A voice for the natural landscaping movement. Working toward the next four decades of growing native plants and restoring natural landscapes.
Have you ever heard of something called forest bathing? I just heard of this concept, called Shinrin-yoku in Japanese, which means “taking in the forest atmosphere.” The Japanese developed it 30 years ago as a cornerstone of preventive health care and healing. The idea is that people get calming, rejuvenating and restorative benefits simply by visiting a natural area and walking in a relaxed way.

After reading about Shinrin-yoku, I developed a new theory. Now, it could be attributable to too many hours of weeding in the hot sun, but I did the math and am here to proclaim that being a member of Wild Ones extends the average person’s life by 5.82 years. Sounds fantastical? Well, check my math…

**Being in the outdoors improves physical well-being: +2.81 years.** Think of the time you spend tending your native plantings. Whether you know it or not, you are lowering your blood pressure, your heart rate and your stress levels. (Well mostly. For those like me who are not winning the battle with the invasive oxeye daisy, I will admit my stress does go up a tad. But a quick visit to, or even just the memory of the delicious fragrance of, my Harison’s yellow roses is the perfect antidote.)

You are also strengthening your immunity. Since the human immune system works best when it faces regular challenges, when you are in the landscape, you are exposed to all sorts of pathogens, giving your immune system “practice.” So, stronger immunity accounts for more years of extended life, right?

**There is evidence that being outside in nature improves short-term memory: +1.26 years.** I know we all have that problem – Where did I put the new pruners? Did I already plant those seeds, or not? One university study showed that simply walking through a garden improved memory test scores by 20%. (That percentage was for college students, so when you adjust for those of us whose heads are full of decades of information, I think a 14.37% improvement is more reasonable.) I have to think that a related benefit is pushing back mental decline, which surely is worth another 1.26 years.

**You are improving the world: +1.75 years.** As we all well know, native plantings reduce water use, store carbon (especially in trees and perennials), and provide habitat for things tiny and large. As Wild Ones gardeners, we also help reduce the United States’ 40-million acres of lawn and the resultant pollution, pesticides, herbicides and wasted water. (My favorite headline on this topic: “Lawns are a soul-crushing timesuck and most of us would be better off without them” from the *Chicago Tribune*, August 2015.)

Consider that as a Wild One, you are not only enjoying the good feelings that come from helping the world’s environment, but you also know that you are doing your part to leave a better world for the next generations. In turn for that satisfaction, I think Wild Ones members get more years of life added.

Well, that’s my theory and I stand behind it.

P.S. If you recall one of my very first columns, I said I was determined to learn how to grow arrowleaf balsamroot (*Balsamorhiza sagittata*), a stunning yellow flower with fuzzy arrow-shaped leaves that are breathtaking in swaths. I report to you that I have not been successful. Yet. However, I did learn a new way to plant it from a woman at a native plant walk last summer. She told me about her large stand of balsamroot that grew simply because she “threw out” a bouquet of flowers into her back yard. Several years later, a stand of them! (Yes, at this point, I will try anything!)
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Sue Leahy admits she knew nothing about native plants, and says she wasn’t even much of a gardener in 2007.

But 12 years ago, she decided to add a butterfly garden to her yard. So she went to local nurseries and purchased plants that noted on their labels that they were good for butterflies. Next, she enlisted the help of a friend, who just happened to be very much into natives.

“She brought over some of her natives,” Leahy recalls. “We planted the bed, went to lunch, and when we came back 30 minutes later, the bed was covered in butterflies! Talk about validation that I was trying to do the right thing.”

Leahy says that as the summer wore on, the plants she had purchased died out while the natives her friend gave her were going strong. “I started asking questions and she brought me some more, including my first cardinal flower (Lobelia cardinalis),” Leahy says. “When it bloomed and I saw the hummer on it, I was hooked for good. I have never looked back.”

Today, Leahy’s native area includes two butterfly gardens, two rain gardens, two mixed shrub beds and various other plantings. Except for her small house, patio and two-car driveway, her 55-by-225 yard is heavily planted in natives, including trees, shrubs, groundcovers and flowers. Naturally, it didn’t happen overnight. “My husband, Andy, and I did all of it ourselves,” Leahy says. “As we learned more about natives, each year we decided on a new project to complete.”

Andy has built stone walls, removed turf, put in edging and helped with bed preparation and planting. “After the first butterfly garden, we put in the first rain garden,” she
About the Yard

- Sue Leahy started planting native plants in 2007 because she wanted to create a butterfly garden. Today her native area includes two butterfly gardens, two rain gardens, two mixed shrub beds and various other plantings.
- They installed a 9-by-11-pond with 65-foot stream leading into it in 2007, but at that time, didn't incorporate native plants. However, when they replaced a large part of their nonnatives with natives in 2013, they saw a surge in native wildlife. Today, toads visit their stream and pond in the spring and early summer to mate and lay eggs so they also get lots of tadpoles.
- At last count, the Leahy property included over 200 native species in their 55-by-225 yard, located in Brentwood, Missouri, a suburb of St. Louis.
- Those natives bring in a variety of visitors to their yard, including butterflies, such as monarchs, black and tiger swallowtails, red admirals, painted ladies, buckeyes and others; lots of bees of all sizes; other insects such as the blue dragonfly; and birds, such as blue jays, cardinals, cedar waxwings, chickadees, goldfinches, red-bellied woodpeckers and others. They also see red-tailed and cooper’s hawks regularly, and have had some one-time visits from a pair of mallard ducks and a great blue heron that eyed the fish in their pond. Plus, they find box turtle hatchlings regularly.

recalls. “We already had two downspouts draining out through a pipe into the yard and decided to capture the runoff with a rain garden. We also had a drainage problem from a neighbor, which resulted in the second large rain garden. We got a grant from the local water/sewer district to pay for part of that one.”

While her gardens may be complete, Leahy says she isn’t done working on them. “I am constantly editing my perennial beds, relocating plants that didn’t work and putting in different ones I want to try,” she says. “I used to be afraid to move plants
once they were planted; now I move them around all the time.”

Not surprisingly, one of her favorite plants is the cardinal flower because it attracts hummingbirds. Another favorite is the New England aster (Symphyotrichum novae-angliae). “When my New England aster blooms, it is so covered in bees and butterflies that it looks like it’s quivering,” she says. “Something is blooming in my yard from February through November.”

With more than 200 native plants, the Leahy yard is filled with diversity. “I have very few nonnatives left as they have been periodically replaced as we went along,” she says. That diversity means her yard is filled with butterflies, bees, birds, and much more.

Most of the natives in her yard are tagged with laser-engraved aluminum weatherproof markers, courtesy of her husband. Those signs came about after Andy kept asking her the names of plants and re-marked that he was a visual learner. When they got a new laser engraver at the machine shop where he works, and he needed to practice, he made the nameplates for their plants with both common and scientific names. Now about 85% of their plants are clearly identified. “You can take yourself on a self-guided tour of my yard,” she says.

