



ONAPA NEWS

Dedicated to promoting, protecting, and improving Ohio natural areas and preserves.

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SUMMER, 2022

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Establish a prairie garden and provide the ideal pollinator habitat

By Guy Denny

In recent years, there has been a growing public interest in the plight of pollinators, the critical role they play in our lives and the urgent need to protect them by creating pollinator habitat essential for their survival.

One of the very best ways to accommodate declining numbers and diversity of pollinators is to construct native prairie gardens. Unlike spring ephemerals, prairie wildflowers, known collectively by prairie ecologists as “forbs,” can provide a source of nectar and pollen throughout the growing season.

There are many techniques for growing prairie plants, some better than others, but all work. The most important requirement is to have an open space that receives full sunlight most if not all day. With few exceptions, prairie plants are shade intolerant.

Soil type is not critical. Although they do best in rich loamy soils, prairie plants will do just fine in any type of soil from sand to heavy clay soils. Ample rainfall in spring and early summer seems more critical to their well-being than anything else. They are very tolerant of late summer and fall drought. No watering or fertilizers are normally required.

Depending on the size of your prairie garden, you can purchase young plants, plant seeds, or do a combination of both. The most important factor is to acquire plants and seed from local sources to the extent possible so as to use local genotypes best suited for your region of the country. There are a number of prairie nurseries found online. Several local nurseries in Ohio also now carry some native prairie species. If you elect to collect seeds from native prairie remnants in Ohio, you need the landowner’s permission.

Prairie seeds need to go through a cold and often wet period or stratification before they will germinate. The best technique is to plant seeds in fall so they can winter over in the cold wet ground. That is the way nature has done it for millennia. They will germinate as soon as the ground is warm enough the following spring.

Prior to planting, the site should be as weed free as possible, ideally using a systemic herbicide. Another alternative, if the plot is small and you have an aversion to using herbicides, is to cover the ground with a tarp, boards or sheets of metal for an entire growing season in order to kill undesirable plants and get down to bare soil. Perhaps the most critical first step in constructing a prairie garden is to make the plot as weed free as possible. Under no circumstance should you cut corners or you will regret that you did so in the long run.

Before planting, you need to draw up a plan or schematic showing what species you want planted and where. Consider spring as well as fall blooming species

in addition to the typical summer prairie bloomers. Examine your site for soil moisture. Learn which species of prairie plants grow best under what soil moisture conditions. Plant wetland prairie species in the wettest sites and xeric species on the driest sites.

Also take into consideration the aggressiveness of each species and its maximum growing height. Ideally, keep tall-growing species at the back of the site. I do not recommend using a prairie mix of grass and forb seeds

together. If prairie wildflower and grass seeds are mixed and planted together, over several years the grasses tend to ultimately squeeze out the wildflowers.

Rather, plant prairie wildflower seeds in solid clusters or groups of the same species. Once these are planted to ensure maximum splashes of color, plant a matrix of prairie grasses among and around the outside of each of these same clusters of wildflower species. Also, if you use a tall prairie grass, I recommend Indian Grass (*Sorghastrum nutans*) since it won’t bolt into flower until after most of your prairie wildflowers have finished blooming. Big Bluestem (*Andropogon gerardii*) grass bolts out about a week or two earlier than Indian Grass which then tends to mask your wildflowers behind a green wall of dense tall stems. Big Bluestem is best planted as a backdrop to your colorful prairie wildflowers.



Denny’s Prairie lights up in mid-summer.

(Continued on page 2)

Continued from page 1

Once the prairie garden is planted, let nature do its thing

Seeding of smaller prairie gardens can be done by hand. Seed as heavily as possible. For very large prairie plantings, more than two acres, you will probably need to rent a seed drill. It is absolutely essential that the seeds have good contact with bare soil. I normally shallow rototill my sites to loosen the soil. After the seeds are dispersed, I compact them into the soil by running tractor tires over them, or better yet, using a cultipacker for large prairie plantings if you have one available. This gives the seeds excellent contact with the soil and discourages birds and rodents from feasting on your seeds prior to germination. Now you wait until next spring.

Invariably, as soon as you see germination in your prairie garden, all you will first notice is the undesirable weed seedlings that have germinated from their residual seed bank in your soil. Most people think something has gone wrong and they need to start all over again. Don't! Most of the weedy species you see will not persist.

