The Blazing Star

Summer 2024, Volume 25, Issue 3

A Publication of the North American Native Plant Society

Native Plant to Know

Red Cedar

Juniperus virginiana

by Don Scallen

I'm going to go out on a limb to express my admiration for one of the most important – and underrated – trees in eastern North America. Red cedar (*Juniperus virginiana*), found in most of the United States east of the 100th meridian, and in Ontario and Quebec in Canada, doesn't get much love, but it should. This conifer, related only distantly to the more abundant white cedar (*Thuja occidentalis*), is uber-tough and able to germinate and grow in places hostile to other trees. Soil doesn't seem to matter. Sticky clay or coarse sand will do. A thin veneer of soil over limestone will suffice as well. Dry, degraded habitats offer opportunities for this small tree if given the sun it craves. It thrives along roadsides and railway lines, and in old field settings.

As an early successional species able to survive in harsh conditions, red cedar is a (*the?*) top candidate for reforesting sites with the poor soil often associated with urban areas or abandoned farmland. Planting trees to sequester carbon and enhance wildlife habitat is de rigueur right now. In Canada, the 2 Billion Trees program, for example, is funding tree-planting initiatives across the country. The scale of this program and others in eastern North America makes it imperative that we follow best practices when planting trees. Planting native trees is one of these "best practices." But native can't be the only criterion. Species selection needs to honour the ecology of the trees we propose to plant. We need to ask what ecological niches those trees occupy in nature and query their successional status. In most planting sites, early successional species – early colonizers of open sites – should be prioritized. Later successional trees that depend on the early successional species to set the table for their growth and vigour should generally be avoided.

ILLUSTRATION BY NATHAN DONALDSON

Too many times I've seen plantings fail because we don't pay attention to the ecological needs of the trees we're putting in the ground. In one especially egregious example, 400 native trees planted on a dry clay slope died. A year later I could find only one survivor – a tiny bedraggled black walnut (*Juglans nigra*). Had this slope been planted in red cedar and other early successional species like hawthorn (*Crataegus* spp.), pin cherry (*Prunus pensylvanica*) and aspens (*Populus* spp.), the success rate would have been much higher. Favouring early successional species especially pertains to sites where it's not practical to water– and that is the reality with most large-scale plantings.

Juniperus virginiana is a dioecious species, with male and female reproductive structures on separate trees. The female trees produce prolific berry-like cones in late summer. This fruit can last into the winter, when their bright blue colour beckons birds to feast. Robins, wild turkeys and many other resident and migrating birds feed

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***The Blazing Star* is . . .**

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NANPS ANNUAL GENERAL MEETING

Saturday, October 26, 2024, 1 p.m. - 3 p.m.

Online. To register, visit **nanps.org**.

NANPS 2024 Native Plant Garden Video Contest

Send us your native plant garden videos. The best six will earn their gardeners a cash prize! Innovators may even have their story written up in *The Blazing Star*!

Videos will be accepted in two categories, experienced and novice, so don't hesitate to submit if you are new to native plant gardening! Details on **what to include in your video and how to submit** can be found at **nanps.org**. Visit our YouTube channel to be inspired by **winning entries from previous years**. Submissions accepted until September 1, 2024.

Help NANPS Make a Difference

The North American Native Plant Society board of directors is seeking individuals to join our dynamic and passionate group of native plant enthusiasts! NANPS is volunteer-run and depends on the dedication of its board members to oversee its direction. Prior board or non-profit experience or work history in the environmental sector are considered assets, but they are not essential. New board members will be voted in by our membership at the AGM in October. Contact **info@nanps.org**.

NANPS owns two conservation properties: Shining Tree Woods in the Carolinian zone of southern Ontario and Zinkan Island Cove on the west shore of the Saugeen Bruce Peninsula on Lake Huron. We are seeking volunteers to join our Land Management Committee which will discuss priorities, update bio-inventories and develop land management plans. Contact **volunteer@nanps.org**.

Tour of Sayeh's Garden in Toronto

Saturday, September 7, 2024 (rain date: Sunday, September 8)

Five ticket groups of 30 people beginning at 11 a.m., noon, 1 p.m., 2 p.m. and 3 p.m.

With the help of friends and volunteers, Sayeh Beheshti has organized a fun scavenger hunt at her Toronto, Ontario, garden, offering visitors a chance to get to know the plants and the wildlife they support. Visitors will learn how to grow native plants from seed and they can choose a plant grown by the Underhill Seedsitters to take home. Email **communications@nanps.org** for details.

PHOTOGRAPH BY SAYEH BEHESHTI

Sayeh's water garden

Correction from spring 2024 issue: Sayeh Beheshti is a three-time winner of the NANPS Native Garden Video Contest. *Editor*

Harnessing Native Plants to Combat Invasive Species

by Vince Fiorito

As I stand in the ravine behind my home in Burlington, Ontario, I'm met with a sea of invasive garlic mustard, its white flowers swaying in the breeze like a symbol of ecological conquest. But I'm not here to surrender. Armed with a vision and a passion for native plants, I'm joining a growing movement to reclaim our natural areas from invasive species.