A member of the St. Louis chapter of the Wild Ones, Leahy has been on the board in charge of publicity and marketing for three years. “I’ve really worked to give Wild Ones a community presence,” she says. “I thought if everyone knows about Audubon Society, they should also know about Wild Ones since they are both national organizations. Wild Ones should be a household word…”

For those new to native landscaping, she suggests: “Don’t do it all at once, especially if you’re working on a blank slate. Pick a project or garden you want to make native and start with that. Start small or it will get overwhelming.”

Her other advice would be not to till up the soil when creating a new garden. She learned that the hard way. One fall, they tilled up the soil to plant a row of hedges. By
In 2018, she heard Tallamy speak again. “And although I already have a yard full of natives, we decided to plant two more trees — another oak in the back and a cherry in the front, two of his top picks.”

Leahy says they’ve had some cool experiences since going native, including a sighting of their first Luna moth and seeing a swarm of dragonflies one evening. She has also started raising monarchs.

“I started raising monarchs because I wanted to see the whole process, from egg to butterfly, and I knew they had a low survival rate in the wild and I thought I could improve that a little,” she says. Today, almost 100% of the monarchs she raises survive.

Leahy isn’t just working in her own yard these days. After retirement, she started working part-time at a garden center, and now she’s in charge of the native plant section and has greatly expanded its collection. She’s also created a “pollinator palace” with signs about where people can get more information on natives, including Audubon, Xerces, Monarch Watch and Wild Ones, of course.

Last year Andy gave her a greenhouse for Christmas, and now she’s also experimenting with propagating plants. “It’s a learning process,” she says.

In fact, the last 12 years have been a learning process, but it’s been worth all the effort. “My neighbor across the street paid me a great compliment when he was comparing my yard to the neighbor’s,” she recalls. “He said they both looked nice, but mine was alive. I said, ‘Thank you; that’s what I was going for!’”
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HAWAII
Researchers using a drone discovered a flower species in a remote area of Kauai’s Kalalau Valley thought to be extinct, WFMZ-TV reported.

According to the National Tropical Botanical Garden, *Hibiscadelphus woodii* was discovered on a vertical cliff face. The plant was last seen alive in 2009.

The plant grows as a shrub or small tree and produces bright yellow flowers, which turn purple or maroon as it ages. The species was first discovered in 1991 and named in 1995.

MICHIGAN
Of the 12 species of native bumblebees (*Bombus spp.*) in Michigan, six are in significant decline.

According to Michigan Radio, Thomas Wood, a post-doctoral research associate at Michigan State University, recently completed a survey of bumblebees in the state.

“It’s a loss of flowers,” he said. “Many of the bumblebees that are stable fly mainly earlier in the season and so they’re more on trees and shrubs. And then, many of the bumblebees that have declined fly later in the season and they’re more in prairies and they’re more on herbs and forbs.”

That’s because prairies in Michigan have been disappearing at the same time that neonicotinoids have become increasingly popular to treat corn and other crops like soybeans and sugar beets, he said. Another study found that bumblebees’ flight distance is impaired because of the pesticide.

Michigan State University is offering a new online course called Pollinator Champions. Created by the Michigan Pollinator Initiative, the course covers four major subjects:

- **Why do we care about pollinators?** Teaches how pollination works and the important role pollinators play in agriculture and nature.
- **Who are our pollinators?** Provides an overview of the huge diversity of pollinators in our world and some of their life histories.
- **What is happening to pollinators?** Explains pollinator decline and the factors that drive it.
- **What can we do for pollinators?** Shows ways we can all help pollinators thrive.

Anyone with an internet connection can enroll in the self-paced course. Everyone is welcome to learn about pollinators for free, but for a small fee you can also become an official Pollinator Champion, which includes a certificate and materials to help you give presentations about pollinators to local organizations.

Register for the course at [https://pollinators.msu.edu/programs/pollinator-champions/register-for-pollinator-champions/](https://pollinators.msu.edu/programs/pollinator-champions/register-for-pollinator-champions/).

UTAH
Utah started a phragmites eradication program in 2006, focusing on eliminating the invasive reed species from Utah’s two largest lakes, the Great Salt Lake and Utah Lake.

But they soon discovered that phragmites aren’t easy to eliminate since they spread both by abundant seed and creeping stems, stolons and by rhizomes from their roots. However, new techniques are giving hope that they can finally get the population under control.

Starting this summer, cows will be fenced into acres of phragmites growth to graze it. While it won’t completely eradicate the rapidly spreading species, it will allow for native plants to come back in its place. Phragmites are also full of protein, and good for the cows, The Standard-Examiner reported.

In addition, in fall they will treat large areas of the invasive reed by helicopter. Then, after the first hard freeze, Utah County crews will come in to smash the treated plants with new equipment called “Marsh Masters.” That should help phragmites decompose more quickly once the lake levels rise again in the spring.

VIRGINIA
In April, Gov. Ralph Northam officially launched ConserveVirginia, Virginia’s first in the nation, data-driven, statewide, land conservation strategy that identifies high value lands and conservation sites across the commonwealth of Virginia.

According to NBC 29, ConserveVirginia’s living “smart map” is the synthesis of 19 mapped data inputs, divided into six categories, each representing a different overarching conservation value. The categories are Agriculture & Forestry; Natural Habitat & Ecosystem Diversity; Floodplains & Flooding Resilience; Cultural & Historic Preservation; Scenic Preservation; and Protected Landscapes Resilience. The categories contain more than 5 million acres of agricultural and forest lands.

“It is time to take a more scientific, data-driven, and accountable approach to land conservation in our commonwealth—ConserveVirginia is about using the best information we have available to identify our true conservation needs and focus on protecting our limited resources,” Northam said.
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Q: What’s the most interesting thing about you that we wouldn’t learn from your resume alone? In other words, what is one thing people would be surprised to know about you?

A: When I started out, I was petrified to talk in front of people. As a matter of fact, I didn’t consider teaching as a career at first, and I actually went to dental school because I was dodging what scared me the most. It took me years to get over my fear of public speaking, but I’m proof that if I can get over it, anyone can.

Q: What most inspires you in your work?

A: The results inspire me. I love the natural world and always have. To see it disappearing has always been extremely troubling to me. What has kept me going is the realization that we don’t have to tolerate that, and that we can reduce and restore the losses. Passing that information on to other people and seeing other people getting more involved and making changes to their own landscapes is proof that what we are doing is working.

Q: What advice would you give others?

A: Create a career out of what you like to do. Too many people are pressured into careers by their parents or reality, and pursue something they don’t enjoy, and that doesn’t get you going in the morning. Try to find a career that can support you in an area you enjoy because that means you will be good at it.

Q: What would you do if you just found out you had won $10 million in the lottery?