Prairie species are designed to be able to withstand drought conditions so they will spend the first year or two developing deep root systems rather than above ground growth. To enable them to compete with the weedy species that are putting their energy into above ground growth, mow off your prairie garden about 6-8 inches above the ground as soon as the weedy growth gets about a foot or two tall. This won't hurt the prairie seedlings but will allow them to access critical sunlight. Usually, this is the only time you will ever need to mow your newly emerging prairie garden.

Now, sit back and let nature do its thing. You will have a beautiful prairie garden within a year or two or much sooner if you put in nursery grown container plants.

Once your prairie garden is well established, keep an eye out for non-native species that might invade and become established. Some of the very worst are *Sericea Lespedeza* (*Lespedeza cuneate*), Common Teasel (*Dipsacus fullonum*), and Cut-leaf Teasel (*D. laciniatus*), and both Yellow and White Sweet-clover (*Melilotus* sp.) Many woody species, both native and non-native, can invade a prairie. The very best method for controlling invasive species is to never let them become well established in the first place.



Purple coneflowers are a favorite prairie plant of many pollinators.

After the second growing season and every year thereafter, it is a good idea to remove the previous year's dead vegetation in early spring. This can be accomplished by mowing, then raking off the thatch on smaller prairie gardens and by using prescribed fire on large prairies. Both methods will control invading woody species. The control of invading herbaceous species is best accomplished by using spot herbicide treatments.

Having exposed bare soil in early spring allows the ground to warm up faster giving prairie plants a jumpstart. As long as you control non-native invasive species and keep woody invaders and the most aggressive prairie species in check, your prairie garden should flourish indefinitely and provide a source of great enjoyment with very little maintenance thereafter.

If you would like to learn more and talk with experts who successfully constructed prairie gardens, plan on attending the ONAPA tours of Denny's Tallgrass Prairie (see below). You can do your part to help Ohio's great diversity of pollinators and other forms of wildlife by constructing a beautiful prairie garden to enhance your property and greatly increase your enjoyment of nature.

Two planned trips to the prairie this year: July 23 and October 1

Saturday, July 23: Denny's Tallgrass Prairie Tour



Compass plant is a prairie giant.

ONAPA naturalists Dick Moseley, Jennifer Windus, and Guy Denny will give participants a walking tour around this reconstructed tallgrass prairie in Knox County. ONAPA members as well as prospective members are welcome to this free educational event. We will be discussing the origin of the tallgrass prairie of North America and specifically Ohio. Participants will be introduced to the various native prairie grasses and wildflowers comprising this ecosystem. We will learn how to recognize these various prairie species as well as learn interesting facts about their uses by Native Americans and early settlers.

Saturday, October 1: Annual Prairie Seed Collecting Event

Here is your chance to try your hand at growing native prairie plants. This is a free event where participants may collect all the seeds they want from Denny's Tallgrass Prairie and learn how to establish their own prairie gardens. Several prairie specialists will be on hand to answer questions and help identify various species of prairie plants. Participants should bring hand pruners, and containers such as paper bags in which they can deposit and label the seeds they collect.

Both of these "free to the public events" will begin at 10:00 am and take place at Denny's Tallgrass Prairie, a 20-plus acre prairie located in Knox County, about 45 minutes north of Columbus. The street address is 6021 Mt. Gilead Road (SR 95) Fredericktown, Ohio. From the junction of Interstate 71 and State Route 95, follow SR 95 east just under five miles to the Knox County Line. Just about 20 feet beyond the line, on the North side of SR 95, is the driveway where there will be an ONAPA events sign directing participants up the drive to the designated parking area.

There is no limit on the number of participants, but we recommend participants sign up so that in case an event needs to be cancelled for any reason, we can let you know in advance. Sign up by emailing guydenny@centurylink.net. Pack a lunch and dress for the weather.

Backyard prairie offers a buffet to pollinator visitors

Story and photos by John Watts

Prairie plants and gardens around your yard not only add a splash of mid-summer and early fall color but they can also attract many varieties of insects. Some species of prairie plants are routinely recommended for butterfly gardens such as purple coneflower, purple bergamot, and a variety of milkweeds. Prairie plants also have the advantage of being fairly drought resistant and tend to weather our mid-summer temperatures better than other species. Take the time to get a closer look at your plants and you may find a variety of insect species that don't stand out as one strolls through the garden.

