-specific native plants that provide interest throughout the growing season and allow people to take an incremental approach in implementation, adding new areas and native plant species as time and funds permit. The designs and accompanying plant lists can be conveniently downloaded and printed, making it easier to find plants at a local nursery.

The nativegardendesigns.wildones.org website also features a growing list of nationwide nurseries that are great sources for obtaining native plants.

Stay tuned to the Member e-Newsletter and our social media channels as Wild Ones introduces discussions with each of the designers through our Wild Ones Native Garden Design Video Series.

Please support our business members who support our organization

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https://www.possibilityplace.com

Purple Violet Shop
anita@purplevioletshop.com
https://purplevioletshop.com

Spirited Gardener, Inc.
spiritedgardener@gmail.com
https://spiritedgardener.com

The Growing Place
grow@thegrowingplace.com
https://www.thegrowingplace.com

Twig Landscape Design
mk@twiglandscapes.com
https://twiglandscapes.com

INDIANA
Indigo Gardens & Design
indigognd@gmail.com
https://www.indigogardensanddesign.com

New Image Gardening LLC
Kkelling@gmail.com

KENTUCKY
Fields to Forest
annwhitney_garner@yahoo.com

MAINE
Mainely Gallery & Studio
MainelyGallery@gmail.com
https://www.mainelygallery.com

MARYLAND
Native By Design
laurenhubbard100@gmail.com
https://www.facebook.com/native-by-design-llc-2113417288925283

Wildflower Native Plant Nursery
mariana@wildflowernativeplants.com
https://www.wildflowernative-plants.com

MASSACHUSETTS
Tish Landscape Design
tish@tishlandscape.com
https://tishlandscape.com

PLEASE SUPPORT OUR BUSINESS MEMBERS WHO SUPPORT OUR ORGANIZATION

MICHIGAN
Bee Friendly Nursery
naturebynoelle@yahoo.com

Bendy Stem Farm
bendystemfarm@gmail.com

CleanAir LawnCare
cleanairlawncare.kazoo@gmail.com

Designs By Nature - Upper Peninsula Native Plants, LLC
designsbynatureup@up.net
https://www.upnativeplants.com

Four Season Nursery
FSN7557@AOL.COM
https://www.fourseasonnurserytc.com

Michigan Wildflower Farm
michiganwildflowerfarm@gmail.com
https://michiganwildflowerfarm.com

Native Connections
jared@nativeconnections.net
https://nativeconnections.net

WILDTYPE Native Plant Nursery, Ltd
wildtypeplants@gmail.com
https://www.wildtypeplants.com

MINNESOTA
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Morning Sky Greenery
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Prairie Moon Nursery
carmen@prairiemoon.com
https://www.prairiemoon.com

Shooting Star Native Seeds
info@shootingstarnativeseed.com
https://www.shootingstarnative-seed.com

Shoreview Natives
Shoreviewnatives@gmail.com
https://www.shoreviewnatives.com

Trillium Garden Design and Maintenance
campsite6@gmail.com

MISSOURI
Missouri Wildflowers Nursery LLC
mowldflrs@socket.net
https://mowildflowers-net.3dcart-stores.com

St. Louis Native Plants LLC
svdr1@sbcglobal.net
https://stlouisnativeplants.com

NEW JERSEY
Bountiful Gardens
lisa@bountifulgardens.com
https://bountifulgardens.com

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https://www.asterplans.com

NEW YORK
Amanda's Native Garden LLC
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Native Roots Ecosystems
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https://ohionativeconceptsllc.com

Ohio Native Growers
leavesforwildlife@yahoo.com
https://ohionativegrowers.org

Ohio Native Habitat Nursery
jmckenney@ohio-nhn.com
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Plant It Native LLC
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https://www.plantitnativeohio.com

Primary Nature Horticulture LLC
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Scioto Gardens Nursery
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Wild Hare Prairie Native Nursery
christyelena@att.net
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PENNSYLVANIA
Allegheny Financial Group
Browntl5@gmail.com
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Gambonew@aol.com
https://bgtreecare.com

Ernst Conservation Seeds
ayshea@ernstseed.com
https://www.ernstseed.com

McMullen House Bed & Breakfast LLC
robcoxe@mcmullenhouse.com
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https://shop.mcmullenhouse.com

PLEASE SUPPORT OUR BUSINESS MEMBERS WHO SUPPORT OUR ORGANIZATION

Redbud Native Plant Nursery
info@redbudnative.com
https://redbudnative.com

Spruce Hollow LLC
sprucehollow19119@gmail.com
https://sprucehollownaturalde-signs.com

The Weed Lady PGH
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This Green City
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https://thisgreencitypgh.com

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Bleeding Heart Landscaping
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GroWild Inc
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The Rewilding Collective
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Thomas Nursery Inc.
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Naturaltexaslawn@gmail.com
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woodbrk@harbornet.com
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WISCONSIN
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DEL - Diverse Environmental Landscapes
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Johnson's Nursery Inc
rdummert@jniplants.com
https://www.jniplants.com

Milwaukee Montessori School
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https://www.milwaukee-montes-sori.org

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Northern Native Plantscapes
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Prairie Nursery
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https://www.prairienursery.com

Quercus Land Stewardship
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https://quercuslandstewardship.com

Rochester Deli, Inc.
greatfood@rochesterdeli.com
http://rochesterdeli.com/

Villani Landshapers
lisa@villani-landshapers.com
https://www.villani-landshapers.com/

Mark Your Calendar

MARCH

March 12
National Plant a Flower Day

March 14
National Learn about Butterflies Day
You probably already know about monarchs, but with more than 20,000 types of butterflies worldwide, it's likely that there are a few species you could learn about.

