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Wild Ones®

NATIVE PLANTS, NATURAL LANDSCAPES

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Meeting Place

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

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Seek information to be more efficient, effective

I just finished reading a book detailing the amazing success of a spy ring set up by George Washington in 1775.

“George Washington’s Secret Six” was written by historians fascinated by centuries of secrecy that protected the six patriots who served in the Culper Spy Ring. Turns out Nathan Hale was the new nation’s first spy, known yet today for saying, “I only regret that I have but one life to give for my country.” His 1776 hanging troubled Washington greatly, but the general also recognized the Patriots’ critical need for information on British plans. So, he tried again, slowly gathering a group of six spies and protecting their identities to ensure their names were kept secret through the war — and well beyond their deaths. In fact, the name of one of the six still remains a mystery; it was the sole female member, called “355.” The network of six regular citizens, among them a tavern owner, a newspaper editor and a tailor, passed information in complex codes that literally turned the tide of the war.

My column this month isn’t really about spying or American history. It’s about the importance of seeking information. After all, that’s the crux of what Washington recognized 240-plus years ago and what I realized when I put down the book and mulled over its contents.

Over the past five months, I have been startled by the number of times I’ve made a 180-degree turn on a position after digging out further information on Wild Ones issues. Input from long-time leaders and members, financial detail and program statistics have never seemed so important. That’s one of the reasons that I value members’ messages and ideas – more information.

On the chapter level, information is just as critical to local success. Over the past



several years, which of your local Wild Ones presentations and programs have gotten the highest attendance? What are the results of each membership drive, both immediately and in the

following few months? Which plants sell best at your plant sale and which need more education provided so that the public recognizes their unique beauty? Which Wild Ones educational materials seem most valued by the public?

I urge you to look for information on what is making your chapter successful — and do more of that. The same information will tell you what is less valued, so maybe that should be changed or dropped. That’s what we are doing at the national office, slowly (and yes, at times painfully). As you can imagine, this isn’t a quick process because it must be very, very thorough so we make the right decisions for the long term.

Once we have gathered and verified key information on how we can run a more effective and efficient Wild Ones organization, the last piece of needed information will be chapters’ input. In the next few months, expect to be invited to share your opinions and wishes. In the meantime, please look at information at your local chapter level that you can use as background for your input. Your national board is doing the same at the national level.

And, speaking of information, my new favorite source of chapter information is the State of the Chapter Reports, all of which are now in and being compiled. I’m personally looking forward to reading 2016 chapter happenings and am anxious for a summary to share widely among all chapters. I cannot wait to start bragging!



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.



Pam Wilcox
Interim Executive Director

Resilience. It's the word that runs through my mind as the Wild Ones national office regains strength after the challenges of last year. Resilience. It's a concept that celebrates the efforts and patience of our national and chapter leaders and members as they work through the inevitable challenges facing nonprofits today. Just like native plants that are knocked for a loop by bad weather, our internal strengths coupled with favorable conditions allow us to reemerge shining brightly, sometimes in unanticipated ways.

Wild Ones *is* resilient – the major web and email problems that have plagued us since last fall and made computer usage such an adventure are under control. The move to a larger capacity server along with added safety features means that the Wild Ones website is more stable with much faster response times. The national office is back to the normal weekly updates that refresh and keep chapter member databases current. We are now turning our attention to new member and member renewal processes – how to make them more efficient and effective

with improved chapter communication and coordination.

Throughout January and mid-February, we've had a few interesting and unusual obstacles thrown our way. Our "last woman standing" on staff, Kim Walbrun, slipped on the ice in January and fractured her leg, resulting in six weeks recovery time and the necessity to work remotely. And, we've suffered through "freaky Tuesdays" – five straight weeks of terrible weather on Tuesdays, be it snow, sleet, ice or fog, which made just getting to the Neenah office a win. We are definitely looking forward to spring!

On the plus side, we now have a great part-time contract staff person, Administrative Assistant Elaine Krizenesky, who is helping keep our office running smoothly. Be sure to welcome her the next time you contact the national office. Not sure who to contact at the national headquarters for your questions? See our handy chart below.

Like all issues, this JOURNAL is full of interesting thoughts and ideas as we wait for spring. Included is a special section that honors the names of some very special people. On behalf of our board, members and staff, Janice and I give deep thanks to each and every one of you who donated to the 2016 Annual Appeal. The success of Wild Ones is only as big as the hearts and efforts of its members. By that measure, Wild Ones is blessed!

Pam

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Your **membership dues** are **tax deductible** if you itemize deductions on your tax return.

It's true. Since Wild Ones is a national not-for-profit natural landscaping organization created solely for the purpose of educating the public, its donors can deduct their contributions including membership dues.

Learn more about your dues deductibility [here](#).

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Pending Trump administration approval, the rusty patched bumblebee may be declared endangered by the U.S. Fish & Wildlife Service on March 21.

PHOTO: Dan Mullen/Flickr

The rusty patched bumblebee (*Bombus affinis*) almost became the first bee species

in the continental United States to be declared endangered after suffering a dramatic population decline over the last 20 years. However, the day before it was to become official, President Donald Trump and his administration delayed its inclusion on the endangered list.

The move is consistent with the executive order signed by Trump in January, delaying for 60 days all federal regulations passed under former President Barack Obama that have yet to take effect, [UPI](#) reported.

“Delays to protecting this already vulnerable pollinator may prove catastrophic,” the Xerces Society said in a statement.

The U.S. Fish & Wildlife Service added the bee to its endangered species list in January. The service’s Midwest Regional Director Tom Melius said: “Our top priority is to act quickly to prevent extinction of the rusty patched bumble bee. Listing the bee as endangered will help us mobilize partners and focus resources on finding ways right now to stop the decline.”

Once common and abundant across 28 states from Connecticut to South Dakota, the District of Columbia and two Canadian provinces, the rusty patched bumble bee has experienced a swift and dramatic decline since the late 1990s. Abundance of the rusty patched bumble bee has plummeted by 87 percent, leaving only a few small, scattered populations.

Since 2000, rusty patched bumble bees have been reported in Illinois, Indiana, Iowa, Maine, Maryland, Massachusetts, Minnesota, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia and Wisconsin, and Ontario, Canada. Some populations are so small that it is unclear whether they still exist.

Causes of the decline in rusty patched bumble bee populations are believed to be loss of habitat; disease and parasites; use of pesticides that directly or indirectly kill the bees; climate change, which can affect the

availability of the flowers they depend on; and an extremely small population size.

DELAWARE

The city of Wilmington spent more than \$300,000 to restore a pond overrun by thousands of goldfish that had once been peoples’ pets.

“It was an orange mass of fish,” Sean Duffy, water division director for the Public Works Department, told [The News Journal](#).

The city drained the water and removed the fish and overgrown plants from the pond, which is over an acre in area and up to 10 feet deep, Duffy said. The fish, an invasive species, had to go because without a predator, they overwhelmed the ecosystem.

Plans call for the city to refill the pond, replant native plants and stock the pond with native fish, such as bluegill and largemouth bass, which will “prevent a population explosion of goldfish if they are ever introduced again,” he said.

ILLINOIS

A Chicago-based nonprofit is hoping to restore natural wildlife habitat at the Chicago River by installing floating gardens this spring.

Urban Rivers plans to use native Illinois wetland and prairie plant species to provide the habitat foundation for the floating islands. Each plant selected will fulfill a goal of bringing back wildlife to the Chicago River.

The group started a [Kickstarter campaign](#) with the goal of raising \$10,000. But by the time the campaign ended in December, they had raised nearly three times that amount, allowing organizers to eventually triple the number of floating gardens that will be installed. In late December, the Chicago Department of Transportation granted a permit to the group to implement up to 600 linear feet of floating gardens this spring. Eventually, they plan to rehabilitate an entire one-mile stretch of the river, which they hope will turn into an urban wildlife sanctuary for fish, plants, birds, turtles and more.

MAINE

The state of Maine has enacted new rules that ban the sale and distribution of 33 plants that have been determined to be invasive.

The [Bangor Daily News](#) reported the new Department of Agriculture, Conservation and Forestry rules, noting this is the first time the state has barred

the sale and distribution of invasive species. The new rules only bar the [prohibited species](#) from being distributed or sold, and do not require the removal of the species if already planted. While the rules went into effect on Jan. 14, the prohibition of sale will not begin until Jan. 1, 2018.

MISSOURI

Gov. Jay Nixon announced in December the creation of three new state parks in southern Missouri, which will feature some of the state’s most distinctive natural landscapes.

According to [Ozarks First](#), the new parks include:

Ozark Mountain State Park, with 1,011 acres, features an open, grassy, flower-filled landscape of ridges and hills. The property is located northwest of Branson along Highway 465.

Bryant Creek State Park, with 2,917 acres, consists of thick oak and pine forests and nearly two miles of river hills and bluffs along Bryant Creek. The property is located in Douglas County, near the Ozark County line approximately 22 miles southeast of Ava.

Eleven Point State Park, with 4,167 acres, includes six miles of direct river frontage on the Eleven Point River, a nationally protected river corridor. The property is located in Oregon County approximately 45 miles east of West Plains, near Alton.

“These new state parks ensure that we can protect and preserve these valuable natural landscapes for generations to come,” said Nixon. “At a time when other states are closing or even selling state parks or charging day use fees, we are expanding our system of state parks to offer more opportunities for Missourians to experience the outdoors, at no admission cost.”

OHIO

Ohio’s list of rare native plants has been updated and is now available [here](#).

Six Ohio plants are also included on the [federal list of endangered and threatened species](#). Running buffalo clover (*Trifolium stoloniferum*) is federally endangered.

Northern monkshood (*Aconitum noveboracense*) Lakeside daisy (*Tetranneuris herbacea*), small whorled pogonia (*Isotria medeoloides*), prairie fringed orchid (*Platanthera leucophaea*), and Appalachian spiraea (*Spiraea virginiana*) are federally threatened. 🌿

Native plant gardeners with keen observation skills have surely noticed the increase in flower-visiting insects in their gardens. Fascinating visitation patterns emerge from one growing season to the next such as the same type of bee consistently foraging on a particular native plant. About 15 years ago, while installing and tending native landscapes, I started to notice these patterns and the astounding diversity of insects the native flowering plants attracted compared to traditional gardens filled with exotic plants. Since I always had an interest in entomology, it didn't take much for me to become enthralled with bees, to create a desire to learn more about these amazing insects, and to begin a fascinating journey educating others about their importance and connection to native plants.

If you are on a similar journey or have an interest in learning more about bees, the good news is that North America has an outstanding number and diversity of bees. There are about 3,600 species of bees in the United States and about 740 species in Canada, including bees of varying sizes, seasonality, tongue lengths, foraging behaviors, abilities and preferred habitats. Some species are sand-obligate, nesting in sandy sites in existing or ancient dunes or shorelines; a minority are dependent on forests, foraging on the first delicate plants that bloom in spring or seeking nesting sites in wood cavities. Interestingly, some are pollen-collecting specialists (oligolectic), relying on pollen sources for their offspring from a single plant family such as Asteraceae, or more narrowly, a single plant genus such as *Salix* (willow). This reliance on a narrow diet derived from native plants is one of many reasons native plants are critical for the more than 4,300 species of native bees that occur in the U.S. and Canada.

