

NOTES FROM THE PRESIDENT



I was recently reminded of a question I was asked some time ago: Why would it be such a big deal if the monarch migration disappeared? I must admit, I was a stunned by that question. This person clearly didn't see the intrinsic value of saving one of the great wonders of the natural world. Never mind, the bigger picture.

As Wild Ones members, you know the issue is not just about one species. Or even all insects. It's about preserving the biodiversity of the natural world. It's about native plants and the interactions with insects and other fauna that are dependent on biodiversity.

The popularity of monarch butterflies does gives them a special role. Nothing conveys the importance of native plants to the survival of wildlife quite like the monarch. It is recognized and loved around the world, and its specialized requirement for milkweed is now widely understood. It's a wonderful illustration of just how essential native plants are to all insects. And it's a great segue to talk about how plants and insects are the basis for the entire food web, including ours.

I visited monarch overwintering sites in Mexico a few weeks ago. It wasn't my first trip to see them, but each time, I see, learn and experience new things.

Standing on a steep incline in the Sierra Madres Oriental mountains of east central Mexico, I was closer to the roosting trees than I have been in the past. I watched the monarch covered trees along with the rest of my small group. We shot photos, marveling at the extraordinary sight, quietly taking it in.

The perfect time to shoot video came when a break in the clouds allowed the sun to warm the monarch roosts. Thousands of monarchs took flight. And that is when I heard it. A soft sound, the gentlest rustling, filling the air. Everyone was watching the sky. I grinned. Finally! My pictures were going to be blurry because my legs were wobbly and so was the tripod, but I didn't care. I heard the monarchs flying!

— Rita Ulrich



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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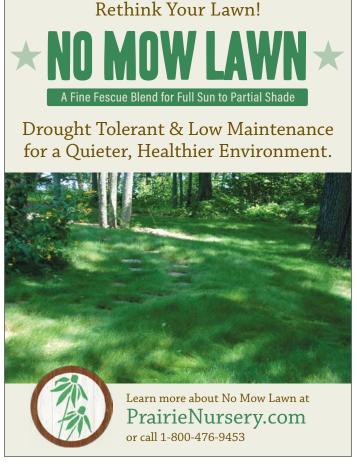












Wild Ones awards 9 Seeds for Education grants

By Denise Gehring

The Wild Ones Lorrie Otto Seeds for Education program awarded nine SFE grants out of 39 applications from 25 states this year. Since it began in 1997, SFE has connected thousands of children with nature close to home in educational native gardens and habitats.

Thank you, Wild Ones members and chapters, who have given generously to this worthwhile outreach program. Through 2020, Wild Ones SFE has provided funding for 272 natural learning landscapes involving preschool-12th graders. Winning SFE projects receive up to \$500 for native plants and seeds.

Each SFE application is evaluated by three judges who score the proposal and provide comments to improve the landscape plan and native plant selections. To be funded, an educational project must incorporate active learning by youth that includes ecological concepts, regional native plants/seeds, a designated planting site, sustainable plan and community involvement.

If within 30 miles from an SFE project, Wild Ones chapters and PALs may serve as advisers. Some larger Wild Ones chapters have their own SFE program to expand the reach of Wild Ones.

Congratulations to the winning 2020 SFE projects:

California

Protecting Biodiversity in the Bay Delta Region, Mno Grant Elementary School, Antioch

Colorado

Pollinator Paradise, Hotchkiss Elementary and Middle School, Hotchkiss

Illinois

Pollinator Prairie and Rain Garden, Douglas-Hart Nature Center and Charleston Middle School, Charleston, Wild Ones Partner-at-Large School Pollinator Garden, Elizabeth Meyer School, Skokie, DuPage Chapter

Supporting Pollinators Garden, Cristo Rey St. Martin College Preparatory School, Waukegan

Minnesota

Community Garden Native Pollinator Space, FAIR School at Pilgrim Lane, Plymouth, Twin Cities Chapter

Missouri

Student Led Native Pollinator Garden, The Summit School, Springfield

New York

Pollinator Learning Garden, Apalachin Elementary School, Apalachin

Wisconsin

Chain Exploration Center Native Plant Garden, Waupaca School System, Waupaca, Central Wisconsin Chapter

We wish to thank the Seeds for Education judges who volunteered significant time and expertise to evaluate this year's SFE applications: Marti Alger, Tennessee; Elisabeth Anderson, Ohio; Mike Brondino, Wisconsin; Pat Brust, Wisconsin; Melanie Coulter, Ohio; Wanda De-Waard, Tennessee; Diane DeYonker, Ohio; Cathy Downs, Texas; Ellen Folts, New York; Jamie Forbush, Ohio; Denise Gehring, Chair, Ohio; Susan Hall, Texas; Janice Hand, Montana; Amy Heilman, Michigan; Laura Klemm, Wisconsin; Rob Krain, Ohio; Lisa Lemza, Tennessee; Michael LeValley, Michigan; Kate Mason-Wolf, Ohio; Kevin M. Mowery, Missouri; Joanne Overstreet, Tennessee; Dan Parratt, Ohio; Matt Ross, Pennsylvania; Karen Syverson, Wisconsin; Kim Lowman Vollmer, Illinois; Tessa Wasserman, Missouri; and Sally Wencel, Tennessee.

If you are interested in becoming an SFE judge for next year, email <u>VP@wildones.org</u>.



Students help plant a native garden at Graham Elementary and Middle School in Columbus Ohio, which was awarded a SFE grant in 2018.



Students pose for a silly group photo in front of the newly planted butterfly garden at Graham Elementary and Middle School.

Ohio students create butterfly garden

Two second grade classes at Graham Elementary and Middle School (GEM) created a butterfly garden at their Columbus, Ohio school in 2018, thanks to a Lorrie Otto Seeds for Education grant. The native nursery partner was Natives in Harmony and the Wild Ones Columbus chapter acted as a resource.

In her year-end report, project coordinator Krsna-Jivani Ziyard said the 22 students who planted the garden felt like they were contributing to helping the butterflies.

The students planted swamp rose mallow (<u>Hibiscus moscheutos</u>), anise hyssop (*Agastache foeniculum*), Riddell's goldenrod (*Oligoneuron riddellii*), showy goldenrod (*Solidago speciosa*), purple coneflower (*Echinacea purpurea*), orange coneflower (*Rudbeckia fulgida*), New England aster (*Symphyotrichum novae-angliae*), wild bergamot (*Monarda fistulosa*) and prairie blazing star (*Liatris pycnostachya*).

"Digging the weeds and putting down the mulch excited the kids the most," she wrote. "They also really enjoyed seeing butterflies attracted to the garden."

Wild Ones announces photo contest

Share the beauty of native plants and scenery by entering the Wild Ones 2020 Photo Contest.

The contest, open to Wild Ones' members, includes five categories: flora, scenery, pollinators, natural landscapes and Wild One's mission-related projects. Our more youthful members under the age of 18 can submit photos in the youth division.

Stay tuned for more information on entering the contest in our Summer Journal issue.

The students are helping maintain the garden, pulling weeds weekly and watering as needed. She recommended you assign student groups tasks daily so they know ahead of time what is expected of them. In addition, that allows students to complete a variety of tasks. Her other recommendation is to put down newspaper to deter weeds from growing.

In addition, Ziyard said many teachers at the school have begun considering how they can utilize the garden in their classrooms.