Non-native invasive plants like garlic mustard (*Alliaria petiolata*), winged euonymus (*Euonymus alatus*) and the introduced Asian honeysuckles (*Lonicera* spp.) are choking out native ecosystems in Ontario, threatening the very fabric of our biodiversity. These plants may seem harmless, but they pose a triple threat to our environment. They displace native species, reducing biodiversity and altering ecosystem processes. They alter soil chemistry and nutrient cycling. They negatively impact wildlife habitat and food sources.

But with the power of surplus native plants, we can take back our ravines, parks, meadows, woodlands – and our own gardens. Under the right conditions, hardier native plants can outcompete invasive species, restoring balance to our ecosystems. Native plants provide food and shelter for wildlife, stabilize soil and filter water. They enhance biodiversity and ecosystem resilience, improve soil health and nutrient cycling, and increase pollinator food sources and habitat. And they usually require a lot less maintenance.

Research has shown that native plants can effectively suppress invasive species through competition and niche partitioning. For example, native grasses – with their unbelievably deep root systems – and tough wildflowers can outcompete invasive forbs and grasses, while native shrubs and trees can shade out invasive understorey species.

My journey to re-establish native ecosystems where invasive aliens had taken hold began with a simple question: what to do with surplus native plants from my garden? Instead of composting them, I decided to use them to guerrilla-garden in the public land behind my yard. I started by digging and dividing my native cup plants (*Silphium perfoliatum*) and planting them in the ravine. These beautiful, incredibly tall, yellow-flowering plants are natural warriors. They thrive in moist, sunny environments and have a robust root system that allows them to access water and nutrients more efficiently than garlic mustard. This competitive edge helps them overshadow and suppress the growth of non-natives.

PHOTOGRAPH BY VINCE FIORITO

Canada anemone can compete against many invasive groundcovers.

I have found that, initially, I must intervene repeatedly to help native plants establish themselves but the interventions become less frequent over time and eventually stop. Unfortunately, this is not the case with all non-native plants. With European buckthorn (*Rhamnus cathartica*), the plants have to be removed first. I pull small ones by hand or with an extractigator. I cut down the trees and tie a heavy-duty garbage bag over the stump to solarize the suckers. I come back periodically to physically remove the suckers that manage to pop up outside the garbage bag. After a couple of years of removing the suckers, they stop sprouting, but, unfortunately, songbirds will eat the seeds of remaining plants and replant them. Vigorously growing black cherry

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GUERILLA GARDENING

When embarking on such a venture, be sure to seek permission from landowners and consider engaging with local community groups for more efficient coverage of the affected area. You may encounter problems with vandalism or pushback from neighbours. Despite the challenges, the benefits of guerrilla gardening far outweigh the risks. By planting native species, we're creating corridors for wildlife, stabilizing soil and filtering water. We're raising awareness about the importance of biodiversity and the dangers of invasive species. And we're inspiring others to join the fight, creating a movement that's bigger than the sum of its parts.

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(*Prunus serotina*) or other hardy native shade trees will change the conditions and make it harder for the buckthorn to overtake the area.

I still cut down burning bush stems that poke out between my densely planted eastern white cedars (*Thuja occidentalis*) and white spruce (*Picea glauca*). But each year there are fewer of the invasives. I am confident that the conifers will win the battle. I recommend creating impenetrable, wall-like barriers of native evergreens to block invasives that spread by root runners or to reduce the possibility of windblown seeds taking root.

In some cases, the removal of invasive plants may lead to the erosion of riverbanks. To avoid that, I have left multiflora rose (*Rosa multiflora*) and winged euonymus along the creek bank in my ravine to stabilize the soil. I will plant white cedar on the upland side and play the long game, reasoning that the invasive non-natives will eventually erode away, leaving the cedar to control further erosion and provide many species of birds, snowshoe hares, porcupines and red squirrels with shelter and food. White-tailed deer also browse the twigs of this invaluable conifer in winter.

Photograph by HAROLD SMITH

The robin's-plantain fleabane on the right appears to have smothered a patch of invasive creeping bellflower.

Intrepid Native Plants

Eastern white cedars can establish dense canopies that shade out invasive understorey plants. Their adaptability to various soil types and resistance to pests make them effective in restoration efforts. They are the wood of choice for old farm fence posts due to the decay- and termite-resistant heartwood. And they offer food and shelter for wildlife.

Black-eyed susans (*Rudbeckia hirta*) can establish quickly and densely, effectively competing with invasive species like honeysuckles. Their tolerance for different soil conditions and drought makes them versatile in restoration projects.