In the last five years, extensive coverage in the media has centered on the plight of pollinators, specifically the European honey bee, *Apis mellifera*. Journalists have written much about this bee and its problems — pathogens, disease, pesticide exposure and other stressors that combined have severely impacted their immune system, health and hive survival. Introduced into North America in the early 1600s, humans have domesticated this industrialized bee for thousands of years. With the attention solely focused on the honey bee, it has become the template for people's understanding of how bees behave (forage), live (colonies or hives), contribute resources for human consumption (wax, honey), and provide some of the ecosystem services (pollination) that humans depend upon. However, this one-bee media coverage is based largely upon economic concerns and not conservation concerns. Hive losses cost beekeepers money and time to replenish their stock. Our current way of growing food in large, conventional monocultures means that the impact on the health and seasonal population fluctuations of honey bees will continue. Unless we change the way we grow food and provide habitat for honey bees — and native bees — this trend of hive losses for beekeepers will continue.

What about native bees?

Despite the importance of native bees, they do not dominate the discussion of bees in the media; in fact, little is heard about the diversity or lifestyles of native bees. Native bees pollinate many of the food crops humans consume and in many instances, are more efficient at pollination than honey bees. Native bees have coevolved with native plants forming critical interdependent relationships, helping to pollinate and maintain diverse, thriving native plant communities. There is still much work ahead to educate the public about native bees. With the spotlight on honey bees, attention is diverted from native bees and one well-meaning, but misdirected, result is the formation of citizen advocacy groups whose mission is to “save the bees.”

SAVING OUR BEEES



However, they focus on saving honey bees, and this dominant message has prompted one-sided responses:

- Individuals introducing a hive of honey bees in their backyard.
- Citizen groups advocating for municipalities to adopt bee-friendly practices while changing ordinances so residents can keep honey bees in their backyards.
- Nature centers installing hives on their property to teach the public about bees. School children on a class trip to these nature centers learn about honey bees rather than native bees, their connection to native plants and *nature*.
- Local, state, and federal conservation organizations joining the “plight of pollinators” bandwagon highlight honey bees in their literature or on their websites.
- A presidential memorandum is issued with honey bees, monarch butterflies and pollinator habitat as its three main goals.
- Corporations or non-profit organizations allowing hives on their campus or rooftops as a public relations campaign to show their support for bees.
- Bee or pollinator-friendly articles or books featuring photos of honey bees.

Contrary to reports in the media, honey bees are not at risk of extinction, and they don't need saving. The most recent estimate is that their population has increased 45 percent worldwide in the last 50 years. Humans have distributed this industrialized bee globally to every continent except Antarctica.



SOME MYTHS AND

As Sheila Colla and J. Scott MacIvor wrote in their 2016 article, *Questioning public perception, conservation policy, and recovery actions for honeybees in North America*, “Honey bee losses are not a conservation problem, but instead a domesticated animal management issue.” Many of the issues they face stem from their intense domestication and stressors put upon them while being transported great distances to pollinate monocultures of crops, being exposed to pesticides, or from the nutritionally poor, inadequate habitat provided for the bees. The average percentage of yearly losses of colonies is around 24 percent for commercial beekeepers with more than 500 hives and 44 percent for backyard beekeepers, according to the [Bee Informed Partnership](#). The

LEFT: A female cellophane bee, *Colletes* sp., perches at the entrance of her nest in the ground.



RIGHT: A cuckoo bee, *Sphecodes* sp., lays its eggs in the nests of ground-nesting bees rather than constructing or provisioning its own nest.

economically acceptable winter loss for commercial beekeepers is 15 percent, and if exceeded then investments in hive replacements are required. The contrast is that honey bee threats manifest as measurable monetary loss (economic), whereas native bee threats are environmental in nature (habitat loss, climate change and pesticides) and loss is more difficult to quantify. For bumble bees, another contributing factor believed to be responsible for the decline of four species is pathogen spillover from commercial bumble bee colonies to wild populations. One of those species affected, *Bombus affinis*, the rusty patched bumble bee, has seen its historic range contract 75 percent. Hopefully, the bee will be added to the federal endangered species list in late March 2017, pending approval from the Trump administration. *Bombus franklini*, Franklin’s bumble bee, native to the Pacific Northwest, is believed to be extinct since it hasn’t been documented since 2006.

Secondly, because honey bees do not need to be saved from extinction, these responses pose problems from a conservation, biodiversity and ecological standpoint. First, honey bees have very different lifestyles compared to native bees. It’s like comparing a domesticated animal with a wild animal of the same family or genus, such as a dog vs. a wolf or a chicken vs. a chickadee. Just like these examples, there are striking differences between the European honey bee and native bees. The majority of native bees do not live in colonies; most construct solitary nests below ground in burrows or above

ground in cavities. They depend on natural landscapes that provide adequate forage and nesting opportunities. Any major disturbance in a landscape managed by humans can impact existing or potential nesting sites of native bees.

Another misguided response is the recommendations put forth for what plants (bee forage) to plant for bees. Many bee advocacy groups focused on “saving” the European honey bee promote the use of nonnative and even invasive plants because they are cited as being “good for bees.” One example of this thinking that comes up often is that dandelions, a plant introduced from Europe, are good for bees because it is the only plant that flowers in early spring. Native bees have survived on this continent for thousands of years without

A pure green metallic sweat bee, *Augochlora pura*, forages near woodlands where it nests in cavities in rotting wood.



dandelions and have found an adequate amount of forage from native plants such as willows, red maple, currants and gooseberries, as well as early flowering woodland wildflowers. Dandelions are an attractive nectar source for bees, but the pollen has a low 15 percent protein content, a nutritionally inadequate food source for alien and native bees to provide for their larvae. In contrast, pollen from native pussy willow, *Salix discolor*, has a 40 percent protein content. Other “plant these for the bees” posters or memes include creeping charlie, birdsfoot trefoil, barberry and Siberian pea shrub, many of which are considered noxious weeds or invasive. Besides planting potentially invasive plants for bees, another concern raised about alien bee species is that they may contribute to the pollination of existing invasive plants, some of the very plants that the introduced or alien bee coevolved with on another continent. With the potential of an increase in the pollination of invasive plants resulting in more seed produced, there is an increased risk of these plants outcompeting native plants, putting further pressure on native bee species already existing in highly fragmented landscapes lacking a diversity of flowering plants.

Lastly, there is growing evidence presented in peer-reviewed journals that honey bees compete for resources with native bees. One hive of honey bees can contain between 10,000-50,000 bees, and honey bees can forage 2 to 4 miles in any direction from a hive collecting resources over an area of land that contains many native bee nests. In contrast, native bees have limited foraging ranges, 200 yards to 1 mile. Measuring the competition for resources has been very difficult for researchers since finding nests and quantifying competition at flowers is challenging, but one recently published paper by James Cane and Vincent Tepedino, *Gauging the effect of honey*

MISUNDERSTANDINGS

bee pollen collection on native bee communities, approached the problem from a different direction. Instead, they looked at the quantity of floral resources collected by one honey bee colony and compared that to the quantity of resources collected by a solitary bee. Their results were that one hive of honey bees in three months collects the equivalent quantity of forage 100,000 solitary bees would collect. The implications of these results may mean that for every hive introduced by well-intentioned people who want to “save the bees,” the negative impact on native bee populations is potentially quite significant. In urban/suburban areas there has been a significant increase in the number of hives introduced, as more municipalities are adopting bee-friendly ordinances allowing hives in residential backyards. These

estimate is at least one acre of flowering plants per hive — an amount that one urban or suburban backyard cannot support. In contrast, farm animals would be provided food but these domesticated animals are confined to farms by fences, so they likely pose a minimal threat to wild populations of animals or birds. Honey bees are different and unique; they forage outside the boundaries of the farm (or backyard) to find their food. Forgoing the responsibility of providing an adequate amount of forage for the number of bees that are kept may put further pressure on wild populations, especially if numerous hives are stationed in one place for summering. This prompts a much-needed consideration for municipalities and advocacy groups that both alien and native bee species have enough forage available. Fortunately, with



LEFT: A female long-horned bee, *Melissodes* sp. visiting a compass plant, *Silphium laciniatum* flower.

RIGHT: A hairy banded mining bee, *Andrena hirticincta* is a specialist of goldenrod and aster species.

built environments that include flower-rich gardens have been found to be very good at supporting common, but diverse, native bee populations. So the negative impact from competition in habitats such as these supporting diverse native bee populations is potentially significant. Honey bees may not be pollinator-friendly at all if these metrics only represent a rough estimate of their potential to deplete limited resources that native bees depend upon.

With habitat loss being one of the main contributors to the decline of native bee species, it is more important than ever to protect or restore the native landscapes that these bees depend upon, including habitat in agricultural fields; local, state, or federal land; and other conservation land. While we can support a diversity of common bee species in our flower-rich residential landscapes including the hopefully soon-to-be endangered rusty patched bumble bee, *Bombus affinis*, it's the large, natural parcels of land that support both rare plants and bee species. Public land managers can be pressured by beekeepers to allow them to place their hives without restrictions on these large tracts of land to forage for the summer months. This is one reason Cane and Tepedino published their paper: “Such a metric is needed by public land managers confronting migratory beekeeper demands for insecticide-free, convenient, resource-rich habitats for summering.” Colla and MacIvor also raised this concern and expressed the need for environmental impact assessments and monitoring of native bee populations before the introduction of hives in large, natural areas.

There is no requirement for beekeepers to provide forage for their bees and it takes an abundance of flowering plants to provide enough food for one hive of honey bees. One

the media covering honey bees, there are many efforts underway to create more habitat, and many beekeeping groups are part of this solution because they realize they need to provide pesticide-free, nutritionally rich plants for their bees. It is important to note, however, while there is overlap in forage for honey bees and native bees, honey bees also need nonnative plants to meet their nutritional requirements.

The journey continues with a call to action. Education about native bees and the habitat they require is critical in order to balance the current lopsided information and media coverage. The knowledge gap is wide, but Wild Ones members and conservationists can help bridge this gap and ensure that the focus is environmental, supports biodiversity, and is not just based on economic concerns of one domesticated species. Let's decrease the pressure on all bees by advocating for, creating, restoring and enhancing habitat for bees, *first and foremost*. This can be accomplished with the strategic placement of hives in landscapes *adequately planted* to support the hives, protecting diverse native bee populations from competition for resources in both built and natural landscapes, and advocating for and supporting more research of native bee populations and environmental impact assessments of landscapes before hives are introduced. 🌸

HEATHER HOLM is a horticulturist and biologist by training who takes part in native bee research projects, and informs and educates audiences in the Midwest and Northeast about the fascinating world of native bees and the native plants that support them. Holm is also author of “Bees: An Identification and Native Plant Forage Guide,” published in February 2017, and “Pollinators of Native Plants.” Learn more at www.pollinatorsnativeplants.com.