CHAPTER ANNIVERSARIES

CHAI TER ARMITEROARIES	
Green Bay, Wisconsin	29 years
Fox Valley Area, Wisconsin	26 years
Lake-To-Prairie, Illinois	24 years
Kalamazoo Area, Michigan	21 years
Mid-Missouri, Missouri	20 years
St. Croix Oak Savanna, Minnesota	7 years
Northern Kane County, Illinois	11 years
Illinois Prairie, Illinois1	0 years
North Oakland, Michigan1	0 years
Prairie Edge, Minnesota	years
Big River Big Woods, Minnesota	

NEW LIFETIME MEMBERS

Bonnie O'Leske, Partner At Large

Glenn Teschendorf, Madison (Wisconsin) Chapter

Kickapoo Mud Creek Nature Conservancy, Rock River Valley (Illinois) Chapter



blue flag iris (Iris virginica shrevei).

By Barbara A. Schmitz

Rich and Pat Fischer say they got interested in native plants by accident. But it's been no accident on how the two have become champions for Wild Ones and the natural landscaping movement.

In 1997, the couple moved from their tiny Appleton, Wisconsin lot to a 10-acre property in the nearby Town of Clayton.

"The property around the house was almost a blank slate, with very little formal landscaping and just a few trees," Rich says. The area behind the house included a fenced horse pasture, open meadows, a pond, a navigable waterway and a cattail wetland.

"We did observe interesting shrubs, trees, and plants growing in the undeveloped areas and our first introduction to native — and invasive — plants was researching the plants we found already growing on our land," he says.

Pat says they had goals in mind when they decided to move to the country: to connect with nature, improve the quality and appearance of the property with landscaping, attract birds and butterflies, and plant a vegetable garden and some fruit trees.

But they were naïve, they admit, and learned by trial and error. Many things didn't grow well. Then in 2001, they learned about the Wild Ones

Fox Valley Area (Wisconsin) All photos courtesy

Rich and Pat Fischer

Editor's Note: We'd like to feature native gardens, large or small, in upcoming issues. If you're interested in sharing your native garden, send four to six highresolution photos, as well as a brief description, to barbara.a.benish@gmail.com or journal@wildones.org. Please include your contact information so we can get in touch with you.

when they saw the Fox Valley Area display booth at area garden shows.

"We learned about the beauty of native plants and how beneficial



they are to our environment," Rich says. "We also found there are many native plants that can flourish in our problematic clay soil."

Intrigued, they attended the <u>WOFVA</u> chapter annual conference, and by 2002, were chapter members.

That same year, they dove into their first prairie planting, about a ¼ acre that they seeded with a mix of native grasses and forbs, later adding plugs. "It is a triangular section located in the back of the property nestled between the horse pasture and the wetland," Rich says. The first two

years were discouraging with little new growth, but a greater variety of new plants continued to emerge and spread after those early years.

Since 2002, the Fischers have incorporated more native plants into perennial gardens and foundation plantings around the house and garage. These plantings contain a combination of native Wisconsin plants and nonnative plants, like hostas, daylilies, iris and peonies.

They also have many native trees and shrubs on the property, including dogwood, sumac, hawthorn, highbush cranberry, and a variety of

About the Yard

- The Fischer's home is located in the Town of Clayton, a short drive from the WILD Center.
 Their 10-acre property includes a fenced horse pasture, open meadows, a pond and navigable waterway and a cattail wetland.
- A wild native area of about 1 acre already existed when they moved in, containing grasses and forbs and, unfortunately, some reed canary grass. They started adding native areas first around the house and garage, and from there added other larger areas, such as a 120-foot by 20-feet planting in the front.
- About 50-100% of their plants are currently native, depending on location.
- One of their favorite native plants is bottle gentian (*Gentiana andrewsii*) due to the vibrant electric blue color and its rarity. The plant requires the native bumblebee for pollination as the bumblebee is the only insect strong enough to break into the enclosed blue bulb looking for nectar and pollen.

A eastern tiger swallowtail nectars on common milkweed (Asclepias syriaca) in the Fischer front yard.

evergreens, oaks, maples, ash and elm. After hearing <u>Doug Tallamy</u> speak, they planted a black cherry, which is an important food source to many insects and birds.

Their wetland area has many cottonwood, elm and green ash trees. They even have one large elm in the middle of the horse pasture that they have been treating with trunk injections every three years for the past nine years.

"It looks very stately and healthy," Rich says. "All the other elms grow to about 15-20 feet high and then die of Dutch elm disease."

He also fears for their green ash trees as the emerald ash borer is already in the county, as well as adjoining counties. The entire state is part of the federal EAB quarantine.

A number of years ago, Rich stopped mowing a large section of their front yard, about ¼ acre in size. "It was my way of lessening the



maintenance of mowing and wasting fossil fuels, as well as wasting my time," he says.

They over-seeded that area with native seed collected from generous WOFVA members in winter, and in spring they inserted native plug plants and mowed paths, which are decorated with their hand-crafted welded metal sculptures that both have made over the years.

"After about eight years, it is starting to look pretty good," Rich says. "It gets better looking every year."

All the native plants mean their property is a haven for pollinators and other animals.

Pat says they have the usual variety of backyard birds — chickadees, mourning doves, goldfinches, sparrows, woodpeckers, cardinals and so on — but they also regularly see hawks and crows, and occasionally a turkey, eagle or turkey vulture. "At night we hear owls hooting and this summer and fall, we had a baby owl screeching for food in our swamp almost every night," she says.

The killdeer is one of their favorite visitors, though. "You know

spring has arrived when they appear," Rich says.

The Fischers admit they made some mistakes along the way; one was putting in plants they liked, despite them not being right for their heavy clay soil.

"Do a soil test and find out if your soil is alkaline or acidic because plants favor one or the other," Rich says. Look at where you get the most sun and shade, and then add plants that thrive in those conditions, he adds.

"Try to focus on what grows in your area," Pat says. "Take a longrange view, focus on smaller efforts and try not to do it all at once. Use a more measured approach."

For their first big planting, the 1/4-acre triangle prairie, they tilled the soil several times and applied several courses of glyphosate to kill the weeds.

"We purchased a high-diversity native grass and forb seed mix for clay soil and mixed this seed with wood shavings and seeded the area by hand in the fall," Rich says. "We had very little snow cover that year and we feared all of our seed blew

Left: Rich and Pat Fischer's windspinners help provide beauty in their landscape, even during the winter. Above: A windspinner created by Pat sticks out among the colored wildflowers in their yard.

away or was eaten by birds. That first spring, the only things that grew were the cover crop, Canadian rye, black-eyed Susans, and the few native plants that we plugged in."

If they were to do this planting over again, they said they would kill the area for one growing season, not do any tilling and seed the area on top of the first snow and let nature do its work.

In planting their perennial beds and gardens, they had the most success and least work with the following general approach: 1) Define the shape of the planting with a piece of rope; 2) Mow the turf grass down as far as possible; 3) Spray herbicide in two week intervals to kill all grass and weeds; 4) After the grass is dead, lay down a thick layer of newspapers (6 layers) and weight with rocks or mulch; 5) Plant plant plugs; 6) Cover area with 4 inches of mulch; and 7) Water regularly until plants became established.

For those who want to avoid











Clockwise from top left: Rich walks to their back prairie with two granddaughters while teaching them to appreciate nature; The Fischer house looks like it is being eaten by a gigantic common milkweed; Pat watches to make sure a controlled burn in their wetland area stays in control; Rich Fischer helps with spring cleanup at the WILD Center. He also serves as a team leader when high school students come to the Center to work on buckthorn eradication. He and Dave Edwards have also planted many trees on the Center property, which is also home to one of his metal sculptures; Pat and Rich Fischer volunteer at the May 2018 Wild Ones Fox Valley Area plant sale, sorting customer orders so their plants are all ready to go when the customers come to pick them up.

chemicals, they recommend smothering the area to be planted with newspaper or cardboard for one growing season. They also recommend joining a Wild Ones chapter, participating in rescue digs and sharing seeds with other members.