A: That’s an easy one. I would buy land because at least while I’m on this planet, I would be able to direct what happens to that land. Plus, with $10 million I’d have the resources to restore land that is currently messed up. In fact, I do buy lottery tickets for exactly that reason.

Q: What projects you are currently working on? What comes next for you?

A: I want to scale up what we’ve learned and take that message nationwide. For example, it’s not just that we need to plant natives; we need to plant the right natives. We believe that just 5% of our native plants are producing 75% of the insect food that drives food webs. We call these plants keystone plants because without them food webs collapse. We need to verify that is happening in the field and then make those plants the structural background of every landscape. We also need to do more research to discover what are the best plants for specialist pollinators because those plants will also work for generalist pollinators.

Q: If you were leading Wild Ones, what things would you have the organization focus on?

A: I would concentrate on expanding membership. Wild Ones is already leading the cultural change, but I would want to expand it beyond the people who inherently know this is the right thing to do. I would love to see Wild Ones expand its reach and find ways to get that message out faster to people who can be persuaded to try native landscaping. Once native landscaping becomes commonplace, people will follow along just because their friends or neighbors are doing it. But we’re not there yet.
Artificial light at night poses new threat for pollination

By Sarah E. Benish

The number of bees, butterflies and other pollinators is declining worldwide due to diseases, pathogens, invasive species, climate change and loss of habitat.

But recently, the rise of artificial light at night, or light pollution, has been proposed to be a new threat to ecosystems. For the first time, researchers at the University of Bern, Switzerland, have shown that light pollution at night disrupts nocturnal pollinators and damages the reproductive success of plants.

Using night-vision goggles, scientists carefully monitored the insect and plant interactions in meadows both illuminated by LED street lamps and naturally dark. They found the number of flower visits with experimentally set up lights were 62% lower than in the unlit areas. Additionally, the species of flower visitors was 29% fewer in illuminated sites. The researchers found that artificial light changes the behavior of nocturnal flower visitors by the attraction to the artificial light source or to a reaction of flower visitors, but needs further study. The findings were published in August 2017 in the journal *Nature*.

Light pollution at night is estimated to be increasing globally at a rate of 6% per year. Artificial light has been shown to affect both the physiology and behavior of other organisms and have negative consequences on the communities of species and population dynamics. The researchers deduced that the species visiting the flowers with the light treatment were not more selective than those visiting the...
Artificial light has been shown to affect both the physiology and behavior of other organisms and have negative consequences on the communities of species and population dynamics.

flowers in the dark sites. Plants are highly dependent upon other plant and animal species for successful reproduction.

The researchers concluded that pollination provided by nocturnal species is disrupted in the vicinity of streetlamps, leading to a reduced reproductive output of the plant that cannot be compensated for by pollinators during the day. In order to assess how light pollution affects total pollination, scientists studied the reproductive output of 100 experimental plants of Cirsium oleraceum, a type of cabbage thistle, at five dark and five illuminated sites. One plant at each site was bagged to deny pollinators entry to the flower. The scientists found a lower number of developed fruits exposed to visitors in illuminated sites compared to dark sites and a comparable number of fruits in the bagged self-pollinated plants between the two treatments.

Herbivores infested some flower heads (4%), which negatively impacted the number of developed fruits. However, the effect of herbivores on the number of developed fruits between the illuminated and dark sites did not differ. Furthermore, no difference was detected in the percentage of developed fruits per flower head in both groups.

The study also showed cascading effects of artificial light on daytime pollinators, which are unable to make up for the loss of pollination at night. If light pollution drives away nighttime pollinators, resulting in fewer fruit and plants, the effect could ripple through to daytime pollinators who may rely on the fruit for food.

Animal-assisted pollination is crucial for functional natural ecosystems and food security. In 2009 in the United States, the estimated economic value of pollination was $361 billion.

While a lot of attention has been focused on the decline of bee populations around the world and the effect on pollination, this study is the first to report the effect of rapidly spreading light pollution on nocturnal pollinators. The authors are the first to show how plant-pollinator interactions are being threatened by a seemingly small impact, in the face of climate change.

Sarah E. Benish is a Ph.D. candidate in Atmospheric and Oceanic Science at the University of Maryland. Her dissertation will assess observations of trace gases including CFCs, ozone photochemistry and aerosol properties during an aircraft cam-

How can you make a difference?

Inspect the lighting around your home. Poor lighting not only creates glare and light pollution but also wastes enormous amounts of energy and money. Take a few moments to inspect your property for inefficient, poorly installed and unnecessary outdoor lighting.

Use lights that shine down, not up. Use fully shielded, dark-sky friendly fixtures. The International Dark-Sky Association has more information on lighting basics and a directory of Dark Sky Friendly-approved lighting products.

Only use lights when needed. Install timers and dimmer switches, and turn off lights when not in use.

Use the right amount of light. Too much light is wasteful and impairs vision.

Use long-wavelength lights with a red or yellow tint to minimize negative health effects.

Talk to your friends, neighbors and family, and spread the word online about the threats of light at night.

Source: International Dark-Sky Association
Northeast Pollinator Plants

northeastpollinator.com
University of Toledo students had witnessed the good in restoring both natural and human assets through service learning opportunities at local nature preserves and native plant installations in Northwest Ohio. They wanted to bring this message into view on campus for those who were missing the opportunity to interact with these projects.

As a result, Greening UT through Service Learning (GUTS) became a student-led initiative to replace select areas of turf grass across campus with native plantings. GUTS began as a senior capstone project led by undergraduate Jeanna Meisner in the Department of Environmental Sciences. She was then joined by graduate student Jessica Collier and advised by Jon Bossenbroek and myself as the project moved forward.

GUTS was made possible with funding provided by the Student Green Fund, which is generated by a $5 optional student fee each semester. The fund finances student-led projects focused on making the University of Toledo more sustainable. Approval of the GUTS proposal marked the first time SGF funded a paid position for students on campus. This is a remarkable new direction for how the fund would be allocated. To date, SGF has funded $38,000 worth of GUTS proposals, which is not small change!

Meisner began inventorying existing installations and determined potential sites for installations. We were also able to purchase the first round of supplies for our projects. Linnea Vicari, the 2017 UT recipient of the Oak Openings Region Chapter Wild Ones Student Award, and Hannah Blice joined shortly thereafter and began to work with Department of Environmental Sciences volunteers. Their first tasks were to clean, stratify and germinate seed that had come from my home, along with native seed donated by MetroparksToledo. We were also able to obtain greenhouse space in the Plant Science Center and students began...
documenting the lessons we learned as we went along.

Once we began to understand processes and expectations, the GUTS project team connected with students in DES environmental courses to host their own service learning events. By participating in an event, students gained experience relevant to their program, while providing GUTS an on-going stream of volunteers. Service-learning tasks included collecting native seeds from native gardens across campus, cleaning those seeds, “bumping up” young plants, and planting inside garden plots.