March 23
Annual Member Meeting, 6-7 p.m. Central Time
Join us for this virtual meeting to meet the Wild Ones National Board of Directors and staff and learn how Wild Ones is growing. This is a great opportunity to learn about the organization. We encourage you to attend. Meeting Link: https://members.wildones.org/annual-member-meeting/

APRIL
National Garden Month

April 5
National Walking Day
Enjoy the outdoors whether in your own garden, or at a local park or conservancy.

April 22
Earth Day
It's a great time to protect lakes and streams by planning (and planting) a rain garden!

April 26
National Audubon Day
This day is definitely for the birds.

April 28
Arbor Day

MAY
Lyme Disease Awareness Month

National Photography Month

American Wetlands Month

May 1-7
National Wildflower Week
Lady Bird Johnson Wildflower Center

May 3
National Garden Meditation Day

CHAPTER ANNIVERSARIES

Includes anniversaries between November-January

Chapter	Years
Green Bay, Wisconsin	31
Fox Valley Area, Wisconsin	28
Lake-To-Prairie, Illinois	26
Gibson Woods, Indiana	23
Kalamazoo Area, Michigan	23
Mid-Missouri, Missouri	22
St. Croix Oak Savanna, Minnesota	19
Greater Kane County, Illinois	13
North Oakland, Michigan	13
Illinois Prairie, Illinois	12
Prairie Edge, Minnesota	9
Big River Big Woods, Minnesota	7
Southeastern Pennsylvania, Pennsylvania	2
Western North Carolina, North Carolina	1
Youngstown Area, Ohio	1

LIFETIME MEMBERS

(November-January)

Ben Bartelt, Charlotte Piedmont

Catherine and Todd McKenzie, Fox Valley Area

Sandra Nussbaum, Twin Cities

IN MEMORIAM

Carolyn Harstad, Twin Cities

Ruth Kelley, PAL

Ben Kollock, Central Wisconsin

Janet Lasley, Dayton Area

Steve Symes, Rock River Valley

Janet Lasley, co-founder of the Wild Ones Dayton Area Chapter, died on Jan. 26.

A retired teacher, naturalist and passionate lover of native plants, Lasley, 72, served as the Dayton Area Chapter's president for its first four years.

Janet was a certified naturalist who spent hundreds of hours removing honeysuckle, hunting for wild edibles and hiking through the woods. She was also an artist, drawing the design for the Dayton Area Chapter's T-shirt that members still wear today.

In the chapter's newsletter, it was written: "We will remember her for her unfathomable love for fleabane, her losing battles with technology, and her ready hugs as if we'd known each other forever. A lover of all plants edible (and some not), anyone who hiked with her had to be prepared as she would pull a plant out of the ground and insist that we taste it."

NEW AFFILIATE MEMBERS

Includes affiliate members who joined between November-January

Brunette Gardens
https://www.brunettegardens.com
Lisa Brunette
St. Louis

Candice Jacobsen
Lake-To-Prairie

Dave Peterson
Greater Kane County

Dear Avant Gardener
https://www.dearavantgardener.com
Heather Evans
Partner At Large

Ellen Peters
Root River Area

Fox Valley Technical College
https://www.fvtc.edu
Chuck Stangel
Fox Valley Area

Kay Whitt
SoKY

Laurie Rosenberg
Kalamazoo Area

McCallie School
https://www.mccallie.org
Chris Greenwood
Tennessee Valley

Nicole Snyder
St. Charles Area

Sarah ONeill
Partner At Large

Scio Township Parks, Preserves, and Pathways Department
https://www.sciotownship.org/community/parks-preserves-and-pathways
Anna Cone
Ann Arbor

RENEWING AFFILIATE MEMBERS

Includes affiliate members who renewed between November-January

Alfred University
https://www.alfred.edu/academics/faculty-staff/profiles/ellefson-jean-m.cfm
Jean Ellefson
Habitat Gardening in Central New York

Ann Cicarella
Greater Cleveland

Boone County Conservation District
https://www.bccdil.org
Dan Kane
Rock River Valley

Buckthorn Project Inc.
https://buckthornproject.org
Steven Eisner
Menomonee River Area

Charlie Stevens
Greater Cincinnati

Chippewa Nature Center
https://www.chippewanaturecenter.org
Corrine Bloomfield
Mid-Mitten

City of Muscatine
https://muscatineiowa.gov
Jon Koch
Quad Cities

Daemen College
https://www.daemen.edu
Brenda Young
Partner At Large

Don Kleinhenz
Columbus

Donna McElrath
Tennessee Valley

Door County Master Gardeners Association
https://dcmga.org
Laura Maloney
Door Peninsula

Gail Simmons
Kalamazoo Area

Heckrodt Wetland Reserve
https://www.heckrodtnaturecenter.org
Tracey Koenig
Fox Valley Area

Heritage Flower Farm
https://www.heritageflowerfarm.com
Betty Adelman
Kettle Moraine

Julie Ann Wang
North Oakland

Liberty Hyde Bailey Museum
https://www.libertyhydebailey.org
Executive Director, Liberty Hyde Bailey Museum
Kalamazoo Area

Linda Bulla
Gibson Woods

Lisa Fleckenstein
Western Pennsylvania Area

Midland Conservation District
https://www.midlandcd.org
Karen Thurlow
Mid-Mitten

Nahant Marsh Education Center
Amy Loving
Quad Cities

Scott County Extension Office
https://www.extension.iastate.edu/scott
Jolinda Eggers
Quad Cities

The Dawes Arboretum Natural Resource Department
https://dawesarb.org
Shana Byrd
Columbus

University of Arkansas Fay Jones School of Architecture
https://fayjones.uark.edu
Scott Biehle
Ozark