Great Golden Digger Wasp – *Sphex ichneumoneus*



This species of solitary wasp belongs to the group of wasps known as “thread-waisted wasps”, having a pinched or stalked waist (often referred to as a petiole). Digger Wasps are ground nesting species excavating burrows in loose loamy, sandy soils. While their size and orange and black color implies they could be aggressive, they are generally non-aggressive and unlikely to sting, which allows for close observation

near the burrows. Digger Wasps prey on a variety of grasshoppers, crickets and katydids, injecting them with paralytic secretion and serving them live for their young to consume in their ground excavated nests. (Reference: <https://insectlab.russell.wisc.edu/2020/08/17/great-golden-digger-wasp-another-asian-giant-hornet-look-alike/>).

Red-spotted Purple – *Limenitis arthemus Astyanax*

Red-spotted Purple butterflies are medium sized butterflies of summer. Their color is a distinctive blue to blue-green iridescent above with white dashes along the edge of their wings. Their forewings are largely black above with small orange spots in the front of the forewing and less noticeable orange near the forewing margins. While they are similar in color to many of our larger dark swallowtails, Red-spotted Purples do not possess “tails”. They mimic the less common and

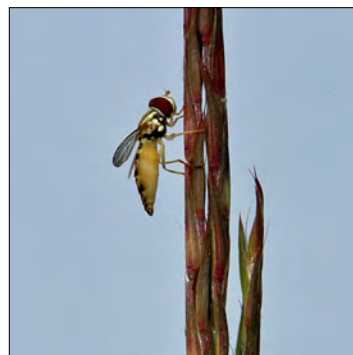
unpleasant tasting Pipevine Swallowtail in a form of biological resemblance called Batesian Mimicry. They are most often encountered along wood edges near their host plants, which includes several species of trees commonly found across Ohio.



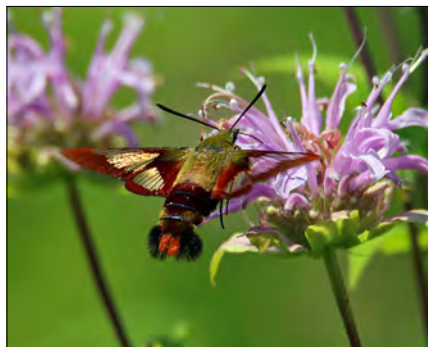
They have two broods in Ohio, the first peaking in late May and early June and the second peaking in late July through mid-August. (Reference: Allen, Thomas. 1997. *The Butterflies of West Virginia and Their Caterpillars*. University of Pittsburg. Pittsburg, PA.).

Hoverflies (*Syrphidae*)

As the name suggests these small insects are often encountered “hovering” almost anywhere in mid-summer. Also known as Flower Flies, they are an important natural enemy to aphids and many other small, slow-moving insects. While there are a number of species, many of them have a bee-like appearance being marked with yellow and black stripes on their abdomens. The adults use flower nectar and pollen as a food source so they are readily attracted to colorful blooming gardens. Early morning trips to your garden may find them still on their nighttime roosts waiting for the sun to dry them off for day to come. (Reference: <https://hort.extension.wisc.edu/articles/hover-flower-or-syrphid-flies-syrphidae/>).



Hummingbird Clearwing Moth – *Hemaris thysbe*

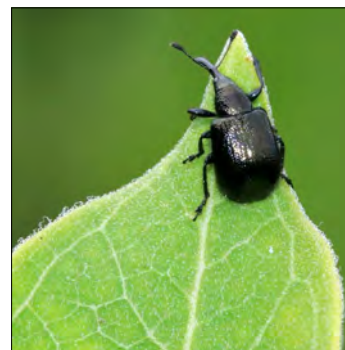


Hummingbird Moths are small members of the Sphinx Moth family, which are characterized by stout, cigar-shaped bodies, and long forewings. The hummingbird moths are unique with wings that are transparent and are best viewed when they hover over a flower. Most of the time they are in constant motion,

which gives them an almost invisible appearance. Hummingbird moths are diurnal moths, being most active during the day. While they may visit a number of prairie plants searching for nectar, they prefer the long, tubular flowers of purple bergamot.