Virginia creeper (*Parthenocissus quinquefolia*) is a high-climbing vine with compound leaves that turn bright red in fall. Its dark berries provide food for over 30 species of birds, including woodpeckers, chickadees, robins and brown thrashers. Virginia creeper's rapid growth and ability to climb enable it to hold its own against, or even outcompete, invasive vines like English ivy (*Hedera helix*).

Canada anemone (*Anemone canadensis*) is a low-growing perennial with white, cup-shaped flowers and deeply lobed leaves. It spreads through rhizomes to form dense colonies, allowing it to suppress invasive groundcovers like garlic mustard and goutweed (*Aegopodium podagraria*). In addition, it provides early-season nectar for pollinators and helps stabilize soil along stream banks and in moist meadows.

White spruce, which can grow to 25 metres (80 feet), is a favourite nesting tree of robins, mourning doves, northern mockingbirds and chipping sparrows. It can grow in a variety of soil types and climates, forming dense stands that shade out invasive species. Its robust root system and fast growth rate make it an excellent candidate for reforestation and habitat restoration.

Riverbank grape (*Vitis riparia*), which can reach 15 metres (50 feet) in length, is able to form dense thickets in various soils and climates. Its vigorous growth will tamp down the almost-ubiquitous blue periwinkle (*Vinca minor*). Grape vines that cover small trees or shrubs can provide nest sites for birds, especially cardinals and catbirds, but be aware that the weight of the vines can break branches off trees and even smother saplings.

Photographs by Sandy Garland

The black walnut in these two photographs is probably 20 years old, old enough to produce nuts. Under it, inside the drip line, there is no dog-strangling vine and yet around the tree there are large patches of DSV.

Experiences of Native Plant Gardeners and Conservation Organizations

Miriam Henriques: I have found that long-established lily of the valley (*Convallaria majalis*) in an area of my garden in Toronto, Ontario, is gradually and effectively being outcompeted and replaced by Canada anemone on one side and zigzag goldenrod (*Solidago flexicaulis*) on the other. My garden has a clay soil base.

Jane Zednik: I have observed this year and in previous years that European swallowwort, otherwise known as dog-strangling vine or DSV (*Vinetoxicum rossicum*), is absent under the native black walnut trees (*Juglans nigra*). It seems to me that DSV loves the shade of trees and grows tallest in their shadow – but not under walnuts.

Ottawa Field Naturalists Club: At the Fletcher Wildlife Garden (FWG), a long-term project of the Ottawa Field Naturalists Club, volunteer Sandy Garland pulled out dog-strangling vine from under a black walnut four or five years ago and then forgot about it. This year she noticed there was almost no DSV under the tree; the few remaining plants were small and wilted. Although Sandy cannot confirm that this will happen in every case, it is encouraging. (Black walnuts and other members of the Juglandaceae family exude an allelopathic compound called juglone that stunts the growth of many plants, especially those that have not evolved with *Juglans* species.) At FWG, DSV also seems to be losing out to spotted jewelweed (*Impatiens capensis*), white snakeroot (*Ageratina altissima*), goldenrods (*Solidago* spp.) and purple-flowering raspberry (*Rubus odoratus*). Visit **https://ofnc.ca/ fletcher-wildlife-garden/walnuts-and-dog-strangling-vine-a-relationship-in-photos** to learn more.

Harold Smith: There is one area of creeping bellflower (*Campanula*

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rapunculoides) in our Toronto yard that I was constantly digging out only to have it reappear the next year. I think I finally solved it with robin's-plantain fleabane (*Erigeron pulchellus*), which has formed an impenetrable mat of leaves that smothers the bellflower.

Irene Fedun: My rural neighbours inherited a large property in Ontario's Grey County that included large stands of goutweed that border my small parcel (1/10th of a hectare or ¼ of an acre) on three sides! For over two decades, the goutweed has marched across the landscape; I've tried many strategies to keep it out of my yard, with its rich, loamy, inviting soil. Sad to say, in some places the goutweed has broken through my defences, but I haven't given up yet.

I'm fortunate to have wonderfully accommodating neighbours who give me free rein on their land not designated as hayfield. This includes planting trees – and protecting them from invasive plants. Although I will never get rid of the goutweed (it will squeeze in anywhere, including between the trunks and roots of other plants), I have found that certain plants – New England asters (*Symphyotrichum novae-angliae*), Canada goldenrod (*Solidago canadensis*) and especially cup plants – can hold their own and even make inroads into the goutweed infestation. I start by mowing down the problem area and then plant large, well-established clumps of the desirable plants in close proximity to one another. I return once or twice the same year to remove much of the above-ground goutweed (or roots, if I have excess energy!) by hand or with clippers to give the native plants a leg up.