They learned a lot about native plants by reading books, and Rich also went back to school to get an associate's degree in landscape management, then becoming an Outagamie County master gardener 19 years ago.

And as they age, their motivation to reduce yard maintenance increases, causing them to seek ways to work smarter, not harder.

The Town of Clayton has discussed dredging the navigable waterway that runs through their property, and the Fischers are doing their best to stay involved in discussions so they can have a say in how the work is done. That means they attend town board meetings and stay in touch with board supervisors. "Our goal is to lessen the impact on the property and the natives we have planted and the wildlife it supports," Pat says.

Rich stresses that it's not just important to learn about native plants, but invasives, too. "The property came with a pond ... that had some

native plants growing around the perimeter like blue flag iris (*Iris virginica shrevei*) and queen of the prairie (*Filipendula rubra*)," he says. "When we first moved in, I was so proud of myself for pulling out all the 'purple loosestrife' around the pond. That is until I showed Pat – she promptly reprimanded me for ripping out all the native blue vervain.

"That is when I realized I needed more education on plant species and plant recognition," he says.

"Belonging to Wild Ones has been a wonderful educational experience and has really helped us become better stewards of the land."



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A dramatic shift in gardening is underway as we move away from the practice of planting lone specimens isolated by seas of mulch. A more resilient approach takes into

account that plants do not grow in isolation and that their interactions help them thrive. Nature abhors a void and will try to fill in empty spaces.

By being proactive in the process, combining species that have coevolved together and layering them, we create more resilient plantings that reduce overall maintenance and weed pressure. This will inherently produce more naturalistic-looking gardens that can be inspired by wild



Solidago odora Pycnanthemum incanum

native plant communities. This approach does not exclude more formal designs. These can be achieved without compromising resilience by taking advantage of plants' physical attributes to create rhythmic patterns.



ACROSS THE NATION

COLORADO

Voters will decide at the ballot box in November if the state should capture and release wolves in western Colorado by 2024, <u>National Public Radio</u> reported.

According to the coalition backing the plan, it'd be the first time that voters — in any state — would decide whether to reintroduce an endangered species.

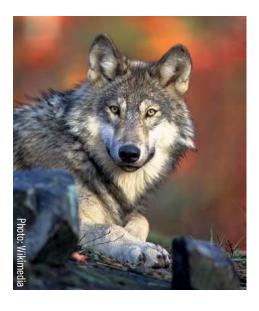
Sportsmen's groups and wildlife managers see the plan as an assault on <u>a tradition of North American</u> <u>conservation</u>, which has long let bureaucrats manage wild animals based on science and public input. Proponents believe that the same model can't be trusted to help predators like wolves, which are often seen as a threat to hunters.

Federal plans to delist gray wolves as an endangered species have added an urgency for initiative backers. The Trump administration proposed the rule change last March. If it goes forward, states would make their own decisions about how to manage the predators. Gray wolves have already been delisted in the Northern Rocky Mountain states.

FLORIDA

A new <u>study</u> from the University of Florida has found that planting native wildflowers on golf courses not only benefits pollinating insects, but also supports natural pest control and therefore saves time, chemicals and resources, the <u>Native Plant Conservation Campaign</u> reported.

Researchers established wildflower plots on three golf courses in northcentral Florida. They then compared the number and diversity of pollinators and other flying beneficial insects in flowering plots with that of turfgrass plots. Compared with turf, wildflower plots increased the number of pollinators and beneficial insects, including those that act as natural biocontrol by consuming pest insects. Also, greater native wildflower diversity led to increased natural biocontrol services, allowing for reduced pesticide use.



Colorado may become the first state to reintroduce an endangered species, gray wolves, at the ballot box.

GEORGIA

Georgia's roadside wildflower program has been updated to require that all trees and other plants used to beautify Georgia's roadways be native to Georgia and grown in a Georgia nursery, the Native Plant Conservation Campaign reported.

The Georgia roadside wildflower program is supported in part by the Georgia Department of Transportation sale of native plant license plates.

NORTH CAROLINA

The North Carolina legislature adopted legislation (<u>SB</u> 606) last summer prioritizing native plant species in Department of Transportation roadside plantings. The bill passed unanimously showing overwhelming bipartisan support, the <u>Native Plant Conservation Campaign</u> reported.

In passing the law, the North Carolina legislature recognized the critical ecosystem services that native plants deliver to human societies and economies. The bill also reflects understanding that "[g]ardens and landscapes composed of native plants require little or no fertilizers, soil amendments or pesticides and use less water, and planting, cultivation and preservation of the state's native plants provide a natural link to wild land while presenting beauty and benefit and instilling a greater appreciation for North Carolina's natural heritage."

This is not the first such initiative in the U.S. A 2017 New Jersey law requires that native plants be used to landscape roadways. In addition, the Federal Highway Administration and the U.S. Forest Service recently developed the Ecoregional Revegetation Application to guide the selection of locally adapted native plants for federal roadside revegetation.











The "Science-based Trials of Row-crops Integrated with Prairie Strips" (STRIPS) program was conceived in 2003 by Iowa State University scientists to study the effects of native prairie on soil, water and biodiversity on farms.

Strips of native prairie of varying sizes have been planted on experimental and commercial farms. The strips are often employed in concert with other "regenerative agriculture" techniques such as cover crops and no-till practices. Regenerative agriculture seeks to capture carbon in soil and aboveground biomass to reduce greenhouse gas accumulation and support soil health, water quality and native wildlife.

After several years of data collection, the STRIPS team found that including even a small amount of native prairie on a farm

A STRIPS project in Tama County, lowa. The Science-based Trails of Rowcrops Integrated with Prairie or STRIPS team has been conducting research on prairie strips for more than 10 years and have shown that integrating small amounts of prairie into strategic locations within corn and soybean fields — in the form of in-field contour buffer strips and edge-of-field filter strips — can yield great benefits for soil, water and biodiversity.

substantially improves <u>water quality</u> and nutrient retention, reduces erosion and generates <u>other benefits</u>.

For example, in farmed watersheds, the addition of only10% prairie reduced sediment export by 95%, phosphorous export by 90% and nitrogen export by nearly 85% in surface runoff water when compared to 100% row crop watersheds.

Further, after seven years, an average of 51 native plant species were found in prairie strips, compared to 13 species found within the row crop areas. These native plants provide habitat for birds, small mammals, bees and butterflies, and other beneficial

organisms that cycle nutrients, increase soil fertility, and provide pest control and pollination services. Fields with prairie strips host twice as many birds and bird species than those with 100% row crops.

As of 2019, prairie strips have been established in Iowa, Minnesota, Missouri, Michigan, Wisconsin and Illinois. If you are a landowner interested in implementing prairie strips, learn more by exploring the resources on the STRIPS Practice Establishment and Management page or email prairiestrips@iastate.edu.

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Get to know your Honorary Director

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 was a boy, probably in fourth or fifth grade, I asked my parents if I could make a garden of wild flowers, trees and shrubs at the back end of our property. I have no idea what inspired me to do that. They said "yes," and I did it, and cherished it. Then my dad decided he should educate me by buying some superior "horticulturally improved" plants from a nursery. I bitterly opposed the idea. Somehow it violated my vision. In the end, he insisted on planting a nursery pine tree. I disliked it. It grew impressively fast, but developed an ugly, disfiguring disease and declined. The local pines I had planted, however, just grew bigger and healthier. The experience may have helped launch me on a life of being dubious of whether those in authority always know best. I remind myself of that from time to time, particularly on days when some people look at me as an authority.