Spring maintenance tips for your restoration

Although occasional snow flurries are still being spotted, it seems like we have done it once again — survived winter! Birds are chirping, grass is turning green, trees are flowering and starting to leaf out, and countless other indicators are pointing to another glorious spring season. Our maintenance crew has started spring work again and here are a few of their keen observations:

1. Native perennials are turning green and starting to pop out of the ground. A few species already spotted are pasque flower (*Anemone patens*), Jacob's ladder (*Polemonium reptans*), bottlebrush grass (*Hystrix patula*), wild bergamot (*Monarda fistulosa*), columbine (*Aquilegia canadensis*) and golden alexanders (*Zizia aurea*).



***Aquilegia canadensis* is one of the first native perennials to pop out of the ground.**

PHOTO: Natural Shore Technologies

2. Weeds are starting to poke up already, too. A few that are taking advantage of the sunny days are Canada thistle (*Cirsium arvense*), winter cress (*Barbarea vulgaris*), reed canary grass (*Phalaris arundinacea*), burdock (*Arctium lappa*), and curly dock (*Rumex crispus*). If you are eager to get out and garden, some of these weeds are ready to be controlled.



Early spring is a perfect time to rid your property of *Arctium lappa*.

PHOTO: Natural Shore Technologies

3. We are seeing migratory wildlife making their way back to the Midwest as well. We are noticing a variety of duck species and Canada geese flying back to open lakes. We are also seeing and hearing more songbirds in prairie restorations like bluebirds, meadowlarks and woodcocks. These are telltale signs that spring is here. 🌸

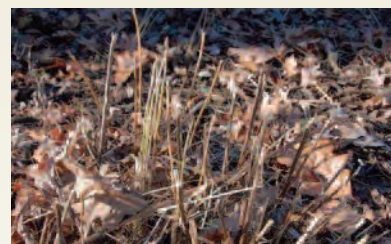
Perhaps you are eager to get out into your native garden or restoration area and do some work?

Below are a few valuable tips straight from our maintenance crew:

- **Conduct a survey.** Do you see any bare areas? This past winter was pretty mild, but that doesn't mean that a few plants might not have made it through the few stretches of severe cold. Now is a great time to make a list of plant species to try in your site. You can also think about observations you made last year. For example, maybe you were missing some yellow in your landscape. Fill in the open, sunny spots this spring with black-eyed Susan (*Rudbeckia hirta*), sneezeweed (*Helenium autumnale*), or grey-headed coneflower (*Ratibida pinnata*).
- **Take on a spring cleanup.** Natural Shore has re-evaluated its practice of "spring cleaning" a few times in the last several years, fine-tuning its approach to benefit our native pollinators. Consider leaving dried flower stalks up from last year. Our native bees use the hollow stalks to overwinter. If you mow vegetation, we suggest you leave a good portion of it on site as a natural mulch and bee-nesting habitat.
- **Keep some dandelions.** Do you run for your weeding gloves each year at the first sign of this classic yellow weed? Might it be possible for you to learn to tolerate weeds like dandelions? Why? Well, this species turns out to be one of the earliest blooming flowers that can actually provide pollen for honey bees for brood rearing this time of year. While pure dandelion pollen is deficient in all nutrients needed by bees, it's still invaluable due to its bounty when in combination with other flower pollen.
- **Go after the invasive weeds.** In smaller areas, hand digging Canada thistle, reed canary grass, burdock, and garlic mustard makes sense. Spring is a great time of year to get energetic and show these weeds that you are the boss. Getting an early start will reduce the chances of these weeds growing quickly and setting seed.



Spring is a perfect time to conduct a survey of your property and see if you have any bare areas. PHOTO: Natural Shore Technologies



Consider leaving dried flower stalks from last year in your garden since some native bees use the hollow stalks to overwinter. PHOTO: Natural Shore Technologies



Don't dig up that dandelion! This classic weed turns out to be an early blooming flower that can help some pollinators in the spring. PHOTO: Wikimedia Commons

TRACY LAWLER is maintenance coordinator and **BILL BARTODZIEJ** is restoration ecologist/principal at Natural Shore Technologies, a design build ecological restoration company/native plant nursery with more than a decade of experience in creating and maintaining quality natural areas. Located in Independence, Minnesota, Natural Shore Technologies grows their own Minnesota native plants and their experience spans from small residential properties to sprawling city and county parklands. Natural Shore Technologies has been a PAL with the Twin Cities chapter since April 2011.

By Tracy Lawler and Bill Bartodziej

By Barbara A. Schmitz

Tim Lewis had an interest in wildflowers for a long time, but the more he learned about them, the more that interest turned into a passion for all native plants.

The immediate past president of the national Wild Ones Board of Directors, as well as former president, board member and plant rescue coordinator of his local chapter, Rock River Valley, Lewis says he ventured into wildflowers in 1991 when he planted a small garden bed in his backyard. A few years later, he took a couple classes about wildflowers at a community college.

He then started gardening more and more with native plants. After buying a few natives at a local nursery one day, Lewis was going out the door, when the owner, Anne Meyer, and an employee, Fran Lowman, stopped him and suggested he join Wild Ones.

“I said I was not interested in joining another ‘club,’ but one of them convinced me to go to a Wild Ones meeting,” Lewis recalls. “I kept telling my wife during the meeting that ‘I was not joining this group,’ but the program was really interesting and the description of the next month’s meeting sounded interesting too.”

In September 1996, Lewis joined Wild Ones, and soon he was taking part in plant rescues, seed collection events and seed exchanges. That same fall, he killed off part of their side yard and planted rescued natives and scattered collected seeds. Each year he adds to his yard.

EDITOR’S NOTE: We’d like to feature our members’ native gardens, large or small, in upcoming issues. If you’re interested in sharing your native garden, send two or three high-resolution photos, as well as a brief description, to write2us@sbcglobal.net. Please include your contact information so we can get in touch with you.

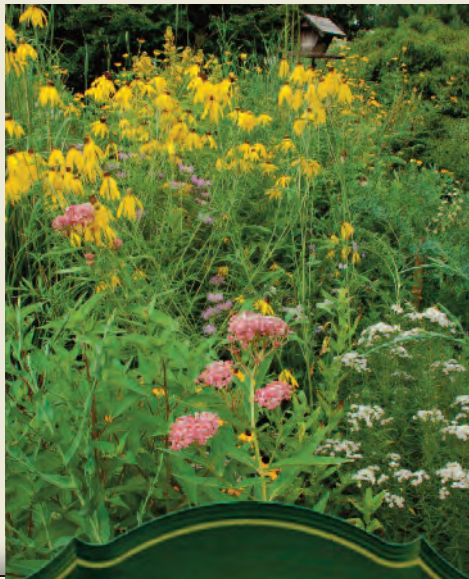


Tim burned the prairie plot on the side of his house.



In 1991, Tim Lewis added his first wildflower bed, which was planted with native plants from Prairie Nursery. The evergreens are not native, nor are the mums behind the bed.

BELOW: Tim Lewis’ first wildflower bed in 2010. The original wildflowers were replaced with local wildflowers. Compare this to the 1991 picture.



“I’ve really never stopped planting natives anywhere I could,” Lewis says. “I had a lot of beds that were filled with nonnative perennials and each time some perennial plants died, I saw it as an opportunity to replace them with natives.”

Lewis says his favorite native plants in his yard include prairie dropseed (*Sporobolus heterolepis*), little bluestem (*Schizachyrium scoparium*), gray-headed coneflower (*Ratibida pinnata*), monarda (*Monarda fistulosa*), compass plant (*Silphium laciniatum*), prairie dock (*Silphium terebinthinaceum*), bloodroot (*Sanguinaria canadensis*), butterfly milkweed (*Asclepias tuberosa*), swamp milkweed (*Asclepias incarnata*), common milkweed (*Asclepias syriaca*), stiff goldenrod (*Oligoneuron rigidum*), showy goldenrod (*Solidago speciosa*) and arrow-leaved aster (*Symphyotrichum sagittifolium*).

The diversity of native plants means that the Lewises get a plethora of birds and insects visiting their yard. “During the migration season we see a larger variety of birds that stop here for a day to eat and rest,” he says. But most of the year their yard is home to a red-bellied woodpecker, a downy woodpecker, black-capped chickadees, cardinals, Eastern blue jay, Carolina wren, native and nonnative sparrows, and mourning doves.

In some years, their yard also attracts many monarchs. “But last year, I saw only four and three of them were in the fall during their migration south,” he says. “Occasionally we get a praying mantis that lays her egg masses on the stems of



A view of the prairie plot taken toward the Lewis home.

Member Garden

Tim Lewis,
Rock River Valley Chapter

some of the native wildflowers. Of course, we get a lot of insects, butterflies, bees, wasps, beetles and spiders.”

Lewis is excited that his yard will be included in a native landscape tour this July being organized by his chapter. “I started preparing the yard late last summer because I had an invasion of Canada goldenrod (*Solidago canadensis*) that took over about one-third of my prairie plot,” he says. He’s already removed about half of it, but it hasn’t been easy. “I selectively killed the plants using a bucket of Roundup and a paint brush,” putting the solution on each stem. “It’s very time consuming and not a lot of fun in the heat of summer. But it’s the only way to kill it...”

Before it got too cold last fall, he planted “well over” 100 plants, most of which he grew from seed. In fact, Lewis says he propagates a lot of his plants from seed that he collects in the yard or gets through the chapter seed exchange.

“I start growing the plants indoors under elaborate shelving with florescent light fixtures,” he says. Then, when the weather warms up, he moves the flats to his greenhouse, which he built from a kit a few years ago, usually growing up to 400 plants.

“I can grow 14 flats of plants at a time,” he says. “I have 12 flats now in the greenhouse waiting for spring to come around.”

While it can be difficult to propagate plants and Lewis has had failures, he still suggests people try it. But he encourages people to first research about what it takes to break the dormancy of each seed



LEFT: This was the first prairie plot that Tim Lewis added to his yard. Visible from the bedroom window, it’s one of the first views he and wife get each day. This photo was taken a week or two after he killed the lawn.

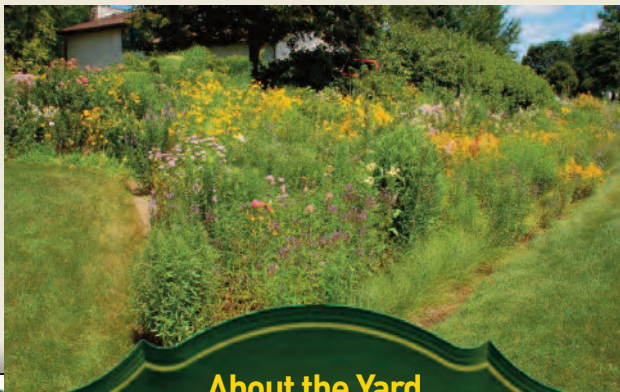


Tim Lewis’ first ditch rain garden in the first year. He explains, “There are a lot of annual flowers planted here because this is in the public view and I wanted the spaces between the natives to be showy. In the fall the annuals died off and the next spring the natives filled in nicely.”



The same ditch garden two years later.

BELOW: A year later with the garden expanded.