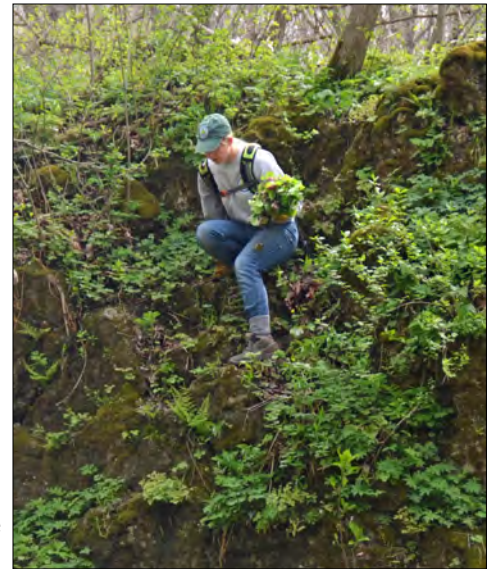
Sunflower Headclipping Weevil - *Haplorhynchites aeneus*

Do you wonder why many of your prairie docks, ashy sunflowers, whorled rosinweeds and even coneflowers flower heads die and droop? The culprit is a 1/3 inch black weevil that does all the damage. It is believed that only the females perform the clipping procedure on flower heads. The reason for this behavior is thought to be related to reducing the plants suitability for other flower-feeding insects that might compete with their larva for the food resource. Eggs are laid in the flower heads but only hatch after falling to the ground, allowing the larva to feed on the decomposing flower tissue. A close inspection of your plants may find mating pairs hiding under and amongst the ray flowers. (Reference: <https://entomology.k-state.edu/extension/insect-information/crop-pests/sunflowers/sunflower-headclipping-weevil.html>).





Above, garlic mustard pulled at Lake Katharine; at right, stewardship assistant Lydia Radcliffe navigates Clifton Gorge with 'bouquet' of garlic mustard.



Spring stewardship busy; new assistants join crew

Story and photos by Jennifer Windus

This spring was a busy time for ONAPA stewardship efforts between woody species removal in March, prescribed burns in April, and then transitioning in late April to herbaceous invasive plant control such as garlic mustard, Dame's rocket, and butterweed.

We had seven projects in March, some of which were rescheduled from February due to inclement weather. We worked on the barrier beach at Sheldon's Marsh (March 5),



At Davey Woods, sometimes taking the high road is more fun.

did hemlock wooly adelgid surveys at Little Rocky Hollow (March 8), and woody species removal at Zimmerman Prairie (March 10), Cedar Bog (March 15), Killbuck Marsh Wildlife Area (March 17), McCoy Fen (March 24), and Jackson Bog (March 29). The weather was much better in March and we accomplished important habitat management at all these natural areas.

While the weather did not cooperate well for prescribed burning in April, ONAPA was able to complete four burns in cooperation with other partners, including two private landowners in northeast Ohio. On April 12 and 14, we burned three units at Wolf Run Regional Park, part of the Knox County Park District, with Park District staff and other local partners. We burned one small unit at North Kingsville Sand Barrens with Cleveland Museum of Natural History staff on April 20.

We also had four stewardship projects in April to work on garlic mustard, Dame's rocket, and butterweed at Miller Preserve (April 19), Lake Katharine (April 21), Rhododendron Cove (April 26), and Clifton Gorge (April 28). Garlic mustard populations seemed to be sparse in most of the preserves we worked in this year, but we know they are cyclic, being a biennial plant.

By mid-May, we conducted five stewardship projects at Johnson Woods (May 3), Sheepskin Hollow (May 5), Davey Woods (May 10), Hueston Woods (May 11), and Fowler Woods (May 12). We had plenty of garlic mustard to pull at Sheepskin Hollow, Dame's rocket at Davey Woods, and butterweed at Fowler Woods. Removing these herbaceous invasive plants helps to maintain the spring wildflowers, which are so spectacular at this time of year.

Three stewardship assistants returned this season: Madison Brown, Lydia Radcliffe, and Rachael Patterson. Two new assistants joined the crew, both just completed their junior year in college: Edison Cigany from The Ohio State University and Peter Zimmermann from Oberlin College. The next newsletter will detail how these excellent assistants are helping us with volunteers, habitat management, and rare plant monitoring.

We hope to see you soon on an upcoming stewardship activity!

Partners manage North Kingsville Sand Barrens prescribed burn in April

ONAPA and the Cleveland Museum of Natural History hold the first burn in about 20 years, hoping to rejuvenate the habitat, which hosts a large population of wild lupine on the museum's preserve.