Q: What is the best advice you've been given? By whom? A: For best advice, I'd have to go with Dr. Robert Betz, the original "prairie prophet" of this region. He worked to save remnants, like convincing cemetery boards that the rare ecosystems surviving in some old settler cemeteries deserved good stewardship. He offered to care for and restore them, pull the weeds, and do controlled burns from time to time. Most such boards (made up of local undertakers, barbers, doctors and whoever else was willing) said no when first asked. But he returned again and again. He described his approach this way: "Steve, do you know those beach toys, the blow-up clowns or whatever, that are weighted on the bottom, and when you push them over, they stand up again? That's what I am. I beg these boards to care for the prairie – so rare and needy. And they don't hear me at first. I smile and plead, and they respond by punching me over. But I always just stand up again with a big friendly smile and ask again. It may take months or years. Many board members gradually understand what I'm trying to say. In other cases, their arms get tired of throwing punches. But ultimately, in response to honesty, persistence and friendliness, they usually say yes."



Q: Of what specific work or book are you the most proud and why?

A: I suppose most of the time I feel most rewarded by my work to facilitate the growth of conservation communities like the North Branch Restoration Project, Deer Grove Volunteers, or Friends of Nachusa Grassland. The richness of the prairies, savannas and woodlands blends with the spirits of the generous people. It's a pleasure to visit these "societies" or "kinship groups" and catch up. Sometimes it seems like an honor greater than I had the right to expect to spend my days among such fine people. Communities of plants and animals that include people who treat each other and the planet with affection and respect represent an ideal worth dedicating lives to.

Q: If your personality was encapsulated into a plant, what plant would it be? And why?

A: Perhaps the bur oak or Leiberg's panic grass. If the oak, I'd note that it loves fire (and depends on it as much as I do), and it's rooted there for the long haul. Dappled oak shade is welcome to people, other animals and plants. It's a tree of high quality that I can only aspire to. Then again, out in the sunny open, there's Leiberg's panic grass with its delicately hairy leaves and tiny purple flowers - so gorgeous, and yet hardly anybody notices them. It's a bit player, a supporter, but a valuable component of what promotes diversity and richness of the community as a whole.

Q: What advice do you have how Wild Ones members can make a difference in 2020?

A: Wild Ones members are ambassadors. Nature and the planet both need our help badly. Friendly, positive, big-hearted people with open minds have the best chance to make positive inroads with our neighbors and larger communities. I pull dandelions from my lawn (even though I kind of like them) to not offend some neighbors. At least nine other families on our street now plant milkweeds and other wild plants that I'm eager to share. Today, the neighborhood. Tomorrow, the planet.







Gardening for good bugs

By Susie Van de Riet

Don't want to use pesticides to stop bugs from devouring your crops or other garden plants? You don't have to.

A holistic method described by the Xerces Society known as <u>Conservation Biological Control</u> promotes supporting naturally occurring, native beneficial insects and arthropods through the use of locally native plants and certain landscaping methods. Providing habitat they desire will encourage them to come and live in your yard. Then, they can help to address some pest problems, becoming your most important garden allies.

Meet Your Partners in Crime

Beneficial insects and arthropods, "beneficials" for simplicity, are labeled as such in part because they help to provide people with the best arsenal to keep garden pests in check. Many beneficials are helpful predators and parasitoids of agricultural and garden "pests." These predatory beneficials include wasps, mantises, true bugs, lacewings, spiders, predatory mites, and harvestmen or daddy long-legs. Yes, wasps and spiders are beneficial to us and are often given minimal credit for keeping ecosystems in balance. Since the mention of spiders and wasps usually elicits fear and disdain from people, I offer perspective regarding these awesome little beings so we can start to dismantle their mostly unjustified reputation.

There are 18,000 species of wasps and 3,400 species of spiders in North America, according to insectidentification.org. Many go unnoticed by us, and yet, they have a bad reputation despite all of the biocontrol and pollination (by wasps) services they render. I worked outdoors near flowers almost every



Flower fly adults spend much of their time nectaring on flowers, but their larvae are carnivorous and can eat up to 50 aphids per day.

day for 5+ years, and I know these creatures appear largely uninterested in us. That said, if you are allergic to stings, always have a back-up plan if you get stung. Let's get down to more specifics about these biocontrol agents and what they target.

Beneficials eat, or feed their young with many pest arthropods in our landscapes, keeping invertebrate populations in check. For example, many caterpillars eat crops, but this can be a problem if there is nothing to keep the caterpillars from getting out of control. However, beneficials like wasps, come to the rescue – many feed caterpillars to their young and keep caterpillar populations in

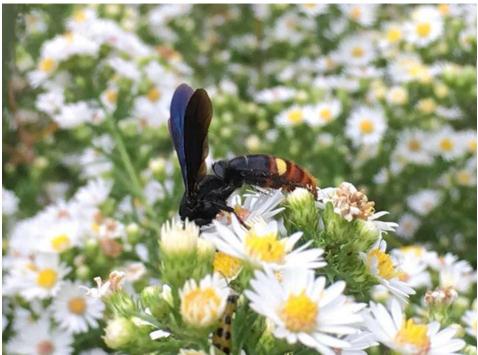
balance. A wasp's ability to keep pest populations in check can mean the difference between successful crop production, or a damaged crop that goes to waste. This predator-prey relationship is important to agriculture, but also for native plants and even non-native ornamentals.

In the garden, the following groups of beneficials provide biocontrol:

• True bugs (Order: *Hemiptera*) include minute pirate bugs, assassin/ ambush bugs, and predatory stink bugs. These may target thrips, mites, scales, aphids, plant lice, small caterpillars, various insect eggs and sometimes beneficials.







- Mantises (Order: *Mantodea*) are generalist predators that will eat many different beneficials and pests alike.
- Lacewings (Order: *Neuroptera*) include green and brown lacewings; lacewing larvae travel up to 100 feet in search of prey and can consume up to 400 aphids each week.
- Beetles (Order: *Coleoptera*) include firefly beetles. The adults feed on nectar/pollen and the larvae feed on snails/slugs, caterpillars, worms and other small soft-bodied insects.

Beetles also include lady beetle larvae and adults that specialize on aphids, scales/mealybugs and a variety of others. Even more, in this group are ground beetles and tiger beetles that target elm-leaf beetles, other small insects, fly and beetle larva, caterpillars, aphids and snails/slugs.

• Flies (Order: *Diptera*) include flower flies, larvae feed on aphids (sometimes 50/day), scale, mealybugs, spider mites and thrips. The adults feed on nectar.

Clockwise from left: A yellow jacket preparing its kill (a 2-lined spittlebug) for its young. This yellow jacket was so preoccupied with its activity it let people get close up to take photos. Spittlebugs feed on plants and therefore could be considered a problem if not kept in check; Mantis' are generalist predators, feeding on "pests" and beneficial insects alike. This one was seen among the bee habitat and woodpile, possibly seeking shelter or stalking its next meal; Scoliid wasps like this one are parasitoids of subterranean beetles. So they lay their eggs on (and ultimately kill) pests like Japanese beetles in their grub form.

- Spiders (Order: *Araneae*) include wolf spiders, jumping spiders, orb weavers and sheet weavers that hunt aphids, beetles, caterpillars, leafhoppers, bees, wasps, butterflies and moths, etc.
- Predatory mites (Order: *Acari*) target aphids, lace bugs, pine-tip moths, scales and mealybugs, white-flies, leafhoppers, spider mites, small caterpillars, fungus gnats, insect eggs, thrips, plant lice, bark lice, springtails and other small insects.
- Harvestmen, a.k.a. daddy-long legs, (Order: *Opiliones*) feed on a number of slow-moving insects including true bugs, beetles, moth eggs, caterpillars, earthworms, plant lice, snails and slugs.
- Wasps (Order: *Hymenoptera*): Adult wasps typically feed on nectar/sap, but some species will feed on insects and arthropods. Female predatory wasps collect prey to bring back to their larvae including aphids, stink bugs, caterpillars, beetles, flies, true bugs, grasshoppers, bagworms, lace bugs, emerald ash borers, spiders, etc.