About the Yard

- Lewis’s native garden started in 1991 with a small wildflower bed in his backyard, about 5-feet wide by 20-feet long.
- His half-acre yard has evolved and now includes large and small prairie plots, three native shade gardens, and three native rain gardens. Native landscaping takes up about one-third of the yard.
- With the exception of a few shrubs and trees, all of the plants are native to Northern Illinois.
- The yard is home to native plants such as various kinds of milkweed, as well as prairie dropseed (*Sporobolus heterolepis*), little bluestem (*Schizachyrium scoparium*), gray-headed coneflower (*Ratibida pinnata*), monarda (*Monarda fistulosa*), compass plant (*Silphium laciniatum*), prairie dock (*Silphium terebinthinaceum*) and bloodroot (*Sanguinaria canadensis*).

since some native seeds need to be stratified 30 days, while others call for 60 days. “And if you don’t follow that, you’re going to have failure.”

When he buys plants, Lewis says he only buys from native plant nurseries since they know where they got the seed and can confirm that they aren’t nativars.

Each March, he also tries to burn about one-third of his prairie plots. “The current thinking is that you don’t want to burn off all your plants because that kills any insects that overwintered in the plant or their eggs,” he explains. The remaining two-thirds is enough for the insects to recover.

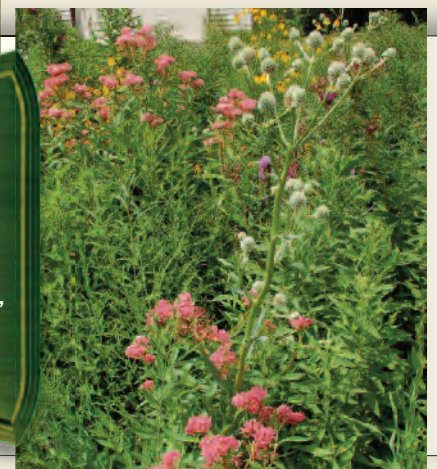
Lewis’ advice to people who are new to native landscaping is to be patient. “Start small, or at least manageable,” he says. “Don’t be afraid to experiment. Lastly, learn from your local chapter programs and fellow members.”

While the advantages of natural landscaping are varied and many, it’s often the simple things in life that are most satisfying.

Lewis says he and his wife, Janaan, get up every morning and look out their bedroom window that faces their prairie plot. “We like to see what is going on there. It is always changing.” 🌻



A path along Tim’s large prairie plot makes it easy for visitors to see nature up close.



A second ditch rain garden provides color and habitat for visiting pollinators.

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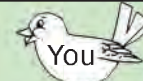
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COUNTERPOINT: A different look at Lurie Gardens

By Charlotte Adelman

Lurie Garden in Chicago's Millennium Park calls itself a "model of responsible horticulture, providing a healthy habitat for a wide variety of plants and wildlife." Lurie is justifiably proud that it is chemical free and that it provides some shelter to certain wildlife. But its model is missing an opportunity to promote the use of native plants.

I am a Chicago-area resident who has often visited and examined the contents of Lurie Garden, so I am knowledgeable about what grows there. I also know how to identify native Midwestern plants, and I know a fair amount about how to distinguish native species from introduced species and nativars, which are cultivars of native species. And, when Lurie Garden's listings show single quotation marks around names like 'October Skies,' 'Aphrodite' and 'Purple Bush,' to name a few, that should ring nativar alarm bells for people committed to gardening and landscaping with true, straight native plants.

The public relations arm of Lurie Garden has persuaded many Chicago residents that it "plays an important role in demonstrating how gardeners can sustainably, naturally and cost-effectively maintain a beautiful native garden in the region's climate" with native plants occupying "nearly 60 percent of the garden," according to a 2012 [Chicagoland blog](#). However, native plant information varies on Lurie's website. Its [fact sheet](#) states Lurie holds "222 total species, cultivars and selections (40.5 percent native to North America, and 26.1 percent native to Illinois)." Yet the sustainability page of its [website](#) states: "You will find 20 types of grasses, 26 types of trees and shrubs, 34 types of bulbs, and 142 types of perennial herbaceous plants within the borders of Lurie Garden. Ninety (40.5 percent) of these plants are native to North America and 26.1 percent (58) are native to Illinois." In addition, according to the [Millennium Park Foundation website](#), which is associated with the garden, "Filled with more than 240 varieties – all perennials – approximately 65 percent of the Lurie Garden's species are native to North America, some to Illinois."

However, in terms of numbers of actual plants, including each of the approximately 140,000 individually "planted by hand" bulbs, the numbers must reach far greater percentages of nonnative plants.

This brings us to nativars, a subject that Wild Ones has a very clear position. "There are just too many unknowns in the process of breeding nativars," states the blog, [Lawanda's Garden](#), citing Wild Ones in noting that nativars are not native plants. Those possible concerns include loss of wildlife and pollinator habitat, increase in allergies to pollen or other impacts on human health, the potential of increasing invasive species, an unpredictable response to climate change, higher maintenance costs for gardeners, and an economic loss to native species growers.

After looking at Lurie Garden's plant lists, it appears that Lurie defines its nativars as native species. Nineteen of Lurie's perennial native herbaceous plants are nativars and thus not native to North America. Further, six of its alleged native grasses are nativars. Two of its "native" shoulder hedge plants are nativars. Three of its "native" Extrusion Plaza plants are nativars. One of its "native" trees is a nativar. And a new addition is also a nativar. Assuming that Lurie's percentage of North American natives includes Illinois natives, the math suggests that about 60 percent of Lurie's perennial herbaceous plant species are not native to North America.

Even when a plant is "native" to North America, when it comes from so far away that its location has nothing in common with the Midwest, there's a lot to be skeptical about. Wild Ones recommends against planting North American plants that are from inappropriate locations. Yet, Lurie touts *Sanguisorba menziesii*, commonly called Alaskan Burnet but simply called burnet by Lurie Garden. This native is part of the far north's ecological world and provides little or nothing to the ecological world in which Chicago-area plants and wildlife evolved and still live.

Lurie Garden presents itself as serving a "palette of texture and color" composed of long-lasting perennials and thousands of gorgeously colored bulbs. What the garden ignores, however, is the vast majority of this texture and color comes from Eurasia and is alien to Midwestern wildlife.

Lurie Garden's plant choices transport visitors to a designed landscape that can never be seen in nature. Lurie Garden is beautiful to view; however, it is not a healthy habitat for a wide variety of native plants and wildlife. ❁

CHARLOTTE ADELMAN, a retired attorney, is co-author of "The Midwestern Native Garden: Native Alternatives to Nonnative Flowers and Plants" and the recently released "Midwestern Native Shrubs and Trees, Gardening Alternatives to Nonnative Species, An Illustrated Guide." Adelman is a lifetime member of Wild Ones with the North Park Village Nature Center Chapter.



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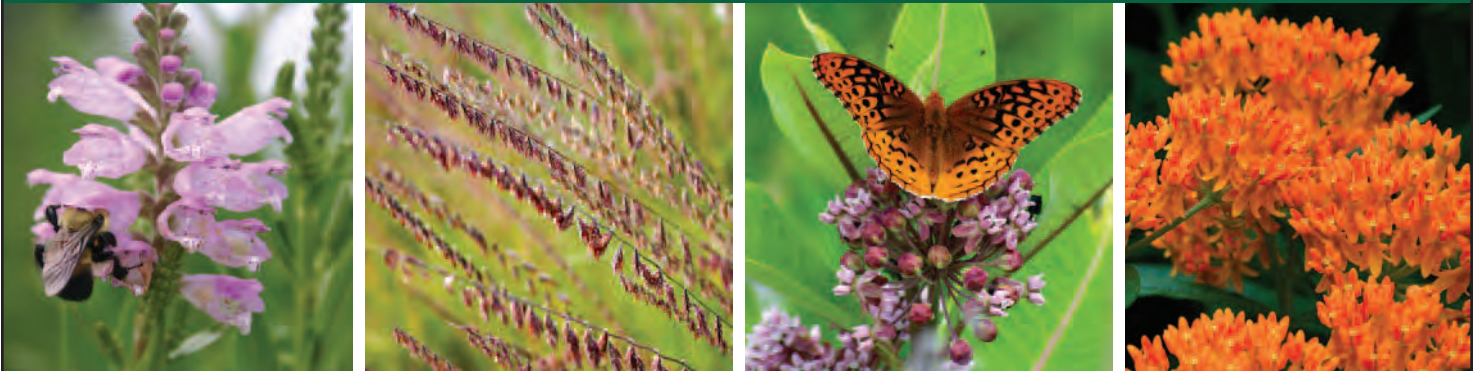


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Every effort has been made to ensure that our donor lists are accurate and reflect gifts made during the Annual Campaign period from Dec. 1, 2016, through Jan. 31, 2017. Should there be an error or omission, please accept our deepest apologies; contact the national office at (920) 730-3986 or communications@wildones.org so we can correct the mistake.



Photo by Rick Francis, "Great Spangled Fritillary on Milkweed"

A list of annual appeal donations from the appeal period of Dec. 1, 2016, to Jan. 31, 2017.

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Photo by Dawn-Marie Staccia, "Prairie Eagle Nature Trail"



Photo by David Poweleit, "Next Generations"

Some of the most common native geraniums

Wild geranium: *G. maculatum*, sometimes referred to as spotted geranium, has small clusters of a few flowers each branching off the top of the plant. Flowers are 1 to 1½ inches across, five-rounded pink to lavender petals and 10 stamens with yellow tips that turn brown with age. Occasionally you'll see an all-white blossom. The petals are streaked with darker lines along the length, and often fade to white at the base. The five green sepals behind the flower are about half as long as the petals, and hairy. At maturity, the entire plant of the *G. maculatum* often turns a brilliant red. It is easily distinguished from the two other Eastern/Midwestern geranium species because it has flowers an inch or more in diameter, where the others are considerably smaller. It grows throughout the U.S.

Geranium maculatum

PHOTO: Donna VanBuecken



Bicknell's cranesbill: *Geranium bicknellii* has two small flowers per cluster and its narrower, more fan-like leaf lobes have blunt or rounded tips. Flowers are about 1/3-inch across with five oblong- to egg-shaped petals, slightly notched at the tip, white to pinkish lavender with darker lines radiating from the base. Their sepals are oval-elliptic with a conspicuous sharp awn at the tip and are hairy on the outer surface. It is predominantly found in northern boreal forests where it responds to disturbances in forest openings, such as lumbering and fire. It, too, grows throughout the U.S.

Geranium bicknellii

PHOTO: Albert Herring, Wikimedia



Carolina cranesbill: *Geranium carolinianum* also has two flowers per stalk, but they are more densely clustered at the branch tips and are nearly stalkless, creating more of a flat-topped cluster. Flowers are ¼- to 3/8-inch across with five oblong petals that are slightly notched at the tip and are white to pink lavender with darker lines radiating from the base. Sepals and stalks are both hairy with a mix of glandular and non-glandular hairs. Like the *G. maculatum*, the leaves of the *G. carolinianum* turn a brilliant red at maturity. With only a few exceptions *G. carolinianum* is almost exclusively found in the western and southern prairie regions, especially in and around rock outcrops.