It took a bit of trial and error to determine which plants were best equipped to battle goutweed and the non-native grasses from the hayfield. I've come to the conclusion that our chances of success are not just dependent on the plants, but also on the soil type, moisture and lighting conditions, and possibly other factors beyond our knowledge. It helps to have experience with the plants you choose for the task or to conduct research to find out which native plants are the strongest and most resilient in your garden or whichever wild place you are trying to rehabilitate. Using the excess from your garden is often the best way, since those plants obviously like the situation you offer.

The Nature Conservancy of Canada: Their wetland restoration projects often involve recreating the topography of former wetlands altered by human activity, via earth-moving. Native plants, including grasses, sedges, rushes and flowering plants, are then seeded in order to pre-emptively exclude invasive species such as European reed or phragmites (*Phragmites australis* subsp. *australis*). The benefits include water filtration and important habitat restoration for many animal and plant species. Contact **nature@natureconservancy.ca** for more information.

Join me and many other nature enthusiasts in this revolution. Use native species to replace aggressive non-natives anywhere in North America. Please write to us at **editor@nanps.org** about your experiences or share your tips and what you've learned from your research. If you're agreeable, we will publish your story in a future issue of *The Blazing Star*. Let's work together to restore the beauty and biodiversity of our native ecosystems.

Vince Fiorito founded the Friends of Sheldon Creek stewardship group. He grows endangered species that are host plants for endangered butterflies and watches milk snakes in his urban backyard.

Photograph by Vince Fiorito

Not all battles will be won. Sometimes, to avoid excessive erosion of stream banks, one has to leave some non-native plants in place and hope the native plants will hold their own. In this photo, spotted jewelweed and multiflora rose are helping to stabilize the bank.

Power, Money and Sex: Female Botanists and Native Plants - Part 2

by Janice Keil

Whether as formally trained botanists or amateur naturalists, women of previous centuries showed themselves to be entrepreneurial, even while mothering large families. As noted in the first part of this article (see the spring 2024 issue of *The Blazing Star*), Martha Daniel Logan (1704-1779), who exchanged native plant seeds with John Bartram in Philadelphia, started her own nursery in Charleston, South Carolina, after the birth of her eighth child.

Like Logan, women were historically very involved in selling seeds. Of Boston's eight major seed retailers in 1774, six were women. Even Theodosia Burr Shepherd, the first flower hybridist (ever heard of Heavenly Blue Morning Glory?), began her hugely successful business career as an impoverished mother bartering wildflower seeds.

In east-central Ontario, Agnes Fitzgibbon, a 32-year-old artist and single mom with six young kids, teamed up with her aunt, the naturalist Catharine Parr Traill (another single parent, with nine children), to provide the 5,000 exquisitely painted lithographic engravings for their book *Canadian Wild Flowers* (1868). She solicited the help of her children to create the lithographs in the family kitchen. The botanical descriptions of C.P. Traill, unlike those of her predecessor Jane Colden, were crafted in a familiar style, with religious references and quotes from poets. She gleaned what she could from Frederick Pursh's seminal 1814 book, *Flora Americae Septentrionalis*, but recognized that she also needed to rely on her own powers of observation and local Indigenous knowledge-keeping.

As a result of colonization, the vast majority of historical Indigenous females remain unknown to us. An exception is the Hidatsa woman Maxi'diwias (1839-1932), of the

Fitzgibbon, Agnes and Catherine Parr Traill. Canadian Wild Flowers. [First edition]. Montreal: Printed and published by J. Lovell, 1868. The John W. Graham Library, Trinity College, University of Toronto. Shown in this painted and lithographed plate by Agnes Fitzgibbon are Vaccinium oxycoccus *(small cranberry),* Iris versicolor *(blue flag),* Cypripedium pubescens *(larger yellow lady's slipper) and* Cypripedium parviflorum *(yellow lady's slipper). Her aunt, Catharine Parr Traill, noted in the preface to the book that the "lithographing on stone by her own hand, and finally the colouring of each separate plate [was] a gigantic effort to be executed by one person."*

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present-day MHA Nation territory in North Dakota, whose words were written down in the work *Buffalo Bird Woman's Garden*.

Old age never seemed to stop these women. Traill, who lived to 97, wrote her definitive work *Studies of Plant Life in Canada* in 1885, at the youthful age of 83. Logan compiled her gardening treatise at the age of 70. Alice Eastwood (1854-1953), a Toronto native and professional botanist working in California, saved almost 1,500 native specimens from the fire caused by the 1906 San Francisco earthquake. She was still going strong until her retirement at 90, having named 395 plants herself and having had several named after her, including the California grasslands species *Eastwoodia*. Marjory Stoneman Douglas (1890-1998), a suffragist who defended the Florida Everglades from development, was a feisty advocate for social change and a staunch environmentalist until her death at age 108.

Photograph by KEN HICKMAN, CC BY-NC-SA 4.0

Eastwoodia elegans *(yellow mock aster), a species found only on the grasslands and hillsides of central California, was named in honour of the botanist Alice Eastwood.*

The social change and collaboratively executed scientific and educational advancements brought about by these women botanists, professional and amateur, were immense.