Each semester, the service learners discover that native prairie plants work with the ecosystem, rather than fight against it. They learn these plants have root systems that can store as much carbon as a forest while balancing water and nutrient cycles, removing the need for fertilization and watering. They learn these plant species also feed the ecosystem through food web interactions with insects and birds. They learn that ultimately, these installations reduce the costs of maintaining a landscape, and we hope to demonstrate to them that this different aesthetic is acceptable, if not beautiful and inspirational.

But this isn’t just about how we shape the student volunteers or the landscape. The deepest impact that we have is on the GUTS employees themselves. Each student employee has been forced outside their comfort zone by leading their peers in these
They are suddenly “the adult in charge” and the effect on their confidence has been exciting to watch.

Perhaps most so for Bernadette Barror, the 2018 UT recipient of the Wild Ones Student Award. Barror loves greenhouse husbandry, the quiet sanctuary of nurturing plants and cleaning seeds, but was unsure of herself in a leadership role. She felt comfortable enough with seed cleaning that she was ready to take on a group, and then quickly discovered she only needed to know a little more than her participants to be seen as their leader. She learned that it was very easy for her to talk to her peers about why it all was important to her because she was discussing her passion. And she hasn’t stopped since. Barror regularly attends the local Wild Ones chapter programs and is volunteering on their native plant sale in order to earn a second year membership to Wild Ones.

Has the project worked? We are proud to say that in two growing seasons GUTS has grown and planted 20,000 plugs across campus among nine installations, successfully installed a half-acre prairie from seed, convinced the grounds maintenance crew that this is a viable landscape cover, and worked with approximately 300 participants compiling nearly 1,000 hours of service learning time. We needed to add additional personnel to meet service learner demand and fill spaces left by students who are graduating. Most of all, GUTS has created nearby outdoor classrooms with easy access from traditional teaching spaces that have caught the attention of the campus community.

Our flagship 2019 project is a high-profile garden complimenting the Carlson Library renovation. We were able to leverage past SGF investment to get the Library to match the project costs 60/40, where their investment is largely the materials and our buy-in is time and knowledge. Best yet, the project involved an Honors College class (called “Know Your Place,” an exposure to their local county environmental issues) that did the planning, growing, planting and interpretation. Through this experience, the students gained a campus-wide audience with whom they can explain why we should be investing in projects such as this. Over 1 million people per year will walk by this new installation.

Our work was also recognized by the Wild Ones Oak Openings Region Chapter through a Native Landscaping Award in 2018. Outside recognition helps to make the effort real to the students. We are thrilled to have received it from our local chapter and also by National through this article in the Journal. We look forward to the days ahead as we train a new generation of champions for our local natural resources!

Todd Crail, an associate lecturer of environmental sciences at the University of Toledo, is a member of the Oak Opening Region Chapter of Wild Ones.
Book Review:

“Prairie Wildflowers: A Guide to Flowering Plants from the Midwest to the Great Plains,”

FalconGuides, Available in Paperback and Kindle formats. By Don Kurz

By Charlotte Adelman

“Prairie Wildflowers,” the latest of many excellent guides to the flowering plants in America’s heartland, is a valuable reference written to enable the casual wildflower observer to identify 350 native wildflowers and shrubs growing from the Midwest to the Great Plains, plus a selection of nonnative weeds. Its comprehensive selection of plants, its beautiful full-color photographs, and its information, including habitat/range and bloom season, make it a book that Wild Ones’ members will enjoy using.

Organizing a book can be tricky. “Prairie Wildflowers” groups its flowers by color: white, yellow, red and orange, pink and blue and purple. Not a perfect method, notes the author, because some vary in shades of color. However, its organization becomes confusing when the individual plants are listed within each color group. (Fortunately, the book has an excellent index.) A heading above each plant sets out its common name in prominent, large, bold capital letters, but though the plants are listed in alphabetical order, it is not in the order of their common names. “Within each color group, the plants are arranged by their family and then by genus, all in alphabetical order,” (with certain exceptions). The first plant listed in the book (white section) is Water Hemlock (Cicuta maculata), Parsley family (Apiaceae). “Prairie Wildflowers” would be more coherent and useful if the author had retained the format he used in “Illinois Wildflowers” (2004 - Paperback). That book had “chapters by color and then season of bloom” with “the first part of each chapter” containing “spring-blooming wildflowers” and then progressing “through the season with fall-blooming wildflowers towards the end.” In “Illinois Wildflowers,” for instance, water hemlock (May-September) is located in the middle of the white section. But “Prairie Wildflowers” leaves the job of listing the order of bloom of its 350 plants to the reader.

“Selected Further Readings” in “Prairie Wildflowers” lists books in its genre including “Tallgrass Prairie Wildflowers, A Falcon Field Guide,” (1995, 2005, Paperback, by Doug L. Ladd, photos by Frank Oberle, 295 species; 325 photographs). Both prairie wildflower books provide beautiful full color photographs and both group the plants by color. But the flowers in “Tallgrass Prairie Wildflowers” are helpfully arranged, “according to the approximate season they start flowering.” Both prairie wildflower books include maps indicating the “approximate pre-settlement range of the tallgrass prairie.” Also listed for further reading is the excellent “Wildflowers of the Tallgrass Prairie: Upper Midwest” (by Sylvan T. Runkel and Dean M. Roosa, 1989, paperback).

A book available since 1980 is the multi-purpose and charming “The Prairie Garden: Seventy Native Plants You Can Grow in Town or Country,” (by J. Robert Smith with Beatrice S. Smith, illustrator Patricia Mueller, paperback). The author limited the book to “only those plants with which I have had personal experience.” Intended as “an aid to beginners interested in using prairie plants for landscaping small areas and to others wanting to establish or improve large prairie areas,” he hoped it will “be a partial answer to the question he often receives,” asking for “all the information you have on the propagation of prairie plants.” This book’s color photographs can’t compete with the later prairie books, but accompanying each species is a fine line drawing, information on seed collection, propagation, and suggested companion plants. In addition to the section titled “Forbs and Shrubs,” sections deal with grasses, sedges and root systems. Also included is a useful listing of prairie plants by habitat, and an indispensable chart of prairie plants by color and flowering time.

If Kurz and other prairie experts did not share their love and knowledge of the native plants of the prairie ecosystem by writing wonderful books, what would we read? Too many books directed to the prairie and plains states feature covers with daylilies (from China). These books suggest planting oriental and Asiatic lilies, nonnative (some invasive) shrubs like Forsythia, Burning Bush and Butterfly Bush, and vines like the invasive winter creeper and English ivy. These plants are some of those recommended in “Prairie & Plains States Month-by-Month Gardening: What to do Each Month to Have a Beautiful Garden All Year” (Paperback by Cathy Wilinson-Barash). Thanks to Kurz and the others, this is a book we can avoid.

Charlotte Adelman is a life member of Wild Ones and co-author of “The Midwestern Native Garden, Native Alternatives to Nonnative Flowers and Plants, An Illustrated Guide.”