Save the Date!
Saturday, October 22

**2022 ONAPA
Annual Meeting**

We are teaming up with co-host



**Columbus and Franklin
County Metro Parks**

to hold this year's annual meeting at
**Blacklick Woods Golf Course
Banquet Room
7309 E. Livingston Ave.
Reynoldsburg**

Why Callery pear trees will not be for sale in Ohio starting 2023

Story and photos by Dr. Theresa Culley

The Callery pear (*Pyrus calleryana*) is a perfect example of a plant introduced into the US for the best of reasons, but escaped from cultivation and has invaded natural areas throughout our state. This tree from China was originally imported in the early 1900's as root-stock for the edible pear, *P. communis*, before its ornamental features were recognized. First sold in 1961 as the 'Bradford' cultivar, this ornamental tree was highly prized by gardeners for its abundant white blooms appearing in early spring, its fast growth, hardiness and ability to tolerate all types of soil, its glossy foliage, and its rounded tree shape.

Initially, this self-incompatible species lacked any fruit, because like many fruit trees, they needed more than one genotype present to initiate fruit set, and all trees were clones of the same 'Bradford' genotype. Over time however, the 'Bradford' was discovered to have one fatal flaw: it did not have a central branching structure, making 15-20 year old trees more susceptible to breakage during heavy wind or ice storms. As gardeners saw their beloved trees self-destruct in their yards, they sought stronger trees with more traits such as fall color. Consequently, additional ornamental selections of the same species were developed, such as 'Cleveland Select', 'Chanticleer', 'Aristocrat', 'Redspire', 'New Bradford' and other cultivars.

Unfortunately, as different Callery pear cultivars were planted together in residential and commercial areas, they were now able to cross-pollinate as bees and other insects buzzed indiscriminately from flower to flower. The resulting marble-sized fruits were abundant on each tree – until late winter when these fruits would be consumed by birds. Many bird species such as introduced European starlings defecated the seeds along roadsides as they perched on powerlines. Wild Callery pear even started appearing within established forests, likely due to the activity of native bird species, such as American robins, which inhabit forest interiors.



Fruit is not sterile.

Over the past 20 years, wild Callery pear populations have steadily spread across Ohio, starting in areas where it was planted widely as an ornamental tree and expanding outward. Callery pear often outcompetes Amur honeysuckle along the edges of roadways or creating dense monocultures of thickets in disturbed sites next to construction areas. More likely than not, wild Callery pear can now be found as seedlings or saplings in residential gardens, or within natural areas such as prairies, wetlands, and forests. Land managers of local parks and municipalities must now spend thousands of dollars of their limited budget annually in trying to control these invaders.

In 2014, Ohio was the first state in the US to recognize *Pyrus calleryana* as an invasive species, when it was added to the [Ohio Invasive Plants Council's](https://www.oipc.info/assessment-results.html) (OIPC) list of invasive species (<https://www.oipc.info/assessment-results.html>).

Since this time, other states have followed suit and now list the Callery pear as invasive on their non-regulatory lists (AL, AR, GA, KS, KY, MD, MO, NE, OK, PA, SC, TN, WV), on a watchlist (CA, DE, IN, MS, NC, NJ, VA), or otherwise noted as problematic (IL). Ohio took this formally a step further in 2018, when the Ohio Depart-



Callery pears "naturalize" along roadways.

ment of Agriculture (ODA) added *P. calleryana* to its list of Regulated Invasive Plant Species.

Recognizing the economical impact of this plant and the fact that it was still being widely sold throughout Ohio and elsewhere, the ODA instituted a 5-year phase out period, with the species (and all of its cultivars) banned from commercial sale and distribution in January, 2023.

Thus Ohio is the first US state to add *Pyrus calleryana* to its list of Regulated Invasive Species, and other states are now following. For example, South Carolina recently announced that it too will ban the sale and commercial distribution of *P. calleryana* in 2024.

So what can gardeners, landscape designers, and other enthusiasts of the Callery pear do, given that Callery pear cultivars will not be available for sale in Ohio in less than eight months? Fortunately, non-invasive alternatives are available. For example, the OIPC provides alternatives in their new Alternatives pamphlet (https://www.oipc.info/uploads/5/8/6/5/58652481/alternatives_for_invasive_plants.pdf) or the Midwestern Invasive Plant Network (https://bugwoodcloud.org/mura/mipn/assets/File/LA%20Brochure_WEB_FINAL.pdf). Species such as serviceberries (*Amelanchier* spp.) or yellowwood (*Cladrastis kentukea*) are ideal if flowers are desired in early spring, or black tupelo (*Nyssa sylvantica*) if a pyramidal or rounded shape and/or red foliage in late fall is wanted. These species are increasingly available in local nurseries, so if you don't see them there, just ask.