Elizabeth Gertrude Knight Britton, who published 170 papers on native ferns and bryology (the study of mosses), helped found the Wildflower Preservation Society of America in 1902. What's more, she and her husband were responsible for the establishment of the New York Botanical Garden (NYBG).

In Canada, Isabella McIntosh (1828-1915) was, like Britton, a native fern collector. One of her finds was the only true climbing fern in northeastern North America, the very rare *Lygodium palmatum*. She was also a groundbreaking educator who introduced botany and pteridomania (fern fever) into the curriculum of the girls' school she founded in Montreal.

On the other side of Canada in Kelowna, British Columbia, Dora Kerr was writing newspaper articles in the early 1900s, helping readers identify local plant species at the same time as she was creating the Equal Franchise League, a suffragist organization.

Alice Hollingsworth (1870-1954) helped found the organization United Farm Women of Ontario, promoting the use of native plants in home landscaping, featuring the grasses, sedges and rushes she encountered in Muskoka.

Elizabeth Billings (who was born and died in the same years as Alice) was an author who promoted the newly emerging field of ecology in the 1920s. Decades earlier, she had embarked upon a search to discover all the "wild plants within a six-mile radius" of her Woodstock, Vermont, post office. This exploration of curiosity eventually transformed itself into a major 30-year project with Elsie Kittredge, the curator of NYBG. They found 1,128 species!

Today, Emily Dickinson (1830-1886) is not remembered for collecting 400 species from around her house in Amherst, Massachusetts, but rather for her poetry. An example is the poem "White as an Indian Pipe," written in 1873, featuring her "preferred flower of life," *Monotropa uniflora* (Indian pipe or corpse plant).

White as an Indian Pipe
Red as a Cardinal Flower
Fabulous as a Moon at Noon
February Hour –

Through most of her lifetime, however, Emily Dickinson was not known for her poetry, but for her gardening and the native flower arrangements she would give to

friends, in which she would hide one of her beloved poems.

All of these women interested in the native flora of North America stood at the intersection of ecological-scientific education and social change, whether through feminist activism, art or entrepreneurship. They were trailblazers for environmental organizations, of which the North American Native Plant Society is one. May we learn from them and may we, too, live to a ripe old age!

Janice Keil, a retired director of the NANPS board, lives in east-central Ontario, Catharine Parr Traill country. As a fan of the feisty Emily Dickinson (at least the Apple TV version) and her poetry, Janice went down the rabbit hole of research into female botanists of the past after learning of Dickinson's herbarium.

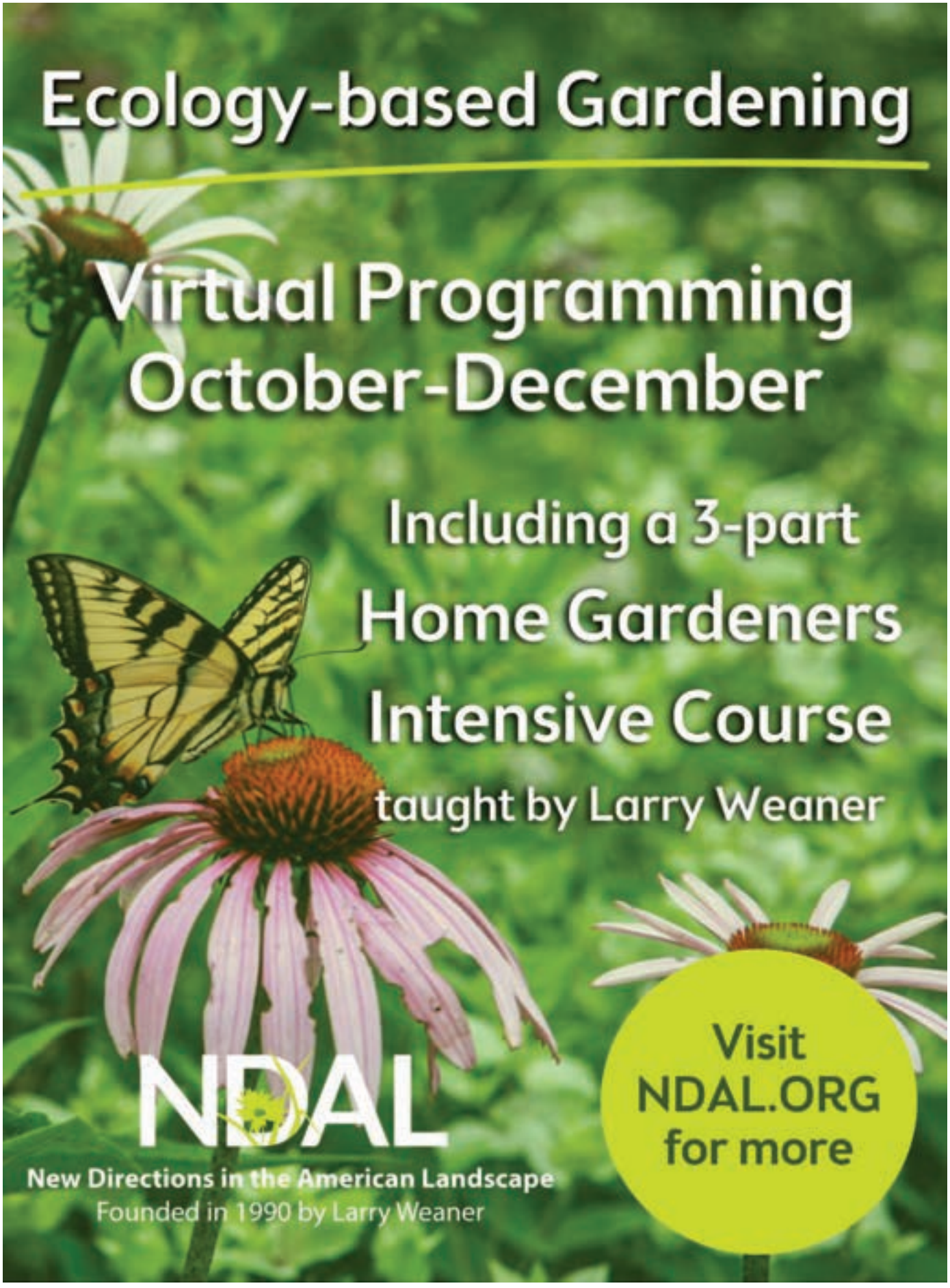
Harvard University, Houghton Library, dickinson-mets