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St. Louis chapter celebrates 20th anniversary with year of activities

Editor’s Note: An anniversary is always a reason to celebrate. Here’s how one chapter celebrated the entire year for its 20th year milestone. Their activities and festivities should give your chapter ideas how you can celebrate an important Wild Ones anniversary.

By Susan Leahy

The St. Louis (Missouri) Chapter of Wild Ones observed its 20th anniversary during 2018 with special events to celebrate the chapter’s growth and achievements. The chapter has achieved tremendous growth over two decades, starting from a small group of seven interested people to almost 200 members today.

To start the year, we created commemorative T-shirts utilizing the monarch graphic; we sold the T-shirts at cost to members.

We invited special speakers for our February and March gatherings, and advertised those programs in our local paper. February’s speaker was Kyle Chesborough, the horticulturist for Bellefontaine Cemetery in St. Louis, who has done a fantastic job with their landscaping, which includes many native trees and shrubs, as well as perennial gardens. The speaker for March was Jo Alwood, who records and teaches about wildlife happenings on her extensive property. You can find many of her recordings on YouTube. Both programs were exceptionally popular with about 80 people in attendance at each.

We offered two door prizes at our monthly gatherings, February through October. The prizes were varied, but included Wild Ones hats, books, soil knives and bird feeders. All door prizes were tagged with a special 20th anniversary sticker.

We continued our regular practice of meeting at members’ homes for garden tours, and supporting our local schools with grants to plant native gardens. To date, we have supported more than 40 school gardens and one municipal garden. Thanks to dedicated volunteers, we also display at numerous events in the St. Louis area throughout the year to help spread the word about Wild Ones and native landscaping.

In November, we wrapped up the year with a catered banquet and seed exchange that was attended by about 75. Our chapter underwrote the cost, although attendees paid a small fee. Since we wanted to be “green,” we paid extra for non-disposable plates and silverware, thus eliminating a tremendous amount of waste. We purchased a sheet cake with the Wild Ones chapter logo. In addition, magnets with our 20th anniversary design were given to everyone, along with bandannas with our logo, that doubled as napkins for the event. Door prizes included gift certificates to area nurseries, books, notecards, jewelry, wine, a bird house and bubbler fountain.

Scott Woodbury, the horticulturist at Shaw Nature Reserve and founder of our chapter, spoke about the changes he has seen in the native landscaping movement, complimented us on our chapter growth, and challenged us to help continue to educate young people to ensure the future of native landscaping. Many members contributed native seeds to share with others.

In 2018, we had the pleasant experience of outgrowing our indoor meeting space and moved to a larger venue for the banquet and future meetings. We look forward to continued growth and support of “Healing the Earth, one yard at a time.”

Susan Leahy is a member of the St. Louis (Missouri) Chapter of Wild Ones, and is the chapter’s publicity/marketing coordinator.
Rearing monarchs responsibly

Editor’s Note: Continued from our Spring issue article “Rearing Monarchs: Why or Why not?”

If you do rear monarchs for educational or citizen science purposes, we offer this guidance for responsible rearing.

Collect small numbers of monarch eggs or caterpillars from the wild as locally as possible. Do not buy or ship monarchs; be mindful of collection policies or restrictions if applicable and secure permission before collecting monarchs from the wild.

Monarch caterpillars require milkweed to grow and develop; there are over 100 species of milkweed native to North America. Look for eggs or larvae on the underside of milkweed leaves; they are also commonly found amongst buds or flowers at the top of the plant. When you find a caterpillar, remove the whole leaf on which you find it and transfer it to your rearing container. You need a reliable source of milkweed to feed larvae. When collecting milkweed, avoid plants that have been treated with insecticides.

Rinse leaves before feeding them to caterpillars. Rinsing will clean the leaves, and keep them fresher for longer. You should blot off extra water, and can keep extra leaves in an airtight container in your refrigerator.
Precaution: Latex from milkweed is painful and can cause corneal damage if it is rubbed into eyes. Avoid touching your eyes and wash your hands after handling milkweed.

**Egg (1-5 days)**
To keep the milkweed from drying out, keep eggs (on the milkweed on which you collected them) in a container lined with a moist paper towel.

**Larva/caterpillar (10-14 days)**
Monarch caterpillars can be kept in an aquarium, large jar, bug cage, or other roomy containers. Rearing containers should have adequate ventilation, which can be provided by a screened lid or sides. The container should be large enough for the adult to expand its wings when it emerges. To minimize disease spread and keep accurate records for citizen science projects, it is best to raise monarchs singly (one per container). Overcrowding monarchs can lead to starvation, cannibalism, rapid spreading of disease and death. Keep rearing containers clean and sterilize after each use (when a monarch emerges as an adult, or dies) using a 20% bleach solution.

Continue to keep a damp (NOT dripping wet) paper towel at the bottom of the container. Replace it often to prevent the buildup of waste. Protect the container from direct sunlight; high temperatures can kill larvae. Some larvae collected from the wild will have tachinid fly parasitoids, which emerge from monarchs around the time of pupation. Send emerged flies to MLMP, using their protocol.

Mortality may be caused by a virus or bacterial infection, or by contaminated milkweed. Handle larvae as little as possible to avoid hurting them or spreading disease. Very small larvae may be moved with a small, clean paintbrush. Caterpillars that stop moving and turn brown or black should be removed immediately; they could rupture and spread infection. Remove dead or unhealthy pupae and caterpillars from the rearing containers as soon as you see them, and sterilize the container. You may keep them in a separate container for a few days to determine if they are parasitized.

Caterpillars that are motionless on the side or top of the cage (not feeding) are especially vulnerable to injury because they are probably preparing for or recovering from a molt. Be careful not to disturb or move them during these periods of apparent inactivity. When ready to pupate, larvae will crawl to the top of their cage, attach themselves with silken thread, and form a pre-pupal ‘J’ before shedding their skin for the last time.

To reduce risk of spreading the protozoan parasite OE (*Ophyrocystis elektroscirrha*), and other diseases, do not keep adults in the same container as immatures, and do not allow adults to emerge in a container in which larvae are feeding. Adult monarchs can spread dormant parasite spores to milkweed plants and to their eggs. When a caterpillar consumes these spores, they become infected.

A monarch nectars off red milkweed (*Asclepias rubra*).
Quick tips for raising healthy monarchs

Keep the cage clean. Rearing containers need to be cleaned of frass and old milkweed daily to prevent mold growth. Clean containers with a 20% bleach solution and rinse before putting monarchs inside.

Keep milkweed fresh. Add fresh milkweed every day to ensure monarch larvae have quality food.

Avoid extreme temperature and moisture conditions. Keep rearing containers out of direct sunlight and make sure that there is not too much moisture (paper towel should be moist, but not dripping wet). Temperatures that are too cold will delay monarch development. If the container is in direct sun, it will act like a greenhouse, and heat up to potentially lethal temperatures.