The above information and more detail can be found in the Xerces Society's <u>Habitat Planning for Beneficial Insects</u>, which can be downloaded free as a PDF.

Be an Accomplice: Provide Habitat

There are several strategies we can implement to support beneficials in gardens, farms and native plant areas. Habitat is key. For our ben-

eficials, habitat requirements are similar to what we need: food, shelter, space and a pesticide-free (poison-free) zone. Many beneficials need a constant source of nectar throughout the growing season. Native plants with extrafloral nectaries (glands on leaves and petioles that secrete nectar) are excellent sources. Plant families with extrafloral nectaries include Rose, Bean, Aster, Willow and Dogbane. Maximum benefit will come from having 25% or more of your yard planted with nectar sources, according to Xerces Society's Farming with Native Beneficial Insects: Ecological Pest Control Solutions.

Many adult and larvae predatory beneficials prefer a diet of your "pests" including aphids, spiders, beetles and other invertebrates. You most likely have your bases covered with food for all if you have insects and spiders in your garden, and ample nectar sources throughout the growing season.

In conjunction with making sure beneficials have food, there are land-scaping practices to help you create ideal habitat. Beneficials need shelter as well as nesting sites and materials. This is where you get to do less work. Leave the leaves and spent plant debris. Retain at least one-third height of dormant growth standing until spring green up. Try to leave standing hollow stems, rotting wood, nesting blocks and patches of bare soil where adults and/or larvae will take shelter, overwinter, and also use as a nesting site (beetles, wasps and bees).

Low-growing vegetation and groundcover such as little bluestem (*Schizachyrium scoparium*) can provide well-needed shelter from the elements. Brush piles serve as fantastic hunting grounds and shelter for beneficials like beetles and lacewings. Create beetle banks, or smaller beetle bumps. These raised habitats of soil or berms planted with native grasses and wildflowers will be of special interest to predaceous ground beetles and other beneficial insects.





Left: Six-spotted tiger beetles will hang out in their burrow waiting for prey to wander by. Their long thin legs are built for sprinting (which makes for a big accomplishment to capture a decent photo of them). Right: Bold jumping spiders seem to be the polar opposite of their common name in how they behave. They are robust spiders that want nothing to do with people.

Locate the berms adjacent to cultivated fields or gardens to provide undisturbed winter cover so beetles can return more readily to the plots during the growing season. Larger berms can be 1-foot high by 2-feet wide by 6-feet long, and smaller berms can be 1-foot high by 2-feet wide by 2-feet long. These provide refuge from areas that are tilled, but try to limit tilling of gardens and fields to minimize disruption to ground nesters, dwellers and microbes.

While prescribed burning is important for native plant growth and flowering, and both burning and mowing are helpful for controlling some invasive plants, these should be limited or put on a rotation schedule. Beneficial populations can survive in plant materials as a refuge, allowing for their rebound since their population is not wiped out. Other important considerations are to avoid burning and mowing during critical nesting seasons (usually spring and summer), and to limit this maintenance to no more than 30% of an

area in one year, so that each zone in an area is only disturbed every 3-5 years. Doing so will ensure there is enough undisturbed shelter and food for beneficials.

Be informed about insecticides and avoid them whenever possible. Take time to research alternative solutions if you need a more immediate result than what Biological Conservation methods afford. As you are purchasing plants, be sure you are getting plants that are not treated with neonicotinoids or other systemic pesticides as these will hinder your efforts at supporting beneficial insects and arthropods.

Outsmarting the Enemy

Other helpful strategies to outsmart pests include providing a trap crop to attract the pests away from your primary crop or ornamental and placing it among native plant habitat where you hope to attract the natural enemies of pests. Intersperse crops and ornamentals with native plants that are nectar sources, such as rows

or hedgerows of flowering natives. From large-scale agriculture to smallscale vegetable gardens, annual crop/plant rotation helps keep pest populations in control. Make sure you have adequate plant diversity to guard against complete losses. Research the exceptions where certain native plants may not be helpful because they are alternate hosts. In the case of the apple maggot, hawthorn and wild plum are alternate hosts and should not be planted near apples and pears. Lastly, always be cautious when purchasing native plants and generally refrain from getting cultivars as these may not provide the same nectar benefit as the native species.

Conclusion

Beneficial insects and arthropods can be our best offense and defense to pests in our gardens. They are on the frontlines to keep ecosystems in balance and can do this best where we offer them ideal habitat. Do what you can to support these creatures. The more people put these simple practices into place, the more we will support these beings, and everyone will benefit.

Finally, take time to be still and curious, and observe their behaviors when they show up. Enjoy their presence in the space you share with them. As Albert Einstein said, "Look deep into nature, and you will understand everything better."

This article is adapted from Wasps: Allies in the Garden, which Susie Van de Riet wrote for the Missouri Prairie Journal, Volume 40(2): 25–29. Summer 2019.

Susie Van de Riet, a St. Louis Wild Ones business member, is owner/ designer/educator of St. Louis Native Plants LLC. She has a formal education in horticulture along with much experience working with a variety of plants while specializing in native plants to Missouri. It is her work and passion to connect people with native plants and wildlife.

What to plant to attract 'good' bugs? (for Midwest)

WILDFLOWERS

Groundcover/Short

- Robin's plantain, Erigeron pulchellus (lt/med shade) mid-late spring
- pussytoes, Antennaria spp. (sun/med shade) mid spring early summer
- purple poppy mallow, Callirhoe involucrata (sun) early-mid summer

Mid

- golden alexanders, Zizia spp. (sun/med shade) mid spring early summer
- lanceleaf coreopsis, Coreopsis lanceolata, (sun/lt shade) late spring early summer
- mountain mint, *Pycnanthemum spp*. (sun/lt shade) mid-summer early fall
- partridge pea, *Chamaecrista fasciculata* (sun) early late summer
- boneset, Eupatorium perfoliatum (sun/lt shade) mid-summer early fall
- asters, Symphyotrichum spp. (sun/med shade) late summer mid fall

Mid-Tall

- bee balm, *Monarda bradburiana* (sun/shade) late spring early summer
- milkweeds, Asclepias spp. (sun/med shade) late spring early fall
- common yarrow, *Achillea millefolium* (sun/lt shade) late spring mid summer
- plains coreopsis, Coreopsis tinctoria (sun) mid late summer
- rattlesnake master, Eryngium yuccifolium (sun/lt shade) mid–late summer
- goldenrod, Solidago spp. (sun/shade) late summer mid fall
- late figwort, *Scrophularia marilandica* (part sun/med shade) late summer mid fall
- yellow sweet coneflower, *Rudbeckia subtomentosa* (sun/med shade) late summer early fall
- prairie dock, *Silphium terebinthinaceum* (sun/lt shade) late summer early fall

SHRUBS/TREES

Short shrubs

- prairie red root, Ceanothus herbaceus (sun/lt shade) late spring
- New Jersey tea, Ceanothus americanus (sun/lt shade) early summer
- leadplant, Amorpha canescens (sun/lt shade) early summer
- wild hydrangea, *Hydrangea arborescens* (shade/part sun) early-mid summer
- shrubby St. John's wort, *Hypericum prolificum* (sun/med shade) early-late summer

Taller shrubs & trees

- ninebark, *Physocarpus opulifolius* (sun/shade) early summer
- elderberry, Sambucus canadensis (sun/shade) early-mid summer
- wild plum, *Prunus spp.* (sun/lt shade) early-mid spring
- serviceberry, Amelanchier arborea (sun/med shade) mid-spring
- redbud, Cercis canadensis (sun/med shade) early-mid spring
- hawthorn, Crataegus viridis (sun/lt shade) late spring
- sassafras, Sassafras albidum (sun/lt shade) mid-spring
- basswood, Tilia americana (sun/lt shade) early summer







Where have all the birds gone?