Geranium carolinianum

PHOTO: Flickr



Sticky geranium: *G. viscosissimum* has two to several 1- to 1½ -inch flowers, in open clusters near the top of the stem. Petals have reddish-purple lines rising outward from the center. The flowers have five sepals and five petals. Petals are long, rounded to slightly notched, pinkish-lavender to purplish and soft long-hairy at the base for about one-fourth the length. Its stem, leaves and flower stalks are covered with sticky hairs. *G. viscosissimum* likes part-shade in interior heat, full sun in cool summer climates and regular water. It grows primarily in western states in the Montane Forest Zone.

Geranium viscosissimum, known for its thick blossoms and leaves, was abundant in a small garden area at Two Medicine Lake's landing area in Glacier National Park, Montana. There were beautiful native flowers everywhere, however.

PHOTO: Donna VanBuecken



Go wild for native geraniums

By Donna VanBuecken

This past spring, fellow Wild Ones Fox Valley Area Chapter member Kristin Kauth and I made a "wildflower tour" of the Glacier/Yellowstone/Grand Teton national parks. The first native plant Kristin and I recognized as similar to our Wisconsin native plants was the sticky geranium (*Geranium viscosissimum*).

In the Midwest, we have the native wild geranium (*Geranium maculatum*), which looks very similar to the native sticky geranium of Montana and Wyoming except the blossoms and leaves of the sticky geranium are substantially thicker and quite hairy compared to the wild geranium. Also, the blooms of the sticky geranium appear to have denser color than the lavender of the wild geranium. I am certain the different environments caused these genetic differences.

Not surprisingly, the word "sticky" refers to the carnivorous enzymes apparently produced by the plant growing further northwest. Based on research, the sticky geranium traps small insects in the sticky substance that covers its stem and foliage. Then the sticky hairs on the *G. viscosissimum* appear to digest and absorb protein.

There are a number of native geranium species throughout North America. They are primarily clump-forming and shade tolerant, and depending upon their location, can thrive in a variety of conditions, including soils, moisture and sunshine.

One of their most unique characteristics is their long, curved, spiky seedpods that look like a crane's bill. They get part of their name from the Greek word, *geranos*, which refers to the long-beaked bird known as the crane. Another unique characteristic is how they disperse seedpods. The elongated tail coils at maturity and then flings its pointed seed some distance, spiraling it into the ground. So if you want to try to gather some of the seed, remove the pods as soon as they begin to turn brown and definitely before they split. Make sure to spread the pods out to dry, but cover them to keep the seeds from flying all over as the pods split open.

Other geraniums

Other natives include:

- *G. atropurpureum* (southwest)
- *G. californicum* (California only)
- *G. caespitosum* (southwest)
- *G. richardsonii* (western states)

Nonnative geraniums that have been introduced include:

- *G. columbinum*
- *G. molle*
- *G. pusillum*
- *G. sanguineum*
- *G. dissectum*
- *G. pratense*
- *G. rotundifolium*
- *G. sibiricum*

Copycat 'geraniums'

Because the geranium leaves are dissected when not flowering, the native geranium plants may be mistaken for Canada anemone (*Anemone canadensis*) in the buttercup family. The wild geranium stem leaves are typically opposite, palmately lobed and lightly hairy. Canada anemone leaves are more sharply toothed/pointed, with a single whorl of three stalkless, mostly three-lobed leaves on the upper stem at the base of the flower stalk.

The native geranium plant is one of my favorites. Since it likes light shade to partial sunlight and can tolerate moist to slightly dry conditions, native geraniums are a good transitional plant from woodland to prairie. They also have a fairly long growing season and continuously develop new flowers throughout the season. Plus, what's not to love when an entire plant turns red in the fall to offset the browns, bronzes and golds of autumn's colors. And lastly, it means less work for me because native geraniums do a good job of self-propagating in the most perfect places! 🍀

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One of the most useful tools available for managing native prairies is controlled burning. A well-timed fire helps control undesirable nonnative cool-season weeds and grasses and prevents invasion by trees and shrubs. Unfortunately, the use of fire is not always an option, especially in urban settings where air quality is a concern, and in prairie gardens and meadows that are near structures, coniferous trees and other flammable materials.

Fire has beneficial effects that include:

- 1) Reducing the vigor of newly emerged cool-season grasses and weeds when burning in mid-spring prior to the emergence of most prairie flowers and grasses
- 2) Burning back and often killing young woody plant seedlings while preventing them from developing into mature plants that can shade out the prairie
- 3) Creating a blackened soil surface in spring that encourages rapid soil warming, tipping the competitive balance from cool-season weeds to warm-season prairie flowers and grasses
- 4) Creating open areas of soil where dormant prairie seeds can germinate and regenerate the diversity of the prairie
- 5) Scarifying seed coats of dormant prairie seeds of species that require or

benefit from high temperatures to break seed dormancy

- 6) Releasing nutrients from previous years' dead vegetation, stimulating more vigorous plant growth

However, there are also a few disadvantages of burning that can be ameliorated by substituting some of the alternative management methods listed in this article or by varying the timing of the burning. Those disadvantages include:

- 1) Regularly burning prairies in mid-spring over a period of many years tends to push the balance of the prairie plant community toward dominance by warm-season prairie grasses at the expense of some prairie flowers.
- 2) The dormant seeds of white and yellow sweet clover (*Melilotus alba* and *M. officinale*), two invasive nonnative leguminous biennial weeds, are stimulated to germinate by exposure to fire and often appear in dense stands, blooming two years after a controlled burn.

However, mowing and raking can be used to simulate the effects of burning to reduce these two problems. Varying the timing of burning in any given prairie (fall, early spring, etc.) can also help reduce the tendency of warm-season prairie grasses to gain ascendance over some prairie flowers.

Managing prairies

when FIRE is not an option



There are four basic management techniques that can be substituted for fire to manage prairies:

- 1) Mowing or cutting in mid-spring, followed by raking to simulate the effects of fire
- 2) Hand weeding
- 3) Applying selective herbicides
- 4) Applying nitrogen fertilizer to disfavor perennial red clover and white clover

Let's look at each method individually:

1 Mowing or cutting prairie meadows

Mowing or cutting prairie meadows and gardens back to soil level in mid-spring at the same time as one would burn, and then raking off the cuttings, accomplishes two goals:

- The new growth of nonnative cool-season weeds is removed, temporarily depriving them of their photosynthetic capabilities during their peak growth in spring. This weakens the plants and the mowed plants must now consume more of their root reserves to grow new leaves, putting them at a competitive disadvantage to prairie plants that remain unaffected since they were dormant or just emerging at the time of mowing.
- The soil is exposed after cutting and raking off debris so the soil warms up more rapidly than if dead vegetation remains in place. Warm-season prairie species grow more rapidly under warmer soil conditions, giving them an advantage over cool-season weedy species.

It is essential that vegetation be cut down to the soil level to inflict maximum damage and remove all the new weedy growth. If the new growth is 6 inches tall and the mower only cuts to 3 inches, the effect is reduced by 50 percent. A flail mower is best because it can be set to mow at ground level, while rotary mowers and bush hog mowers leave 2 to 3 inches of uncut vegetation. A string trimmer can also be used on small areas, again cutting everything down to ground level.

Raking the cut material off the site is necessary to expose the soil to the sun

TOP: The prairie of Eileen Herrling, Appleton, a former Fox Valley Chapter member of Wild Ones, after a spring burning. Generally, one-third of your prairie should be left unburned and set aside as a refuge for wildlife and seed sources.

BELOW: Rodney Sturm's prairie adds color to his Madison, Wisconsin neighborhood.



Mowing a prairie can simulate the effects of fire, as demonstrated at the University of Wisconsin-Green Bay.

and raise the soil temperature rapidly. This can be accomplished on large prairies using a baler or tractor-driven chopper that blows the debris into a chopper wagon pulled behind a tractor.

A 1984 study performed by this author, *Mowing as an Alternative to Spring Burning for Control of Cool-Season Exotic Grass in Prairie Grass Plantings*, showed that a prairie burned on May 15, 1980, exhibited surface soil temperatures that were 18° F warmer than adjacent unburned plots just four days after burning. Studies by others have shown that soil temperatures on burned prairies can be up to 36° F higher on burned prairies compared to unburned prairies in mid-May. Other studies found soil temperatures in prairies that were raked and mowed were within 2° F of prairies that were burned in the same spring.

My study showed that spring burning and mid-spring mowing significantly reduced the leaf production of cool-season grasses. Burning reduced total cool-season biomass by 78 percent, while mowing and raking reduced it by 48 percent. This indicates that mid-spring mowing and raking is approximately 60 percent as effective as mid-spring burning in controlling the total above-ground plant production of the cool-season grasses growing on this site, including quackgrass (*Elymus repens*), meadow fescue (*Festuca elatior*) and Kentucky bluegrass (*Poa pratensis*).

The biomass production of quackgrass, a highly invasive nonnative cool-season grass, was found to be significantly less on both burned and mowed and raked plots vs. those control plots left alone. However, mid-spring mowing and raking does not provide good control of Kentucky bluegrass compared to burning.

Noll Valley, an upscale development just west of Madison, Wisconsin, includes a covenant that requires homeowners to include native plants in one-third of their landscapes.

The frequency of two short prairie grasses, side oats grama (*Bouteloua curtipendula*) and little bluestem (*Schizachyrium scoparium*), were found to be significantly higher on both burned and mowed and raked plots compared to control plots. Much of the increase in occurrence was attributed to removing a thick layer of dead vegetation that had accumulated from previous years' growth that was smothering the shorter grasses.

Other studies have shown that tallgrass prairies that are not burned, mowed or grazed regularly experience significant reductions in the density and vigor of shorter prairie flowers and grasses, and tend to become dominated by sod-forming tall prairie grasses, especially big bluestem (*Andropogon gerardii*) and switchgrass (*Panicum virgatum*). In the absence of one or more of these ecological disturbances, the tall prairie grasses tend to become dominant at the expense of other species, resulting in a significant loss of diversity.

2 Hand weeding

Hand weeding can be used to control weeds in small prairie gardens, but it is not time or cost-effective in larger prairie restorations. In addition, it is not effective in controlling rhizomatous weedy species such as quackgrass, Kentucky bluegrass, smooth brome grass (*Bromus inermis*), tall fescue (*Festuca arundinacea*), crown vetch (*Securigera varia*), Canada thistle (*Cirsium arvense*), and field bindweed (*Convolvulus arvensis*). It is virtually impossible to

remove all of the intertwined and widely spreading underground rhizomes of these weedy species.

Although quackgrass and Kentucky bluegrass can be readily controlled with controlled burning, the others noted above are only slightly discouraged or completely unaffected by either mid-spring burning or mowing and raking. These highly invasive weeds are some of the most vexing weed problems in prairie gardens and meadows. The only realistic method for controlling them is to completely smother the area for two consecutive years, dig everything out a foot or more deep and replace it with new clean soil, or resort to the use of selective herbicides.

3 Applying selective herbicides

Herbicides are sometimes the only cost-effective method for controlling problem perennial weeds in prairie gardens and meadows. However, herbicides should always be employed as a last resort for controlling only the most intractable weed problems.