Be conscious of disease. Viral and bacterial infections spread very quickly from one caterpillar to another, so keep containers clean and sterilize them often.

Why to rear (or not)? Mass rearing of monarchs for release into the wild is not an appropriate conservation strategy. People who wish to rear monarchs should do so in small numbers, for outreach, personal enjoyment or citizen science.

Pupa/Chrysalis (9-14 days)
To re-attach a fallen pupa, tie a piece of thread or floss around the cremaster (small black attachment at top) and secure it to a lid.

The day before adults emerge, their wings become visible through the pupal skin. Adult butterflies usually emerge in the morning; their wings will be soft and wet when they first emerge. If they fall, carefully pick them up by holding the thorax (body segment to which the legs are attached), and place them on the top or side of the cage. They need to hang with their wings pointed downwards for several hours. A pupa that has been very dark for more than 2 days is likely dead.

Adult butterfly
Recently emerged butterflies should be tested for the protozoan OE (Project Monarch Health), and can be kept in the cage for up to a day before being released or fed. Monarchs held for longer than one day need to be fed nectar. If flowers are not available, you can offer a clean sponge or cotton ball saturated with a 20 percent honey or sugar water solution. A warm sunny day is an ideal day to release them. Hold the butterflies carefully with their wings closed when you release them, or simply open the cage to let them fly out. Release adults close to where they were collected as eggs or caterpillars - do not translocate them long distances.

Reprinted, with permission, from Monarch Joint Venture

Editor’s Note: Wild Ones has been a partner of Monarch Joint Venture since 2013 to help educate our members and the public about monarch conservation concerns.
Like others concerned about climate change, we’re striving to reduce our carbon footprint by using LED lights, driving a plug-in hybrid, and reducing our fossil fuel use in other ways. Just as important, we’re also creating a climate-friendly landscape.

We plant LOTS of plants
Native, of course, since they’re the ones that support life on earth! After all, what good is a planet with a stable climate if it doesn’t support life?

But which native plants? In this unprecedented planetary experiment, previous patterns of tempera-
ture, precipitation and storms will not predict future ones. Hardiness zones have already been revised. Zone 4 of my childhood is now Zone 5, and further changes are expected in the next 30 years.

Will plants in their current native range survive there in the future? Will the advantages of local ecotype persist when winter lows plummet and summer highs spike? No one knows, but we’re trying to future-proof our landscape by choosing new plants from the center or northern part of their current native range.

We grow a diversity of wildflowers, grasses, shrubs, understory trees and a few canopy trees to increase the chance that some will adapt to changing conditions. And for the same reason, we choose species rather than cultivars to increase genetic diversity.

We reduced our lawn
How did we find space in our mod-est-size suburban yard for so many plants? By eliminating most of the lawn! Lawn may be climate friendlier than asphalt, but any carbon it sequesters or oxygen it produces pales in comparison to other plants. Picture a landscape of perennials, shrubs, and trees and consider how much more carbon they put into the soil and how much more oxygen those plants will produce in the same amount of space. And large trees not only put carbon into the ground, but also store it aboveground.

Another problem with lawns is the polluting (and noisy) power equipment used to maintain them. We got rid of our old gas mower and bought a small, quiet electric one. We mow our mini-lawn in just 7 minutes, creating much less pollution.

In fall, rather than use a noisy, polluting leaf-blower, we rake leaves (free exercise!) on our tiny lawn and add them to the compost bin or pile them on our vegetable beds for the winter.

Perhaps less obvious sources of climate pollution are the chemical fertilizers, pesticides and herbicides used on lawns. Not only do they directly cause problems — such as fertilizers breaking down into the potent greenhouse gas nitrous oxide — but producing, packaging and transporting them is also carbon-intensive.

We maintain our small lawn without any chemicals by mowing it slightly higher, leaving the clip-pings on the lawn, and hand-digging intrusive weeds. We never water it. Though it might not star in a lawn product commercial, it compares quite favorably to the chemically treated, routinely watered lawns in the neighborhood.

We nurture the soil
When we first started gardening many decades ago, we believed that using a rototiller and double-digging our garden was the best thing we could do. Now we know better! Each time we disturb the soil, it releases some of the stored carbon, allows weed seeds to germinate, damages the soil structure, and is bad for soil microbes and fungi. We try not to walk on the soil to protect the soil structure, and we limit digging.

We don’t have much bare soil in our habitat garden. Our perennial beds are self-mulching since we let plants fill in close to each other, keeping the ground moist and crowding out potential weeds. We also plant herbaceous plants under trees and shrubs. We leave most of plants’ own stems and leaves where they fall, so they can feed soil microbes and provide a home for beneficial insects.

We grow food
We’re especially interested in providing habitat for wildlife, but we also believe it’s important to use some of our yard to grow our food. The organic fruits and vegetables we produce require no fossil-fueled transportation and are the healthiest, tastiest food we could eat. We have permanent beds and plant cover crops so the soil isn’t bare over the winter.

We recycle garden waste
Organic waste decomposing in landfills generates methane, a potent greenhouse gas, so we try to keep our plant and food waste in our yard. We compost yard waste in compost bins and sometimes just in piles in out-of-the-way places. We compost food scraps in indoor worm bins and use the vermicom-post in our edible garden.

We plant to save energy
A windstorm with strong, straight-line winds that blasted through our area in 1998 provided a vivid demonstration of the cooling ef-

Wild ginger emerges through old leaves in the spring.
The effect of trees. That powerful storm knocked down the large maples that had shaded our south-facing porch. What had previously been a pleasant place to sit in the summer became an oven. We soon planted a red maple on the south side of the house and just a few years later it began to shade the porch, making it comfortable on all but the hottest days.

The trees and shrubs on the south side of the house allow us to use air conditioning very sparingly and those on the north, by buffering winter winds, help moderate our need for winter heating.

In fact, our yard is much more comfortable than a conventional landscape would be. On hot summer days, the parts shaded by trees and shrubs are objectively much cooler than nearby parts in the sun. But besides the actual temperature difference, the shady areas feel cooler because of the transpiration of the trees’ leaves, and because humans perceive a shady, forest-like area as cooler.

We save energy in the garden

We use motion-detector security lights outside so they use electricity only when some movement activates them, not all night. And we definitely don’t use electric lights aesthetically to highlight trees, walls or anything else. This isn’t a responsible use of fossil fuel! (And that unnatural night light harms nocturnal creatures, too.)

I never have enough space to grow everything I’d like, but I still make room for my “solar” clothes dryer so we don’t need an electric dryer, a very high energy use appliance. A bonus: It’s a good excuse to be outside in the cool morning air, serenaded by birds. And it really doesn’t take very long once you get the “hang” of it.

We participate in citizen science

The changing climate is affecting plants and, thus, life on earth, and we need to learn more to make informed decisions about this new reality. Scientists can’t do it alone, so we’re participating in BudBurst, a plant phenology project that tracks the timing of plants’ life cycle events. The more people who collect this information the more we’ll know about how plants are reacting to the changing climate.