New research shows bird populations down 3 billion from 1970 Bird populations in the United States and Canada have plummeted 29% since 1970. That's almost 3 billion birds — from iconic songsters such as meadowlarks, to long-distance migrants such as swallows and backyard birds including sparrows, according to a 2019 study published in the journal *Science*.

"Multiple, independent lines of evidence show a massive reduction in the abundance of birds," said Ken Rosenberg, the study's lead author and a senior scientist at the <u>Cornell Lab of Ornithology</u> and <u>American Bird Conservancy</u>. "We expected to see continuing declines of threatened

species. But for the first time, the results also showed pervasive losses among common birds across all habitats, including backyard birds."

The study notes that birds are indicators of environmental health, signaling that natural systems across the U.S. and Canada are now being so severely impacted by human activities that they no longer support the same robust wildlife populations.

The findings showed that of nearly 3 billion birds lost, 90 percent belong to 12 bird families, including sparrows, warblers, finches and swallows — all common, widespread species that play influential

roles in food webs and ecosystem functioning, from seed dispersal to insect control.

Among the steep declines noted:

- Grassland birds are especially hard hit, with a 53% reduction in population more than 720 million birds
- Shorebirds, most of which frequent sensitive coastal habitats, were already at dangerously low numbers and have lost more than one-third of their population.
- The volume of spring migration, measured by radar in the night skies, has dropped by 14% in just the past decade.

"These data are consistent with what we're seeing elsewhere with other taxa showing massive declines, including insects and amphibians," said coauthor Peter Marra, senior scientist emeritus and former head of the <u>Smithsonian Migratory Bird</u> Center and now director of the Georgetown Environment Initiative at Georgetown University. "It's imperative to address immediate and ongoing threats, both because the domino effects can lead to the decay of ecosystems that humans depend on for our own health and livelihoods — and because people all over the world cherish birds in their own right. Can you imagine a world without birdsong?"

Evidence for the declines emerged from detection of migratory birds in the air from 143 NEX-RAD weather radar stations across the continent in a period spanning over 10 years, as well as from nearly 50 years of data collected through multiple monitoring efforts on the ground.

"Citizen-science participants contributed critical scientific data to show the international scale of losses of birds," said coauthor John Sauer of the U.S. Geological Survey. "Our results also provide insights into actions we can take to reverse the declines." The analysis included citizen-science data from the North American Breeding Bird Survey co-

What are you doing?

Over the next year, the *Wild Ones Journal* will be highlighting the plight of North American birds and what we as Wild Ones members can do about it. But we want to know what you're doing to help birds in your yards or properties. Email your stories and photos to <u>barbara.a.benish@gmail.com</u> for inclusion in a future story.

ordinated by the USGS and the Canadian Wildlife Service — the main sources of long-term, large-scale population data for North American birds — the <u>Audubon Christmas Bird Count</u>, and <u>Manomet's International Shorebird Survey</u>.

Although the study did not analyze the causes of declines, it noted that the steep drop in North American birds parallels the losses of birds elsewhere in the world, suggesting multiple interacting causes that reduce breeding success and increase mortality. It noted that the largest factor driving these declines is likely the widespread loss and degradation of habitat, especially due to agricultural intensification and urbanization.

Other studies have documented mortality from predation by free-roaming domestic cats; collisions with glass, buildings and other structures; and pervasive use of pesticides associated with widespread declines in insects, an essential food source for birds. Climate change is expected to compound these challenges by altering habitats and threatening plant communities that birds need to survive. More research is needed to pinpoint primary causes for declines in individual species.

"The story is not over," said coauthor Michael Parr, president of American Bird Conservancy. "There are so many ways to help save birds. Some require policy decisions such as strengthening the Migratory Bird Treaty Act. We can also work to ban harmful pesticides and properly fund effective bird conservation programs. Each of us can make a difference with everyday actions that together can save the lives of millions of birds — actions like making windows safer for birds, keeping cats indoors and protecting habitat."

"It's a wake-up call that we've lost more than a quarter of our birds in the U.S. and Canada," said coauthor Adam Smith from Environment and Climate Change Canada. "But the crisis reaches far beyond our individual borders. Many of the birds that breed in Canadian backyards migrate through or spend the winter in the U.S. and places farther south — from Mexico and the Caribbean to Central and South America. What our birds need now is an historic, hemispheric effort that unites people and organizations with one common goal: bringing our birds back."

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By Catherine Zimmerman

Back in the '90s, as I was fully engaged in my filmmaking career, my focus was all about control. Tight control of the images, from timing, to set up, to lighting was my over-arching goal. Each job presented its own set of challenges. No two days were alike. The one constant was this need to control the outcome and possibly get a shout out, "job well done!"

This need to control didn't stop when I hung up the camera for a weekend in the garden. I was busy neatly trimming hedges of yews and boxwoods. Lush rose bushes with pristine blossoms were set prominently against a sparkling white fence. Black spot? Never! Japanese The author's native garden wraps around her cottage in Yellow Springs, Ohio, where 27 species include trees, shrubs, perennials, grasses and sedges.

beetles? No match for my clouds of pesticides! One of my favorite and prized perennials was purple loose-strife. I remember being quite irritated when it was banned for sale because it was deemed invasive to wetlands. It was staying put in my yard.

And then there was my great, green lawn. It stretched grandly from the plethora of pink, salmon and magenta impatiens surrounding my house (which were gigantic, thanks to Miracle Grow) all the way to the street. I had a corner lot so there was quite a lot of lawn to behold. I became Queen of the Lawn. When asked how I managed this splendor, I heralded the wonders of chemicals

and pesticides. I was in control.

One particularly slow film work winter I contracted to shoot 72 episodes of Home & Garden TV, which was not my usual type of film work. Typically, I was hired to shoot issue-oriented pieces or profiles of interesting people, which aired on shows like 60 Minutes and CNN Presents. I thought this H&G contract was a piece of cake; there were no moving targets, just a bunch of inanimate objects. Oh, was I wrong! I quickly realized the streaming sunlight bouncing off the walls, counters and cabinets destroyed my ability to control the images. I was fighting the color temperature battle, tung-



sten-light typically found indoors vs. daylight. I always shuttered daylight by covering windows. No can do when you need to include windows for H&G TV!

Then I had an epiphany. Stop trying to control nature. Let the light in. Start working with nature. This might seem like a no-brainer, but this was my 23rd year of shooting and I was comfortable with my techniques and control. A strange, little, wild idea was creeping into my brain. This idea of working with nature could become central to the way I lived my whole life, starting with doing no harm. I made the connection between my use of pesticides and the complete obliteration of the fireflies in my yard. I started to wonder how many other species I had destroyed that weren't so noticeable. That was the day I stopped using pesticides and started to truly work with nature.

First steps were trying to learn as much about soil and plants as I could. I went back to school in horticulture and landscape design. The soils class really blew me away! Who knew so much action was going on underground between billions of soil organisms and plant root zones? There is a thriving net-

Oak Openings Region Wild Ones chapter founder Todd Crail and his student army of Habitat Heroes remove buckthorn at Irwin Prairie State Nature Preserve.

work of microbial and fungal life, providing nutrients to plants above ground and, in return, plants deliver sugars to the underground dwellers. And above ground, the symbiotic relationships continue as native plants host native pollinators and provide food and shelter for wildlife. In return, wildlife helps pollinate and spread seeds for reproduction of

plants. Pretty amazing! Nature has it all worked out.