When you do decide to use herbicides, do your research first. Learn what is legal and recommended in your state by checking with your Department of Agriculture. Make sure you use appropriate personal protective equipment and be aware of the risks since some herbicides are carcinogenic. Take into account drift, not only in your prairie garden, but also drift onto a neighbor's property, which can result in huge fines in some states. *continued*



When applying herbicides in a diverse prairie with numerous species of flowers and grasses, great care must also be taken with the timing of the application, the herbicide(s) used, and the method of application. Herbicide technique and safety training and certification is recommended through state extension offices to learn about personal protective equipment, laws, Material Data Safety Sheets and the proper mixing of herbicides.

There are four primary means of applying herbicides:

- Foliar spraying, which includes spot treatment, or in special situations, general application across a large area. Foliar spraying is generally not recommended in prairies due to the risk of aerosol particle drift.
- “Glove of Death” method, in which one places a large absorbent cotton glove over a neoprene herbicide glove, saturates the glove with herbicide, and strokes the leaves of the target weed. This avoids aerosol drift onto adjacent plants. This method works best with two people, with one person holding nearby plants away from the weed to be treated while the other applies the herbicide. A variant on this method is “Tongs of Death,” in which an old cotton sock is wrapped around a set of tongs and saturated with herbicide to apply it onto the target plants.
- Cutting the plant at the ground level and treating the cut stump immediately with herbicide. This is most commonly used for killing invasive trees, shrubs and vines, but it can also be employed to control perennial herbaceous weeds. This is best done in fall and winter to kill woody plants, and during the height of the growing season with herbaceous weeds.
- Basal bark treatment during the dormant season of late fall and winter. This is used for controlling young woody plants. The herbicide is mixed with a crop oil or diesel fuel to help it penetrate the bark into the vascular tissue that carries the herbicide into the roots to kill the plant. This method works on most trees and shrubs with basal diameters less than 6 inches. Older trees have bark that is too thick for the herbicide mixture to penetrate. Great care must be taken to avoid applying excess herbicide that drips down the trunk into the

soil, as many brush-killing herbicides can readily move through the soil and kill nearby desirable dormant herbaceous plants.

Herbicides can be divided into four main groups:

- Broad spectrum herbicides kill most flowers and grasses. Glyphosate, a widely used broad spectrum herbicide, is typically used to eliminate weeds prior to planting a prairie garden or meadow. It is seldom suitable for use in established plantings due to the broad range of plants that it kills.
- Broadleaf herbicides affect only dicotyledonous plants whose seedlings exhibit two cotyledons (first leaves) as they emerge at the time of germination. This includes most non-grassy flowers and weeds, as well as most trees and shrubs. Broadleaf herbicides are used widely for controlling weeds in lawns and grain fields. These powerful chemicals disrupt plant hormonal systems; many are suspected of causing various cancers, birth defects, tumors, etc. and should be used with great caution and with protective gear.
- Grass selective herbicides are designed to affect only grasses and can be used to control nonnative cool-season grasses in prairies composed of native wildflowers and warm-season grasses. These are applied when the warm-season prairie grasses are dormant, in mid-fall, or in mid-spring before they emerge from dormancy.

Fall applications are particularly effective in controlling cool-season grasses. To maximize the effect of the herbicide, the prairie should be mowed down in late August to stimulate new plant growth that will be more vigorous. Unfortunately, mowing at this time cuts back the prairie grasses and later-blooming flowers just as they are at peak activity. However, since they are perennials, they do not experience long-term damage from this one-time event.

After the warm-season prairie grasses have gone dormant and the leaves are crispy to the touch, the appropriate grass-selective herbicide can be applied to the still-green new growth of the nonnative cool-season grasses. Most foliar-applied herbicides are ineffective when the air temperature

is below 60° F. Thus, when spraying in fall, it is critical to select a day when the temperature will meet this minimum threshold in order to achieve good results. A follow-up second spraying the following spring after the surviving cool-season grasses emerge, and just before the warm season prairie grasses come up, will further set back the unwanted nonnative grasses.

For spring applications, the prairie should be mowed, but not raked, in late fall of the prior year to remove standing dead vegetation that would intercept the spray in the following spring. The prairie should not be burned or mowed in the spring it is to be treated since this will encourage earlier emergence of the warm-season grasses before the target cool-season grasses have developed to a stage where maximum damage can be inflicted.

- Specialty herbicides are those that target certain plants while not affecting others. The herbicide Imazapic (Plateau) is often used in conjunction with prairie seed mixes composed of species that are resistant to its effects. It can be used as a pre-emergent, applied just before or at the time of seeding, and/or as a post-emergent, after the seeds have germinated and developed to a stage where they are resistant to the herbicide’s effects. However, be sure to read the herbicide label carefully since Plateau can only be used as pre-emergent or as a post-emergent application on certain prairie species.

4 Applying nitrogen fertilizer to disfavor red and white clover

Two nonnative cool-season clovers, red clover (*Trifolium pratense*) and white clover (*Trifolium repens*), are common problems in prairie restorations. Like many members of the legume family, the seeds of these two clovers can remain viable in the soil for decades, and they will often germinate in newly seeded prairies.

They initiate growth in early spring, getting a head start over predominantly warm-season prairie flowers and grasses, and extract nitrogen from the atmosphere to enhance their growth rates. Mid-spring controlled burning is an effective tool to knock back these two aggressive plants that can smother

young prairie plants in the first few years after seeding, if left uncontrolled.

The ability of clovers to efficiently obtain nitrogen from the air gives them a significant advantage over most prairie species. This can be counteracted, although not halted, by the judicious application of slow-release nitrogen fertilizers that contain no phosphorus.

It is rare that one would apply fertilizers of any type to a prairie, especially nitrogen, which tends to grow bigger weeds faster. However, the addition of nitrogen essentially levels the playing field for non-leguminous prairie plants by neutralizing the nitrogen-fixing advantage of the clovers. Fertilizers that contain a combination of nitrogen and potassium can also be used as long as they do not contain any phosphorus, which favors the growth of legumes. Apply the fertilizer at one-third to one-half the rate recommended for lawns.

For maximum effect, the prairie should be mowed to ground level in mid-spring after the clovers have put on significant new growth, and then the mowed material should be raked off. This cuts back their new growth, depriving them of their foliage and weakening their root systems. Immediately after mowing and raking, apply nitrogen fertilizer. The clovers will re-grow, and are often an ongoing problem, but at least the prairie plants will have more of a fighting chance against them.

Red clover is a short-lived perennial that reaches its maximum development in the first three or four years of prairie seeding, and then gradually fades away. The first few years after seeding are the most critical for the development of the slow-growing prairie seedlings, and red clover must be controlled to prevent it from smothering them during this time. Mowing at a height of six inches every month or so during the first two growing seasons will help prevent red clover from shading out the young prairie plants.

White clover is a longer-lived perennial that grows about 3-6 inches tall and creeps rapidly by rhizomes to form a mat that can smother other plants. Mowing will not control white clover, as it does not grow tall enough to be damaged by cutting. In fact, regular mowing at 2 to 6 inches favors white

clover over taller plants by removing the top growth of its competitors. White clover is difficult to control without fire; burning eliminates its leaves down to the soil level.

The application of nitrogen fertilizer in mid-spring after burning or close mowing and raking has been shown to be effective in favoring many prairie species. As the prairie matures and plants gain in height, taller native species will tend to shade out the white clover over time, although not completely eliminate it.

Conclusion: Prevent weeds before planting is best

The most effective method of preventing weed problems when establishing prairie meadows and gardens is to select a site that does not have a history of weed infestation, and then eliminate all perennial weeds on the site prior to planting. Smothering small areas of 1,000 square feet or less with cardboard or old rugs for one full growing season (April through October) will eliminate practically all perennial weeds, with the exception of pernicious rhizomatous species like Canada thistle, field bindweed and crown vetch, which require two consecutive years of smothering.

If a problem weed is spotted in a planting, it should be dispatched immediately, before it spreads. Although prairie gardens and meadows are low maintenance, they are not *no maintenance*. With a modest amount of pre-emptive effort early on, larger weed problems can be avoided with a little timely intervention. 🌸

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LEARN MORE

- [Prairie Nursery's website](#) has a variety of resources and guides available.
- Book: "The Tallgrass Prairie Center Guide to Prairie Restoration in the Upper Midwest" by Daryl Smith, Dave Williams, Greg Housel and Kirk Henderson, University of Iowa Press, 2010.
- [Tallgrass Prairie Center Resources for Practitioners](#)
- Herbicide safety training and certification is recommended through your state extension offices to learn about personal protective equipment, related laws, Material Data Safety Sheets and the proper techniques including how to mix up herbicides, and drift reduction. Training example: [Ohio State University Extension](#)
- [Phone apps for pesticide use](#)



Steve Hull walks through his prairie, then seven years old, in Winchester, Wisconsin.



Colorful flowers make up the prairie garden of Fay Lentz, of Harrisville, Wisconsin.

Monarchs, rainbows AND predatory squirrels

Visiting overwintering sites in California

Monarchs gather
in a neighbor's
pine tree to
bask in the sun.

PHOTO: Candy Sarikonda.

Monarch numbers up slightly from 2015

The 2016 Western Monarch Thanksgiving Count found 298,464 western overwintering monarchs across the California coast. These results show an increase of 26,540 butterflies compared to the 2015 count, but the number is a fraction of the 1.2 million reported in the late 1990s.

Although the number of reported western monarchs increased this year, the difference is likely due to a large increase in monitoring efforts. About 100 volunteers monitored a record-breaking 253 sites. View the final count [here](#).

By Candy Sarikonda

In late December 2016, I journeyed to California to visit Lighthouse Field State Beach and Pacific Grove Monarch Sanctuary, two of the monarch overwintering sites along the California coast that usually host large numbers of monarchs. Lighthouse Field in Santa Cruz has been hosting monarchs each winter for years in a grove near Pelton Avenue and West Cliff Drive. On the day of my visit, I found about 8,000 monarchs at the site, tucked in native cypress trees in the southeast corner of the grove. Some were on the perimeter of the grove, roosting and basking in the sun. But the majority were tucked in the U-shaped nook, also catching the afternoon sun as they basked and nectared on nearby eucalyptus blossoms and ice plant, an alien and fast-growing succulent. I always enjoy seeing how the monarchs could pack themselves so tightly into the cypress branches, but the strong glare made it challenging to observe them. At first, it appeared that there were only a few thousand monarchs. But looking through my camera lens, I could zoom in and see many more monarchs tucked deeper into the cypress branches. It was stunning.

I then journeyed to the Pacific Grove Monarch Sanctuary.

This grove, a small mature forest located in the city of Pacific Grove, contains a mix of nonnative eucalyptus and native pine and cypress trees. Monarchs tend to cluster in the south/southeast perimeter section of this grove, taking advantage of the sun's path to warm them throughout the day. In the line of eucalyptus trees bordering the southern edge of the grove, monarchs can often be observed following the sun as the day progresses. A number of trees in the grove shield monarchs from prevailing northwest winds. But as weather worsens and storms move in, strong storms dominated by southerly winds will lead monarchs to take shelter in the interior of the grove to help shield them from these strong winds. In recent years, the grove has been experiencing some decline as aging eucalyptus trees lose branches and native pines and cypress battle pitch canker disease. The recent loss of trees has opened up the interior of the grove, allowing northwest winds to penetrate deeper. The eucalyptus on the south side of the grove are old, and new adjacent plantings suffer a bit from drought stress and the shade created by the adjacent older eucalyptus trees. The grove certainly has its restoration challenges, but neighbors' trees help provide the microclimate needs that monarchs seek, and the grove continues to attract a good number of monarchs each winter.