A reproduction of one of the plates from the herbarium of more than 400 native plants collected by Emily Dickinson during her late childhood to adolescence and now housed at the Harvard University Library. Species shown here include Monotropa uniflora *(ghost or Indian pipe),* Nymphaea odorata *(American white water lily) and* Tilia glabra*, syn. of* Tilia americana *(American basswood).* Monotropa uniflora*, also known as the corpse plant, is mycotrophic and contains no chlorophyll. Herbarium, ca. 1839-1846. MS Am 1118.11 Houghton Library, Harvard University.*

NANPS MEMBERSHIP FEE CHANGE

To keep up with rising print and mailing costs, NANPS is updating the fee schedule for memberships (both new and renewals), beginning in January 2025. Slight price increases will be applied to print-version subscriptions of *The Blazing Star*, while three-year and five-year electronic subscription fees will decrease slightly. Please see page 16 (the back cover) for the new fee schedule.

We sincerely hope that you will continue to support our organization and our efforts to protect wild ecosystems and to spread the word about native plant conservation.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ReLeaf Chatham-Kent

by Irene Fedun

When Mike Smith learned that his Scottish ancestors had been sawmill owners in southwestern Ontario in the 1800s, he decided it was his responsibility to undo some of the damage done as part of his family heritage. He chose to plant trees and restore native ecosystems.

Forest cover in the municipality of Chatham-Kent has been reduced to a measly three percent. The land is flat and largely used for agriculture, with 91 percent planted in corn and soybeans. Almost 200 years of intensive farming has stripped the soil bare of nutrients, requiring huge inputs of chemical fertilizers that contribute to algal blooms in water bodies large and small. Soil erosion is another problem caused by lack of tree cover and hedgerows, resulting in silt buildup along lake and river shorelines. This chokes out native vegetation and makes it easier for aggressive non-native plants to get established.

Mike believes that many first- and second-generation farmers feel, as he does, that the long-accepted, intensive farming practices that involve the use of chemical inputs and heavy, expensive machinery must give way to an ecological approach that protects wildlife and wild lands, but still feeds humans. He began an organization called ReLeaf Chatham-Kent (RCK) through Facebook (now Meta) and Instagram that would connect folks wanting to do things differently. It blossomed beyond the mere sharing of ideas and experiences into a lecture series about tree planting, invasive species removal and other germane topics. Mike says the loose organization, which will split into smaller groups when several people want to take on a particular project (for example, one group is into saving existing woodlots), functions without squabbling. People want to help each other, learn from one another and just have fun!

Photograph by Mike Smith

*Cecropia moth caterpillar on elderberry (*Sambucus *sp.)*

Mike's ecological epiphany started in 2019 when he attended a workshop, Greening Your Grounds, organized by the local conservation authority. It featured a speaker from a local First Nation and other knowledgeable and enthusiastic people. The event had a transformative effect. Mike sold his home and bought a larger property, almost half a hectare (just over an acre). The lot had a house and three large silver maples (*Acer saccharinum*). It was essentially a blank slate – and this suited Mike just fine. He dug out invasive shrubs, smothered grass with cardboard, mulch and compost, and planted 800 native saplings the first year. Swamp white oak (*Quercus bicolor*) and paper birch (*Betula papyrifera*) went into the wetter areas, while red oak (*Quercus rubra*) and shagbark hickory (*Carya ovata*) were given slightly drier locations. Mike was adamant about including lots of oaks and hickories, which, according to entomologist Douglas Tallamy, are among the top genera for supporting moths and butterflies.