We can all make a difference

It’s easy to feel helpless in the face of a major global challenge like climate change. Although individual actions aren’t sufficient, they’re necessary and can make a difference if enough people act. And knowing the risks of climate change and ecosystem collapse to our grandchildren’s future, how could we not take every action we can? You can be part of the solution, too, by creating your own climate-friendly landscape.

To learn more

I highly recommend the book, “Climate-Wise Landscaping: Practical Actions for a Sustainable Future” by Sue Reed and Ginny Stibolt. It has lots of how-to’s and why-to’s for every aspect of creating a truly sustainable landscape.

Janet Allen is co-founder of the Wild Ones chapter, Habitat Gardening in Central New York. She has written numerous articles about habitat gardening for various publications and frequently gives presentations to garden groups or at conferences. Allen is creator and webmaster of Our Habitat Garden and Our Edible Garden. Her yard is certified as Monarch Waystation by Monarch Watch and a Certified Wildlife Habitat by the National Wildlife Federation.
Seeds for Education grant funds
New Jersey courtyard classroom

Colonia High School in Colonia, NJ, created a school courtyard community classroom, thanks, in part, to a $500 Wild Ones Seeds for Education grant.

According to project coordinator Dorothy Ponte, the Colonia High School Ecology Club and Environmental Science students cleared the school’s courtyard of invasive weeds and planted 17 varieties of native plant species in recently erected raised garden beds. Removing the invasive plants went better than they anticipated, she wrote in her final report, due to the quality of the shovels and tools used to dig through the hardened soil. Students also helped with building the raised beds, filling the beds with soil, and planting the native plant species.

All of the grant money from Wild Ones was spent to purchase native plant species. But due to support from the local community and various organizations, Ponte said they were able to expand the initial project to include additional native plant species flower beds and plants.

In addition, donations from the Bound Brook Loyal Order of Moose #988 and a grant from Lowe’s were used to prepare the raised garden beds, purchase outdoor seating for up to 32, and build a cement patio and walkway for traversing the courtyard, she added.

Ponte said Ecology Club and Environmental Science students assist with controlling weeds and helping the native plants become established. The Ecology Club instructor and various teachers use the courtyard for educational and outreach purposes throughout the school year.

Most students are unfamiliar with gardening and native plant species, Ponte wrote, so the school intends to engage not only high school students in various activities, but also local elementary schools and the senior citizen center.

To ensure your building principal “buys in,” Ponte suggested others planning similar gardens explain in great detail — using diagrams and written plans — the advantages of having gardens with native plant species that can be used for educational and community outreach purposes.

“Seek out partnerships from individuals or organizations to help ensure the success of your project,” she added, noting that they will be partnering with a local Master Gardener for specific educational and outreach activities, as well as technical expertise.

Habitat Gardening in Central New York (New York) Chapter recently held a seminar featuring Nanette Masi, a nature-inspired landscape designer, photographer, writer and educator. The program featured how to incorporate native plants in a home landscape, including design suggestions.

St. Louis (Missouri) Chapter members enjoyed a tour of EarthDance, part of the oldest organic farm west of the Mississippi. Managing Director Rachel Levi shared the best native plants for farmscaping, species proven to attract pollinators and beneficial insects while beautifying the landscape.

The Tennessee Valley (Tennessee) Chapter held a program, “Green Infrastructure & Native Plants: Natural Allies,” where attendees learned how native plants are used by the city of Chattanooga to help manage stormwater.
By Elaine Krizenesky

Since April showers bring May showers bring even more flowers ... and pollinators! Living Land and Waters’ Million Tree Project donated 300 swamp white oak (Quercus bicolor) saplings to help us prepare for the next generation of forest after the ash trees are removed. An Eagle Scout candidate, Ethan Stahl, has gathered tree tubes and stakes, and he and his crew will do all the planting, saving lots of staff and volunteer time. All we need now is for the water to recede.

As part of our fight against the emerald ash borer, Wild Ones recently received a $2,000 grant from Honee’s Cough Drops to help with this project. The money can be used for buckthorn removal, harvesting the ash trees, replanting natives or anything else we may need during the reforestation. We have partnered with the Northeast Wisconsin Land Trust to combine our property with theirs so the acreage will be larger and more attractive to loggers. Ron Jones, Fox Valley Area Chapter member, brought an interested logger to the property to submit a bid for the harvest. Ron is donating his time to broker an agreement to do this work, and we’re hopeful that this logger will be a perfect fit.

Fox Valley Area Chapter member Paul Wolters stepped in immediately when he discovered unscrupulous visitors had dumped garbage and broken furniture on the WILD Center grounds. Paul picked up all the junk and carted it to the dump. We are very grateful that Paul interrupted his wild photo session to help!

How did your chapter celebrate Earth Day? We’d like to share your stewardship on social media. If you’re not following Wild Ones, check out our Twitter account @WildOnesNatives and our new Instagram account @WildOnesNativePlants. Our Facebook group is another great source of information and updates. To join, search Facebook for Wild Ones Native Plants Group.

Last, but definitely not least, I’d like to announce our new office specialist, replacing our previous administrative specialist position. Kristen Lucas brings 12 years of experience as an office administrator and is excited to start interacting with chapters and members. Her email is Kristen@wildones.org. Kristen will be maintaining the membership database, so any contact information changes or questions about renewals can be directed to her. Once she is fully trained, she will also be working with our Seeds for Education grants and our Native Plant Butterfly Garden program.

The WILD Center is in need of new 6-volt deep cycle, lead-acid batteries for the golf cart that is used frequently for hauling plants, tools, watering buckets and more. We are looking for six batteries to replace the old ones. If you are interested in donating batteries or money toward their purchase, please call 920-730-3986 or email elaine@wildones.org.
Mark Your Calendar

JUNE

National Great Outdoors Month

June 1
National Prairie Day

June 6
National Gardening Exercise Day

June 13
National Weed your Garden Day

June 15
Nature Photography Day
Get outside and take photos of your native plants and gardens so you’ll have lots to enter in Wild Ones’ next Photo Contest.

JULY

July 11
National Cheer Up the Lonely Day
How about taking someone a bouquet of native flowers from your garden?

July 22
National Hammock Day
Since native plants require less maintenance than nonnatives, spend the day resting in your hammock.

AUGUST

National Water Quality Month
It’s a great time to share the news that native plants’ deep roots help provide cleaner water. Is your community using natives in parks and roadside plantings? If not, let them know the benefits of doing so!

Aug. 17
National Nonprofit Day
Please remember Wild Ones as you celebrate National Nonprofit Day. It’s a great time to make a special donation to help the organization grow.

OCTOBER

Oct. 12
Wild Ones Annual Meeting Webinar
For those members who wish to join the meeting, details will be sent out to the membership in September and posted in the member section of the website.