On Dec. 31, 2016, I joined staff and volunteers from Pacific Grove Museum of Natural History to conduct a count of the monarch butterflies overwintering at the Pacific Grove sanctuary. The sanctuary has long been a preferred overwintering site in California, one of about 200 sites located along the California coast. Each year, during a three-week period around Thanksgiving Day and again around New Year's Day, researchers and volunteers visit overwintering sites to conduct a count of the monarchs spending the winter at these locations. The Western Thanksgiving Count is coordinated by Mia Monroe and the Xerces Society, and has been conducted annually for 20 years.

This winter, the monarch butterflies at PGMS spent much of their time clustered in trees on the neighbors' properties. But Pacific Grove, known as Butterfly Town, U.S.A., is a town that loves its monarch butterflies, and we were graciously invited by a neighbor to observe and count the monarchs from her yard. Nick Stong, education programs manager for the museum, was leading the count, along with seasoned volunteers Stephanie Turcotte Edenholt and Connie Masotti. A soft drizzle started just as we reached the neighbor's yard. Undeterred, the team counted the number of butterflies in each cluster, located high in a nearby mature pine tree. At first, the butterflies appeared like dead leaves gathered tightly together at the tips of the tree branches. Their closed wings displayed the darker grays and browns of the undersides of their wings, providing a perfect camouflage. But as the sun pierced the rain, some butterflies began to open their wings,

revealing their brilliant orange like pieces of stained glass adorning the branches. A rainbow graced the clusters from above, a precious gift on a chilly 45-degree morning.

We completed the count from the neighbor's yard, and returned to the grove entrance as the rain came to an end. Finally, for the first time this season, some monarchs had moved from the neighbors' yards and clustered inside the grove in good numbers. They had formed clusters midway up in the old eucalyptus trees lining the grove's southern edge near the entrance. The team began counting the monarchs in these clusters. They started by selecting a large cluster in a single tree. They each counted the monarchs in the cluster, and then compared their findings. They then counted all the other clusters in that tree, agreeing on a final count before moving on to the next tree that contained monarchs. They made note of the tree species the monarchs were found in, as well as the height at which the clusters were located.

We walked further down the path and located a few additional clusters about 45 feet up in Monterey pine trees overhanging the path, and counted these as well. From this point in the grove, we could peer through the eucalyptus trees and see the neighbor's pine tree where we had counted the monarchs earlier. While the grove was still quite shady, the neighbor's pine tree was in the direct morning sun, though completely exposed to any wind. I wondered aloud why they had picked that particular tree. Could it be the morning sun? Stong wondered as well. He said it had been a very cold winter and the grove's interior had reached near freezing temperatures at times. He and his team wondered if some of the monarchs were sacrificing a windbreak in favor of a location in the direct sun.

We decided to move deeper into the interior of the grove, following trails carved out by the resident deer population. As we walked, we discussed predation of monarchs by squirrels in the grove. Masotti reported finding 192 monarchs alive on the ground with their abdomens missing and their wings and thorax still intact. Another 30 monarchs were already dead, their abdomens also missing. Stong described how the



abdomens had been removed with near-surgical precision, leaving some monarchs attempting to fly despite the absence of their abdomens. The team recalled how they had thought this might be due to attacks by wasps — until they witnessed squirrels preying on the monarchs. Masotti captured photos of a squirrel consuming the monarchs, a highly unusual behavior given that monarchs have some protection from predation due to their toxicity and bitter taste. Clearly, at least one squirrel in the grove is undeterred by the monarchs' toxicity.

A squirrel eats the abdomen of a monarch at the Pacific Grove Monarch Sanctuary. It is a highly unusual behavior given that monarchs have some protection from predation due to their toxicity and bitter taste.

PHOTO: Connie Masotti

After two hours, we had completed our count; our final tally for the day was 4,520 monarchs. Like the eastern population, the western population of monarchs has experienced a significant decline over the past two decades, dropping 81 percent since the late 1990s. Many monarch enthusiasts are aware that most monarchs east of the Rockies spend the winter in Mexico. But far fewer people are aware that most monarchs west of the Rockies spend the winter in California. Bringing public awareness to the plight of the western monarch population is a mission currently being undertaken by many Monarch Joint Venture partners. Research efforts in the west have led to a greater understanding of monarch breeding, migratory and overwintering behavior, as well as the creation and restoration of breeding and overwintering habitat. If you would like to learn more about the western monarch population, visit the [Western Monarch Count Resource Center](#). Consider volunteering with one of the organizations involved in western monarch conservation. Opportunities abound, and your help is greatly needed! ❁

CANDY SARIKONDA is a Monarch Watch conservation specialist and serves on the national "Wild for Monarchs" committee. A member of the Oak Openings, Ohio chapter of Wild Ones, she enjoys monarch research, habitat restoration, writing and photography, and hopes to use those interests to leave this world a better, healthier place for generations to come. For more information, go to <http://monarchwatch.org/>.

Researchers pinpoint birthplaces of migratory monarchs

Researchers analyzing "chemical fingerprints" in the wings of more than 1,000 butterflies collected as far back as the mid-1970s have pinpointed the birthplaces of migratory monarch butterflies that overwinter in Mexico.

Not surprisingly, the largest percentage of monarchs migrated to Mexico from the Midwest. But the numbers were far fewer than previously thought, according to the research published in *Global Change Biology* in January 2017.

"We expected the vast majority of monarch butterflies to be found in the Midwestern states," Tyler Flockhart, lead author and Liber Ero postdoctoral fellow at the University of Guelph told *Science Daily*. "However, just 38 percent come from that part of the USA. If we just focus conservation activities on this area, this research shows we will be missing a large number of butterflies born elsewhere in North America."

In fact, the researchers found that 12 percent of the insects were born in the Northwestern U.S. and Canadian prairies, 17 percent in the North Central states and Ontario, 15 percent in the Northeastern U.S. and the Maritimes, 11 percent in South Central U.S. and 8 percent in the Southeastern states.

Researchers also discovered a variation in the proportion of monarchs from each region varied with climate. In addition, they determined that while conservation efforts on the breeding grounds focused on the Midwest region will likely have the greatest benefit to eastern North American migratory monarchs, that the population would also likely remain sensitive to regional and stochastic weather patterns.

Guelph University researchers worked with collaborators at Western University in London, Ontario, the University of Georgia, Sweet Briar College in Virginia, Universidad Nacional Autonoma de Mexico, Environment Canada and the International Atomic Energy Agency. In addition, Lincoln Brower of Sweet Briar College, who has studied monarchs for more than 50 years, collected most of the older monarch samples.



Monarchs cluster in a eucalyptus tree in the Pacific Grove Monarch Sanctuary. The number of overwintering monarchs is down this year.

PHOTO: Candy Sarikonda

How to keep garlic mustard under control



Alliaria petiolata is an invasive species that can spread quickly and displace native plants. PHOTO: WDNR

By Kelly Kearns

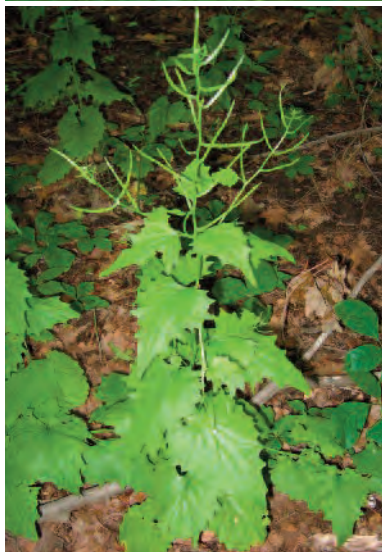
Most native plant gardeners are all too familiar with garlic mustard (*Alliaria petiolata*). This invasive species from Eurasia can spread quickly, displacing native plants. Landowners are encouraged to assess their site and determine the best long-term approach to control.

Garlic mustard is easily identified in the spring. It is a biennial and lives through the winter as a low green rosette. As soon as warm weather hits, the plant sends up a typically 2-3-foot tall flowering stalk. It bears many small four-petaled white flowers that produce numerous slender approximately 2-inch seed pods called siliques. One plant can produce several thousand dark, shiny seeds. Identification is easy — all parts of the plant smell like garlic when crushed. Its scientific name, *Alliaria*, means garlic-like and it has been used as a food seasoning.

Garlic mustard can significantly alter the composition of entire forests. When this species enters a woodland, it quickly spreads and can dominate the forest floor. Garlic mustard often displaces native wildflowers, ferns and many tree seedlings. It can also affect wildlife by reducing the number of native plants on which they depend for survival. It can even have a negative impact on mature trees since chemicals produced by the garlic mustard may kill beneficial mycorrhizal fungi that tree roots need to absorb nutrients.

Preventing the introduction of garlic mustard seeds and regular scouting for first plants are key to keeping woodlands free of garlic mustard or other invasive plants. Always clean your boots, tools and muddy dogs after being in infested sites. When there's work like logging done on your land, ask that the equipment is properly cleaned before it comes to your site. Be cautious when accepting gifts of plants from the yards of well-meaning friends. They may come with unseen invasive seeds, roots or even nonnative worms.

Regularly walk your land to look for any new plants. Learn to identify the invasive plants in



TOP: In the mustard family, the *Alliaria petiolata* flower is white with four petals. PHOTO: WDNR

MIDDLE: Once pollinated, *Alliaria petiolata*'s flowers develop into slender seed pods called siliques. PHOTO: WDNR

LOWER: *Alliaria petiolata* seedlings develop into rosettes the first growing season. PHOTO: WDNR



The leaves of *Alliaria petiolata* are starting to shrivel two weeks after being treated with herbicides. PHOTO: WDNR

your area and learn about those likely to invade your yard so you will catch them before they spread. Take photos or collect samples of unknown plants and get them identified ASAP, especially if they seem to be expanding rapidly.

The size of your site and the garlic mustard population, as well as the resources you have available, will determine what control methods you should use. Unless you have a crew of a dozen volunteers or a great deal of time to devote to this, hand pulling alone is a huge challenge for populations of an acre or more in size. Herbicides may be considered when sites are too large to hand pull. Fire, either with a propane torch or as a controlled burn, may be a better option for some sites.

Regardless of the control method used, it is necessary to continue the effort every year because there are usually seeds in soil or nearby populations of garlic mustard. Seeds are likely to stay viable for 7-10 years. Eradicating the plant will take an on-going and annual commitment. If you can't commit to long-term control, you should reconsider if it is feasible to work on the site.

New or small populations of garlic mustard must be dealt with correctly, completely and annually to get it under control. Control efforts should be conducted in spring before the plants flower, or early in their flowering stage. This is generally done by hand pulling, spraying or a combination of the two. Mark the site well and come back each spring to remove all flowering plants.