Mike's plan incorporated a technique called pits and mounds, made popular in southern Ontario by ecologist Mathis Natvik. As the name suggests, a flat field is transformed into an undulating landscape by judiciously digging large holes with a backhoe or by hand (which is how Mike did it), then piling the scooped-out earth beside the pit. This simple measure creates mini-ecosystems that suit the needs of different trees and smaller plants, and are soon inhabited by frogs and other creatures.

One morning that first year Mike heard dozens of warblers; within a couple of years, bobolinks, a species-at-risk bird, were calling from the edge of the property. He was stunned: "I didn't expect it to happen so quickly." In May 2020 he recorded 23 bird species. Three years later, with most of the young trees now two metres (six feet) tall, he recorded 51 bird species. Bats and fireflies have also increased in number.

Mike's biggest challenge has been the rabbits. More than half of his unprotected trees have sustained damage from these voracious munchers. Mike says you can tell if rabbits did the snipping as they tend to trim woody plants at a 45-degree angle. "I have seen the 'snipped' trees send out a couple of new leaders where there was previously only one, resulting in a bushier tree. Not sure about the ecological

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significance of this, but it's something to keep an eye on," he says.

Every spring Mike plants some 200 new saplings to make up for the losses sustained during the winter. He has over-seeded the remnant lawn with a native wildflower mix. More of his attention is now focussed on education. He devotes a great deal of time to answering questions from the ReLeaf Chatham-Kent folks and reading about the exciting, creative things they're up to. For example, one woman planted dead trees to act as snags in her backyard, which is surrounded by a cornfield. They provide insect food and shelter for cavity-nesting birds. Another member started a tallgrass prairie in one corner of a large park on the south side of Chatham, Ontario, with funding from a community group.

Mike uses social media to get key messages out there. It frustrates him that so many traditional gardeners are "insect-averse." He insists that one of the primary functions of gardens is to provide food for insects, the foundation of the food web. He encourages trepidatious homeowners to dedicate just a small corner of their yard to native plants or just plant one species. Then see what magic happens!

He also makes the point to parents whose kids are looking for topics for school science projects: if they have a pesticide-free, native plant garden, the project will be waiting right outside their door.

Mike certainly doesn't spend all his time on social media; he loves to get his hands dirty. As the local "tree guy" and current president of the Sydenham Field Naturalists (SFN), he will accept invitations to neighbours' yards to offer advice. And he consults on tree naturalization projects in the municipality. SFN received a $10,000 grant from the Chatham-Kent Community Foundation to plant two Miyawaki forests this past spring in municipal parks in Chatham.

A Miyawaki Forest is a densely planted pocket of trees that contains all the species that make up a forest – the canopy, sub-canopy and understorey plants. Three to five trees are planted per square metre (1.2 square yards), staked and mulched. They are weeded and watered for a few years then left on their own. Mike explains, "While there is some competition between the closely planted trees, this causes them to grow faster to reach the sunlight. There is also emerging research [explore Suzanne Simard's book, *Finding the Mother Tree*, for an in-depth look into this work] that theorizes that trees, specifically of the same species, will physically fuse their roots together underground, resulting in a 'network' that allows communication via chemical signaling and even sharing of resources. For example, if one tree is short of a specific mineral or nutrient, it can be sent to the deficient tree via the shared root

Photograph by Mike Smith

*Common wood nymph on buttonbush (*Cephalanthus occidentalis*)*

Photograph by Mike Smith

Summer azure butterflies on virgin's bower

network from another connected tree that has an excess of that mineral or nutrient. Pretty amazing stuff, really."

All these initiatives give Mike great satisfaction, but he's happiest in his own vibrant yard. Not all his neighbours share his enthusiasm. One neighbour called in a bylaw enforcement officer complaining about the long grass. But Mike was ready for her – he had seen and photographed a fox snake, a species at risk, slithering through the grass. He demonstrated that an at-risk species was using his evolving ecosystem and won over the officer.

"Working with my municipal councillor, we were able to get an amended long grass and weeds bylaw approved by Chatham-Kent municipal council in 2022, " says Mike. "There is now a naturalization clause included in the bylaw. If a homeowner has intentionally planted native species and has native species naturally reproducing on their property, they can apply to Public Works for an inspection and receive an exemption from the bylaw, which does not permit any grasses or 'weeds', native or not, to grow beyond 20 centimetres (eight inches). Applying for and receiving the exemption removes that restriction. If the plants have become established and are reproducing by seed or runners, then the criteria for an exemption have been met. I was successful in this process for my own property, and the neighbour has not been a problem since."