Although some may argue that regulation of Callery pear is too late – that the cat is "out of the bag" – stopping the sale of the species is critical in limiting its northward march. This is especially important with global climate change as cold tolerance is currently limiting the northward distribution of Callery pear. This regulation should also stop the production of new cultivars in our state and elsewhere. And at least we can learn from the lesson of the Callery pear while we consider other non-native species are being released into our natural environment.

(Theresa Culley, PhD, is head of the Department of Biological Sciences, University of Cincinnati, and chair of the Ohio Invasive Plants Council Assessment Team).

Remembering Bertalan 'Bert' L. Szabo

By Dick Moseley

ONAPA lost its oldest member when Bert L. Szabo passed away on March 22, 2022, at 101 years of age. Bert was not only a founding member of ONAPA but was also an original member of the Ohio Natural Areas Council. He was appointed by Governor James Rhodes to the Council representing Ohio Metropolitan Park Districts and served on the council from 1970 to 1983 and again from 1987 to 1994. He served on the Old Woman Creek Nature Preserve and National Estuarine Sanctuary Council from 1981 to 2004. Bert also served on the Ohio Department of Natural Resources' Recreation Resources Commission from 1990 to 1994.

Bert was a well-known naturalist and birder from the Akron area and began his career as manager of the Western Reserve Academy's Evamere Farm in Hudson in 1951. In 1957, the Akron Metropolitan Park District (now the Summit Metro Parks) hired him as an Area Manager where he began to present interpretive programs about nature in addition to his management duties. In 1963, his position was changed to Naturalist and he served in this capacity until he retired as Chief Naturalist at the age of 71. His enthusiasm as an interpreter of nature won the admiration of many generations of park visitors who attended his programs on the flora, fauna,

geology and history of the parks in Summit County.

Since his retirement in 1991, Bert stayed in close touch with Summit Metro Parks as a volunteer and by 2018 he had logged 7000 volunteer hours and was honored by the park system. Bert also helped to establish and grow the "Friends of Summit Metro Parks," a non-profit cooperative organization that helps provide financial support of the park district he served for so many years. He served as a Board member of this "Friends" group for several years.

The last paragraph of Bert's last article in the Metro Parks publication "Green Islands" in 1991 stated:

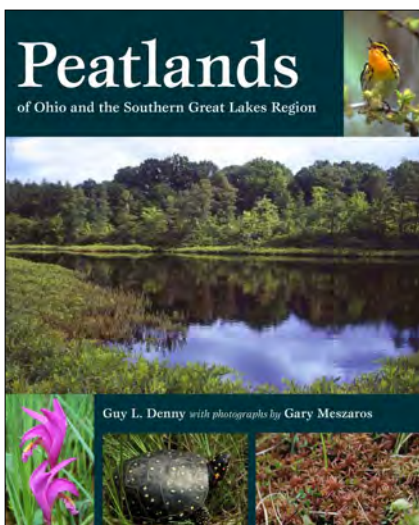


Bert Szabo, at age 100

"The pollution of our planet, the loss of forests, plants, and animals must be our major concern. They are biological time clocks ticking off the time when man may no longer persevere. We cannot separate natural history from human history—each is dependent upon the other. Protecting our environment is essential for the health and welfare of future generations. It is my hope that I have contributed somewhat to this endeavor."

We know that through his many years of working as a naturalist, Bert did indeed make a difference in the lives of many park visitors and helped them to see the world and all its wonder in a different way. If we can do likewise, we will be successful in preserving this magnificent world that was created for us.

Recommended summer reading



Peatlands of Ohio and the Southern Great Lakes Region, written by ONAPA's President Guy L. Denny and illustrated with superb photos from Gary Meszaros, was recently published by Kent State University Press.

This book details the peatlands' glacial origin and why they have persisted. How the bogs and fens ecological structure supports the diversity of rare plants and animals found in them is a must read for anyone who is fascinated by and wants to learn about these peatland ecosystems. It is available through Kent State University Press as well as many book outlets.



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