Hand pulling is the easiest and most effective way to control new or small populations. Always try to pull the entire root up. If the root is broken off, the plant will send up more flowering stalks to replace the single one you broke off. Plants that are pulled before they flower can be bagged or spread out to dry. But, any pulled plants left in piles may stay moist and continue to grow and develop flowers, then seeds.

If the plants are already in flower, the flowering parts must be bagged up and carefully disposed of. Return to the site within a few weeks to find



Alliaria petiolata can spread quickly and impact the ground flora and regeneration of trees. PHOTO: WDNR

and pull all the plants missed, or ones that re-sprouted or released since the first pull.

Careful application of herbicide may be used to control large populations. Garlic mustard rosettes can be sprayed as soon as they start growing early in the spring. When possible, time your application to be finished before the plants begin to flower. You will need less herbicide and reduce the likelihood of seed developing. If sprayed in the mid- to late-flowering stage, plants may still produce seed prior to dying. When glyphosate is used on garlic mustard, it may take up to 2 weeks for the plants to die. When treating large plants, some of the smaller plants nearby may be shielded by the larger leaves and go untreated. Return to do follow-up control when possible. For quicker control of garlic mustard, it is best to remove or treat the rosettes in the fall.

Anyone applying herbicide should be very careful to avoid drift onto adjacent, non-target native plants. In small sites, you may use something like a piece of cardboard to shield the nearby native plants from the spray. Remember, it is critical to read all safety labels and wear personal protective equipment. It is important to be trained to safely use any herbicide. Training and certification programs are available in all states.

Fire can also be a useful tool to knock back young garlic mustard plants. It is especially effective on seedlings before they have developed a large taproot. Only a trained crew with proper equipment and burn permits should conduct a prescribed fire. On smaller sites, a propane torch with a long wand can be an efficient way to quickly kill patches of seedlings. This is best done on a damp day, when the chance of fire spreading can be minimized.

Be aware that the disturbed soil created by fire, hand-pulling or herbicide may encourage more seeds to germinate. This may be a good thing, potentially depleting the seed bank more quickly.

If you run across an area with a large amount of garlic mustard, plan your long-term approach to determine if control is feasible before calling in volunteers. Start first with reading the many resources available on websites and publications, such as the [UW-Extension](#), to help you identify garlic mustard and plan your on-going management strategy. 🍀

KELLY KEARNS is the invasive plant coordinator for the Natural Heritage Conservation Program of the Wisconsin Department of Natural Resources.

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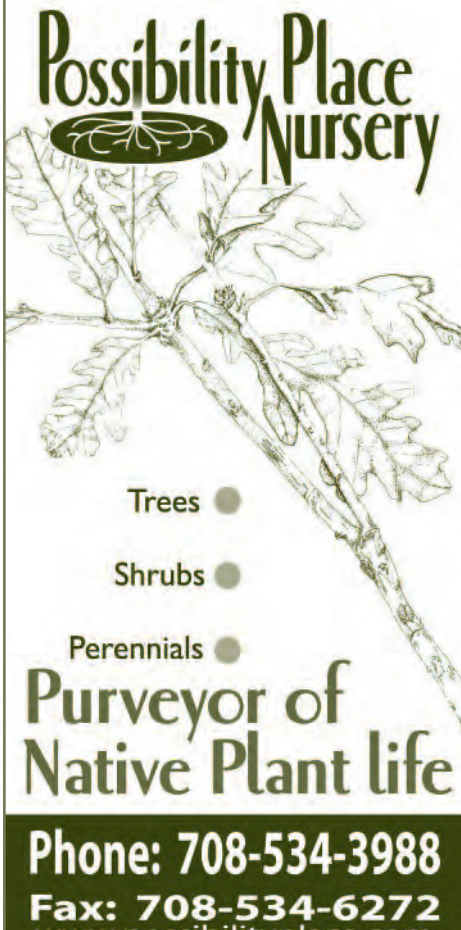
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Tennessee Valley Chapter, Tennessee, is sponsoring a Certificate in Native Plants class in March. The CNP class, “Ferns & Mosses,” is open for registration, but there is limited capacity.

Registration is also open for the chapter’s *Plant Natives 2017!* Symposium on March 18. The symposium features four speakers, including Claudia West, author of “Planting in a Post-Wild World.” For more information about the annual symposium and to register, as well as the CNP class, visit the chapter’s [website](#). You can also learn about a new workshop for landscape designers and installers, government and corporate landscape planners and experienced native plant gardeners on March 17 there.



Oak Openings Wild Ones members and friends built a Native Bee Hotel made from recycled materials and planted a host plant and nectar garden for pollinators at the Lucas County Fairgrounds in Ohio in 2013. Both serve as educational resources for fairgoers and 4-H members.

Join the **Oak Openings Chapter**, Ohio, on April 20 for an Earth Day Special Event: Hometown Habitat at 6:45-9 p.m. at the Maumee Indoor Theater, 601 Conant St., Maumee. Co-sponsored with the Black Swamp Conservancy, this is a free public screening of the 90-minute documentary by award-winning filmmaker and Wild Ones Honorary Director Catherine Zimmerman. Zimmerman will be on hand to introduce the film and participate in a panel discussion following. For information and updates, see <http://OakOpenings.WildOnes.org>

The **Greater Cincinnati Chapter**, Ohio, invites you to “Hike Caesar Creek Gorge” from 1:30-3:30 p.m. April 23. For the past nine years, the chapter has organized volunteers to remove nonnative invasive Amur honeysuckle on Give Back Day. Spring ephemerals have rebounded and should be in their full glory so you can now view and admire the results of their efforts. For information, contact Chris McCullough at iluvdirt@fuse.net

Northfield Prairie Partners, Minnesota, is planning a bus tour in July. “Gardening for Pollinators,” led by the Red Wing members, will leave Northfield at 2 p.m. and arrive in Red Wing at 3 p.m. For more information contact Arlene Kjar at lizzkjar@q.com.

The **Kettle Moraine Wild Ones**, Wisconsin, has a new library available for its members. Books on all aspects of natural landscaping, natural history, birds, plants, butterflies and other pollinators are available. Member Judy Wildermuth is the chapter librarian. Larry and Emily Scheunemann and Mariette Nowak donated the books for the library. Wildermuth will bring the books to the chapter’s indoor meetings and members are free to check out books for a month. For information, contact Wildermuth at jwildermuth25@yahoo.com and reference “Wild Ones Library” in the subject line.

The **Fox Valley Area Chapter**, Wisconsin, is holding a spring plant sale and pre-orders are due March 20. Plants will be available for pick up in early May. Contact Sharon Rainmann at rainmann158@gmail.com or 920-410-6935. More information and order forms are available [here](#). 🌸

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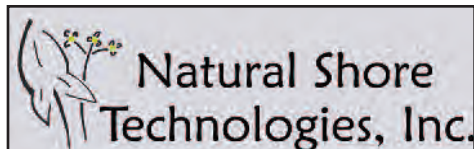
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- 10 years — Oak Openings Region, Ohio
- 6 years — Kettle Moraine, Wis.
- 6 years — Northfield Prairie Partners, Minn.



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Michigan State University Pavilion
4301 Farm Lane, East Lansing, MI

March 18

Designing for Nature
Native Plant Symposium
8:30 a.m. - 4:30 p.m.
UTC University Center
Tennessee Valley Chapter

April 27

Earth Day

April 28


Arbor Day


May 1-7

National Wildflower Week
Lady Bird Johnson Wildflower Center


May


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PHOTO: Jacki Kossik

A Gift that Saves the Earth?

Wild Ones Gift Memberships



How about a gift for:

- **Neighbors** who are redoing their landscaping
- **Local aldermen** who consider landscaping ordinances
- **Local inspectors** who decide what is/isn't a "weed"

Better yet, how about:

- **Neighborhood school classrooms**

Help get them in tune with the environment and inspire them to learn the importance of gardening for life.

Three membership levels

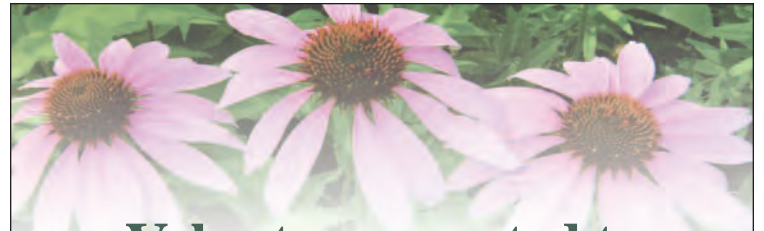
All memberships include a variety of benefits including the WILD ONES JOURNAL.

We'll also send them a special acknowledgement letter along with the link to the top 18 JOURNAL articles – a how-to-do-it sampling for all new and renewing members.

Go to: <http://www.wildones.org/product/membership/gift-membership/>

Send your gift(s) today!

Helping save the Earth has never been so easy.



Volunteers wanted to help at the WILD Center.

We need help with:

- Weeding demonstration gardens
- Removing buckthorn (year round)
- Restoring woodland understory and overstory
- Helping on First Thursdays (every month)

We are also in need of the following items:

- Crock pots
- Silverware and serving utensils – used, but in good condition
- Sealer for wood deck
- Living room furniture – used, but in good condition
- Outside deck furniture – used, but in good condition
- Native trees (6-8 feet) – basswood and maple
- Native shrubs – witchhazel
- Woodland plants – grasses, ephemerals, ferns, etc

Wild Ones recommends that you patronize businesses that support our policies regarding species provenance and habitat preservation. The appearance of advertising in the Journal does not constitute an endorsement by Wild Ones of any organization or product.

What does national do for your chapter?

A lot.

Here is just one thing we do for you:

National enables large chapters to apply for reduced postal rates. (Bulk mailings and non-profit rate)

DID YOU KNOW

3rd in a series

Join Wild Ones...

Go to

www.wildones.org/join-the-movement/
Pick the membership level that's right for you.

Prefer to send a check?

Mail your membership fee to:
Wild Ones
2285 Butte des Morts Beach Rd.
Neenah, WI 54956

Whether you're joining for the first time, or renewing for the umpteenth time...

it's easy to do.

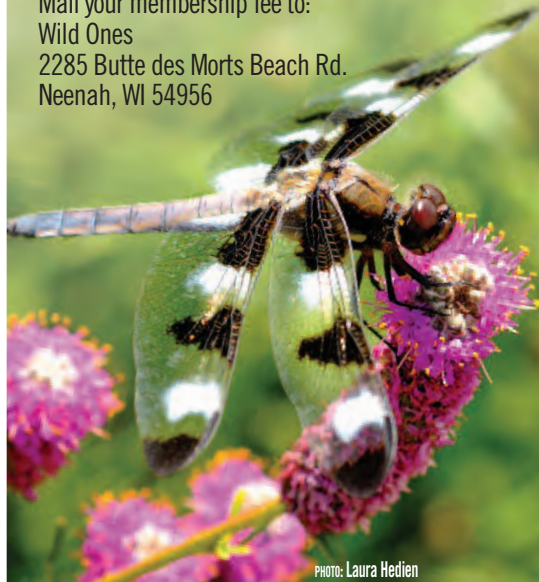


PHOTO: Laura Medien