Irene Fedun is the editor of The Blazing Star.

PHOTOGRAPH BY MIKE SMITH

*Swamp rose mallow (*Hibiscus moscheutos*)*

PHOTOGRAPH BY MIKE SMITH

Mike Smith's backyard photographed in July 2024

Urging Municipalities to Promote Habitat Gardening

A group of conservationists, consisting of the Canadian Society of Landscape Architects, the Canadian Wildlife Federation, the David Suzuki Foundation, the Ecological Design Lab at Toronto Metropolitan University and author and environmental activist Lorraine Johnson, has written an open letter to municipalities across Canada advocating for bylaw change in support of habitat gardens.

The letter outlines the benefits of habitat gardening and the steps that municipalities need to take to adapt their bylaws and enforcement policies to encourage this beneficial practice. It calls on municipalities to revise existing property standard bylaws that discourage or prohibit habitat gardens, ensuring that new bylaws support biodiversity and ecological health; initiate bylaw enforcement training so that officers can identify native and prohibited plants, recognize essential and permitted habitat features, promote community relations, and understand the legal rights of gardeners to express their environmental ethics; lead by example in public gardens, green infrastructure and natural areas; and commit to community outreach and education.

The accompanying background report provides links to existing resources that can help guide the process of updating bylaws.

The letter is being sent to municipal staff, councillors and mayors across the country as well as allied organizations, community groups and individuals. The David Suzuki Foundation has launched an Action Alert (available on the DSF website, under the "Take Action" tab), which makes it easy to send a letter to your municipal representative in support of this campaign for bylaw reform. To read the letter or learn more about initiatives to promote habitat gardening, visit **lorrainejohnson.ca**.

Cedar waxwing on an eastern red cedar

Illustration by NATHAN DONALDSON

Continued from page 1 – **Red Cedar**

on the cones. Cedar waxwings, a particularly natty-looking species, feed on the fruit with such gusto that they were named for the tree.

All these birds do exactly what the cedars "hope" for – they spread the seed enclosed in the cones through their droppings. This is why many red cedars can be found under power lines, where songbirds perch.

The sites of these bird-planted red cedars can have tremendous implications for the lifespan of the trees. At most locations they will be short-lived, fulfilling the ecological role of producing shade and amending the soil with their fallen leaves, creating conditions suitable for the arrival of larger trees – trees that will eventually kill the cedars by blocking life-giving sunlight. However, on some infertile sites, red cedars can persist indefinitely. In Ontario, areas of limestone outcropping, like the Napanee Plain near Kingston, are dominated by red cedar. Other trees find it difficult to compete on the thin soils. Also in Ontario, red cedars can dominate sandy sites like those found at Point Pelee on Lake Erie. The lifespan of these cedars in marginal soils can be impressive. Some red cedars have been aged at over 500 years.

If the toughness and adaptability of red cedar makes them so valuable for reforestation projects in the east, these qualities make it a pariah in parts of the central plains of the United States. There, it is colonizing prairies and abandoned fields in several states, including Kansas, Oklahoma, Missouri and Nebraska. Red cedar has long been native to these states, growing in limited areas like canyons, moist sites and rocky bluffs, protected from the prairie wildfires that keep woody vegetation at bay. However, we now suppress those prairie fires and this has allowed red cedar to colonize areas where it formerly wasn't able to grow. Paradoxically, some ecologists label red cedar as an "invasive native" in the central plains.

As it spreads across the central plains, there are concerns about red cedars shading and competing with native prairie grasses and wildflowers, and reducing foraging opportunities for livestock. Far from extolling the virtues of this tree on the western fringes of its native range, land managers look for ways to control it. In some places prescribed burning is used with considerable success. Mechanical removal and herbicides are also employed, just as they are with exotic invasives like European buckthorn (*Rhamnus cathartica*) in many parts of eastern North America. Living as I do in a part of the continent where red cedars are not threatening natural ecosystems but rather enhancing them, I will continue my red cedar boosterism.

My guess is that not one in 100 people can identify red cedar in the field. I suspect that even many tree-planting organizations don't know it or appreciate its value. That needs to change. We need to better understand the virtues of *Juniperus virginiana*. It is a magnificent survivor and, in the east, ideally suited to help reforest degraded landscapes.

Photograph by Don Scallen

Photograph by Don Scallen

Don Scallen** is a naturalist and writer based in southern Ontario. He is a regular writer at* In The Hills *magazine* ***https://www.inthehills.ca/author/don-scallen/*. In 2020 he published* Nature Where We Live*, a compendium of nature activities that can be enjoyed in backyards and local parks. Don is in demand as a speaker on a diverse range of topics, including trees, wildflowers, salamanders and turtle conservation.*

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