CHAPTER ANNIVERSARIES

Milwaukee North, Wisconsin ............ 40 years
Columbus, Ohio .......................... 25 years
Rock River Valley, Illinois............... 25 years
Madison, Wisconsin .................... 24 years
Ann Arbor, Michigan ................. 23 years
St. Cloud, Minnesota ............... 21 years
Arrowhead, Minnesota ............... 19 years
Gibson Woods, Indiana ............. 19 years
Door Peninsula, Wisconsin ......... 18 years
Central Upper Peninsula, Michigan .... 18 years
Habitat Gardening in
Central New York, New York ........ 15 years
River City-Grand Rapids Area, Michigan .... 12 years
Tennessee Valley, Tennessee ....... 7 years
Blue Ridge, Virginia ............... 6 years
West Cook, Illinois ............... 6 years
Smoky Mountains, Tennessee .... 4 years
Southeast Missouri, Missouri .... 1 year

NEW LIFETIME MEMBERS

Elaine Pesavento
West Cook (Illinois) Chapter

Lin Jennewine Huffman
Driftless Area (Wisconsin) Chapter

IN MEMORIUM

Alison Richards
Northern Kane County (Illinois) Chapter

Jeff Rice
Twin Cities (Minnesota) Chapter
Lifetime Member

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twitter.com/WildOnesNatives
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RENEWING BUSINESS MEMBERS

Amanda’s Garden
8030 Story Road, Dansville, NY 14437
www.amandasnativeplants.com
amandasgarden@frontiernet.net
Ellen Fols

Good Oak Ecological Services
4606 Pflaum Road, Suite A, Madison, WI 53718
www.goodoak.com
info@goodoak.com
Frank Hassler

Minnesota Native Landscapes, Inc.
8740 77th St. NE, Otsego, MN 55362
www.mnнативelandscapes.com
Keith@MNLcorp.com
Keith Fredrick

Natural Communities
812 N. Washington Ave., Batavia, IL 60510
www.naturalcommunities.myshopify.com
nick@naturalcommunities.net
Nicholas Fuller

Pawnee Buttes Seed Co.
P.O. Box 100, 605 25 St., Greeley, CO 80631
www.pawneebuttesseed.com
info@pawneebuttesseed.com
Don Hijar

St. Louis Native Plants, LLC
3910 Connecticut St., St. Louis, MO 63116
stlouisnativeplants.com
svdr1@sbcglobal.net
Susan Van de Riet

NEW BUSINESS MEMBERS

Dig Right in Landscaping
9900 Derby Lane, Westchester, IL 60154
www.digrighthin.com
jeff@digrighthin.com
Jeff Swano

Grassland Aquatics
2164 Hillsboro Road, Franklin, TN 37069
https://shop.grasslandaquatics.com/
office@grasslandaquatics.com
Cathy Green

Walter G. George Soil Consultants
23 TeePee Trail, Blue Ridge, TN 30513
waltgeorgesoils.com
wgssoil@aol.com
Kathryn George

AFFILIATE RENEWAL

Jean Bertelsen
788 Devils Knob Loop, Roseland, VA 22967
jbertelsen@verizon.net

Connecticut Sea Grant College Program
University of Connecticut - Avery Point
1080 Shennecossett Road, Groton, CT 06340
https://seagrant.uconn.edu/
judypreston@uconn.edu
Judy Preston

Good Natured Landscapes
30 W. 145 Allister Lane, Naperville, IL 60563
www.goodnaturedlandscapes.com
denise@goodnaturedlandscapes.com
Frank Oboikovitz

Klehm Arboretum & Botanic Garden
2715 S. Main St., Rockford, IL 61102
www.klehm.org
amills@klehm.org
Alexander Mills

Liberty Hyde Bailey Museum
P.O. Box 626, South Haven, MI 49090
www.libertyhydebailey.org
info@libertyhydebailey.org

The Nature Institute
2213 S. Levis Lane, Godfrey, IL 62035
thenatureinstitute.org
amoan@thenatureinstitute.org
Angela Moan

Winnebago County Parks Department
625 E. County Road Y, #500, Oshkosh, WI 54901
www.co.winnebago.wi.us/parks
vredlin@co.winnebago.wi.us
Vicky Redlin

AFFILIATE NEW

Leslie Limberg & Associates
102 Red Fern Lane, Wentzille, MO 63385
llelimberg@aol.com
Leslie Limberg
Thank you for your contributions

Hannah Helm, Lexington
Diane Leggett, Lexington
Tee (Thelma) Bergman, Lexington
Jean Conover, Loess Hills
John Fetters, Madison
Paul Noeldner, Madison
Judy Helgeland, Menomonee River Area
Cathy Green, Middle Tennessee
Deborah Rosenthal, Middle Tennessee
Diane Scher, Middle Tennessee
Patricia Huddy, Mid-Mitten
Richard Krueger, Milwaukee-North
Carol Flora, Milwaukee-Southwest-Wehr
Carole Geddes-Engel, Milwaukee-Southwest-Wehr
Karen M. Johnson, Milwaukee-Southwest-Wehr
Cathy Wegner, Milwaukee-Southwest-Wehr
Fatima Matos, Mountain Laurel
Helen Burke, Mountain Laurel
Marilyn Trent, North Oakland
Debbie Gerken, Northern Kane County
Mary Merrick, Oak Openings Region
Jennifer Karches, Oak Openings Region
Chris Link, Oak Openings Region
Brandon Grimm, Oak Openings Region
Betsy Halvorson, Prairie Edge
Jeanine Brattebo, Prairie Edge
Dottie (Dorothy) Schmidt, Red Cedar

Molly Patterson, River City-Grand Rapids Area
Lucy Chargout, River City-Grand Rapids Area
Cathy Johnson, Rock River Valley
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Joanne Overstreet, Smoky Mountains
Russ Cohen, South Shore MA
Jennifer Johnson, South Shore MA
Steve Berry, St. Louis
Chandan Mahanta, St. Louis
Brian Ferris, St. Louis
Cheryl Grimm, Stow, Ohio
Mark Siniard, Tennessee Valley
Shirley Andrews, Tennessee Valley
Jim Brooks, Tennessee Valley
Susan Smartt, Tennessee Valley
Kathryn George, Tennessee Valley
Liza Meacham, Twin Cities
Suzette Gacek, West Cook
Nora Abboreno, West Cook
Lailani Workman, West Cook

IN-KIND DONATIONS
Dave Edwards, Fox Valley Area
Charles Schwenk, Green Bay
Tim McKeag, Fox Valley Area

GENERAL OPERATING FUND — CHAPTER SUPPORT
Fox Valley Area Chapter

GENERAL OPERATING FUND — MATCHING DONATIONS
Bill Snyder, Illinois Prairie

MEMORIALS
Tom Radovich, in tribute to Robert and Donna Mancl of Appleton, Wisconsin