I started to see an evolving role for myself as a messenger, combing my expertise in photography, storytelling, environmental issues, horticulture and organic practices to help convince folks to work with nature. Collaborating with experts Neil Diboll, Larry Weaner and Mike

Plants show off their beauty with gold, red, bronze and tawny colors against a winter sky.





Catherine and soundman Rick Patterson film at Prairie Crossing with ecologist Steve Apfelbaum and Prairie Crossing developers George and Vicky Ranney.

Nadeau, I launched into a film about meadowscaping as an alternative to lawn. No need to bombard your property with fertilizers, pesticides, weekly doses of water and constant mowing. Meadow and prairie plants do just fine with deep root systems, all the under and above ground symbiotic action and just once a year mowing. Bonus! Meadows and prairies are full of life, teaming with pollinators, birds and butterflies. As it turns out, there was a lot to know about making meadows and prairies. I felt it was imperative to write a companion book, to create a comprehensive guide for organic creation of these beautiful, natural landscapes.

While developing <u>Urban and</u> <u>Suburban Meadows</u>, <u>Bringing Meadows</u>caping to Big and Small Spaces,

I met Douglas Tallamy. Tallamy is to native plants what Al Gore is to climate change. He is a man traveling the continent spreading the message that native plants are crucial to saving insect species and building wildlife habitat. I asked him to work with me to explain how that applies to meadow and prairie planting in a section in the book and film, *Why Native Plants?*

That collaboration led to a new film, Hometown Habitat, Stories of Bringing Nature Home, which is based on Tallamy's research, books and lectures. Hometown Habitat is a 90-minute environmental documentary focused on educating how and why native plants are critical to the survival and vitality of local ecosystems with a goal to inspire people to plant native plants,

providing a *call to action* to change our garden choices to include native plants. Tallamy provides the narrative thread that challenges the notion that humans are here and nature is someplace else. Doug says, "It doesn't have to, and shouldn't be that way." Inspiring stories of habitat heroes and community commitment to conservation landscaping illustrate Tallamy's vision by showing how humans and nature can co-exist with mutual benefits.

With the financial help of many individuals and organizations, especially Wild Ones chapters, *Hometown Habitat, Stories of Bringing Nature Home* was completed in May 2016. To date, the film has been viewed thousands of times across the country, telling eight compelling stories about the power of native plants:

• **Douglas Tallamy**, Ph.D., Entomologist, teacher, author and environmental activist. Tallamy leads the charge to inform and inspire audiences all over the country as he eloquently speaks about diversity and the critical, ecological connections

between native insects and native plants. This is a very inspiring and informative segment that provides the framework for the documentary.

• Million Trees NYC (Ecosystem Services) Hometown Habitat focuses in on the partnerships formed and the habitat heroes that make planting 1 million trees in New York City in 10 years feasible.

• **Be A Habitat Hero Program** (Water conservation) Teaching about restoring habitats with little water resources in the Colorado water

CHAPTER TITLE/TIME	SUBJECT	POTENTIAL AUDIENCES
The Basics –Douglas Tallamy 0-15:55	Intro to the concepts	All
Ecosystem Services - Million Trees NYC 15:55 - 27:01	Urban reforesting Engaging communities and children	Urban settings Civic associations Students
Water Conservation – Habitat Hero Program 27:01 – 38:00	Colorado Xeriscaping Landscaping in housing developments	Anyone in time of drought or who has high water bills Homeowners associations Landscape designers Retirement communities
Environmental Art Solutions - EcoArtists 38:00 - 48:08	Florida Creating living art Schools Museums Designed landscapes	Artists Museum staff Educators Developers Landscapers
Sustainable Practices – Redefining the Horticulture Industry 48:08 – 56:05	Chesapeake Bay Capitol Hill Horticulture industry Landscape design	Garden centers Landscape designers Anyone in the horticulture trade Urban settings Homeowners Developers Homeowners Associations
Restoration and Conservation Development – Steven Apfelbaum 56:05 – 1:05:45	Rebuilding degraded land Housing developments Storm water treatment train	Developers Landscape designers Military Government Retirement communities
Interfaith Environmental Movement – Sacred Grounds 1:05:45 – 1:14:43	Montgomery County, MD Stewardship of creation Using properties of faith communities for rain gardens; National Wildlife Federation program	Faith Communities Cemeteries Politicians
Environmental Activism - Wild Ones 1:14:43 - 1:27:54	Volunteers, activism Wisconsin Working with governing bodies and politicians College students	Activists Environmentalists Government Politicians Political groups Older students Educators

basin is the mission of Susan Tweit and founder Connie Holsinger. We follow their lengthy treks and efforts to set up workshops with water districts and citizens, giving handson experience to "wildscape" yards to "grow a network of habitat for songbirds and pollinators across the Rocky Mountain region and beyond.

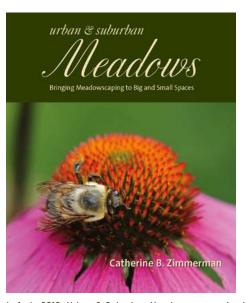
• Eco-artists, South Florida

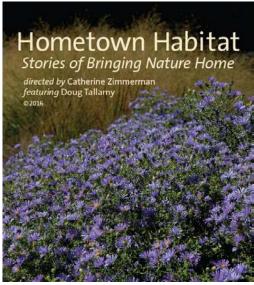
(Environmental Art Solutions) Artists are finding ways to use their art to help solve environmental problems in their hometowns. We follow two unique artists as they identify eco-issues, collaborate with experts to solve the issue, and involve the community in the eco-art solution.

- Sustainable Practices (Redefining the Horticulture Industry) We look at the role the horticulture community can play in helping to educate homeowners about conservation landscapes.
- Steven Apfelbaum (Restoration and Conservation Development) "Once we recognize the important ecological roles that plants play, we can incorporate those roles into existing developments or new developments. We can design them so they are functional ecosystems. And we are beginning to do this."-Doug Tallamy.

Since the '70s, ecologist Steve Apfelbaum has been doing just that. We visit Prairie Crossing, a collaboration between developers George and Vicky Ranney and Steve Apfelbaum, which turns the development paradigm upside down.

- Sacred Grounds (Interfaith Environmental Movement) An initiative of the Garden for Wildlife program of the National Wildlife Federation, it taps into the natural partnership between religion and the notion that we should preserve "God's Green Earth."
- Wild Ones (Grassroots, service-based, environmental activism). Hometown Habitat visits two Wild Ones chapters in the Great Lakes watershed. Wild Ones Green Bay





Left: In 2018, Urban & Suburban Meadows was revised with new pictures and resources. Right: Hometown Habitat, Stories of Bringing Nature Home, is a 90-minute environmental documentary focused on educating about how and why native plants are critical to the survival and vitality of local ecosystems with a goal to inspire people -habitat heroes- to plant native plants, providing a call to action to change our garden choices to include native plants.

activist Ned Dorff is a teacher, husband, father, city council activist and naturalist. Ned represents an upand-coming crowd of young people actively and politically engaged in making environmental change, for the better, in their hometowns. Todd Crail, Wild Ones Oak Openings Region founder in Toledo, is an environmental science lecturer for University of Toledo. Crail advocates with UT for a service-based learning experience, where his students are fully engaged in actively solving environmental, community issues.

I am an honorary director for Wild Ones. I accepted this appointment because I believe in the Wild Ones' mission to promote native plants and natural landscapes. It was a good fit with my work. Advocating for native plants is central to success in ecosystem regeneration. It's all about education and so I decided to close the film with the Wild Ones' very important native plant advocacy message.

We are constantly looking for ways to broaden the outreach possibilities with *Hometown Habitat*, including providing shortened versions for different venues. Email me at catherine@themeadowproject.com for a list of shortened versions.

Some organizations hosting a film screening don't have 90 minutes for the film or they want to target a certain group. With inspiration from Plant NOVA Natives, on the previous page is a chart to help in utilizing Hometown Habitat segments to reach your target audience.

Twelve years ago, while creating Urban & Suburban Meadows, it was a struggle to find good visual examples of natural landscapes in urban and suburban settings. Since then, the natural landscaping movement has really taken off! I didn't realize that until my crew and I started to travel the country in search of habitat heroes for Hometown Habitat. The stories we tell touch on all aspects of the benefits of native plants. What we discovered and bring to light is that a sense of community is at the core of successful projects and what makes conservation landscaping possible.

Remember, all of us have the power to support habitat for wildlife and bring natural beauty to our patch of the earth. To that goal, plant natives!

Catherine Zimmerman is an award-winning director of photography, and author/director of The Meadow Project. She was an honorary director of Wild Ones from 2015 through 2019.

Why prairie plants fit a golf course

By Mike Fahle

Cantigny Golf Course, in Wheaton, Illinois, is a member of Audubon International, which makes this golf course different from most other golf courses in that it is host to a multitude of diverse bird species.

Cantigny was constructed through a wooded property that consisted mostly of oak trees. During

construction, the soil was saved and reused because of its high organic matter that recycled rich nutrients over time of decomposing flora and fauna.

But this golf course is also exceptional in that it is landscaped with prairie grasses and forbs. People may call these "weeds" because most people do not know the benefits of

prairie plants that support the many species of birds in the golf course.

Prairie plants provide open habitats and food sources. Raptors hunt these areas for mice, voles, squirrels and rabbits. This mixed habitat is attractive to other species of raptors, such as the Great Horned Owl (*Bubo virgianus*), including one pair that nested in the oak trees for three years.

Smaller birds also benefit from the prairie habitat. The American goldfinch (Spinus tristis) searches out seed and down for its nests from thistle (Cirsium sp.) and seeds from purple coneflower and sunflower. The eastern bluebird (Sialia sialis) also benefits from the plantings that attract insects such as cicadas, beetles and crickets. The bluebird is also attracted to the fruits of Sumac (Rhus sp.) and wild grapes (Vitis riparia), especially throughout the winter months.

There are also plants on the course that attract one of the smallest birds, hummingbirds (*Archilochus colubris*). Hummingbirds navigate through the prairies and edges of the woods searching for nectar in the Ohio buckeye (*Aesculus glabra*), wild columbine (*Aquilegia canadensis*), coneflower and jewelweed (*Impatiens sp.*). Not only does the prairie provide food, but it also provides winter protection for wildlife, which is particularly important since the winter wind in the Chicagoland is bone chilling.

The prairie grasses serve as cover for ground-nesting birds such as wild turkeys (*Meleagris gallopavo*). Although adult wild turkeys roost in trees at night for protection from predators, they nest in the taller grasses of the prairie.

grasses of the prairie.

Native plants, such as *Echinacea purpurea* add color to the Cantigny Golf Course landscaped with prairie grasses and forbs. It is home to many birds, pollinators and other wildlife.









Top: A spicebush swallowtail butterfly is just one of many visitors to the Illinois golf course. Bottom left: A monarch nectars on milkweed in the Cantigny Golf Course prairie. Bottom right: Little bluestem and sumac seedlings add color and texture to the golf course landscape, complete with a stream in the background.

Cantigny Golf Course has two water streams. Prairie plants can improve the water quality through their extensive root systems. The stream on the north part of the property is lined with prairie grasses and forbs such as purple coneflower (Echinacea purpurea), black-eyed Susan (Rudbeckia hirta) and Indian grass (Sorghastrum nutans). Using prairie plants in this manner reduces erosion. They also filter water before entering the groundwater reservoirs, reducing contaminates. So in essence, water entering the golf course property exits cleaner. Prairie plant roots also retain water, which benefits the soil's holding power.

Prairie plants lose a portion of their root system every year as the roots decay and add organic matter to the soil, which improves the soil by increasing the absorption by soils nearby. Plants are a natural buffer against flooding, and add beauty to the course.

Another way to look at the prairie is that it is a natural "war zone." Conflicts occur between "good" insects and "bad" insects in a continuing battle. Everything has a predator. By using prairie forbs instead of only acres of greens, more birds are attracted. They are predators of bagworms as a natural method of control. A prairie community adds biodiversity, thus reducing the need for pesticide use. A golf course is a beneficial green space.

Just like parks and forest preserves, a golf course can be a place to experience and learn from nature. So take a walk. You may learn something.

Michael Fahle is the only naturalist at Cantigny Golf Course and a member of the Greater DuPage (Illinois) Chapter of the Wild Ones.

2 awarded Wild Ones student memberships; recipients provide inspiration in their work with native plants

By Andrew Pfisterer

The Oak Openings Region (Ohio) Chapter of Wild Ones recently named students from the University of Toledo and Bowling Green State University as recipients of the Denise Gehring Student Award Scholarship, each receiving a one-year student membership to Wild Ones. It's clear that we can learn a thing or two through our youthful local talent.

Kelsey Childers works with GreeningUT through Service Learning or GUTS. Through the Green Fund, Childers and other students from the University of Toledo (UT) were able to plant more than 12,000 natives in the area in 2019. She and previous students were able to get the "buy in" from UT and have

planted more than 11,000 native plants at the university alone. The remaining 1,000 plants were planted in local roundabouts.

As of press deadline, the GUTS team was overwintering 100 trays of plants. They were also trying to determine the number of seeds that germinate from the weight of a certain plant species to more efficiently grow natives for their planting projects based upon the space that they are given for the respective project.

Meigan Day, of Bowling Green University, is researching "Nectar Resource Quality of Oak Savanna Pollinator Habitats." Day said her work is "to better understand how nectar resource availability can impact habitat quality for Lepidoptera and other

nectar-consuming pollinators within oak savanna habitats."

She has studied nearly two dozen different flowering species for nectar sugar per flower and determined that three of the 22 native plants she tested had the most nectar sugar per shrub: New Jersey tea (134 mg/shrub), dotted horsemint (41mg/ shrub) and wild bergamot (36mg/ shrub).

"Preliminary results suggest that sites relevant to (the federally endangered) Karner blue butterfly occupancy rely on a greater availability of nectar sugar in the spring (May - early June) than the summer," she said. The research that Day is performing will be important when determining oak savanna habitat management efforts to provide conservation of our native pollinators.

Congratulations to both Childers and Day on their Student Awards. We thank them for spreading the message about native plants through their work.

Andrew Pfisterer is a member of the

Youth Initiative Committee and is the vice president of the Wild Ones Oak Openings Region (Ohio) Chapter.

What is your chapter doing? We'd like to know and feature your chapter activities in future issues. Email Editor Barbara A. Schmitz at barbara.a.benish@ gmail.com the details; be sure to include high-resolution photos.

Denise Gehring Student Award 2019 Denise Gehring Student Award 2019

Left, Kelsey Childers of the University of Toledo, and Meigan Day of Bowling Green University, each received the Denise Gehring Student Award Scholarship from the Oak Openings Region chapter.

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Wild Ones thrives only through the heart and dedication of its amazing members. We deeply appreciate your efforts and extend our most heartfelt thanks to all who contributed so generously to the Wild Ones 2019 Annual Appeal Campaign. We proudly share your names

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Again, our thanks for your generous gifts and contributions!



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A female ruby-throated hummingbird and fire pink took People's Choice honors in the 2016 Wild Ones photo contest.

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Janet Allen says she was surprised to read that pollinators like thistle, so she purchased pasture thistle (Cirsium discolor) and found that bees do like it.

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