



Ohio Invasive Plants Council

Newsletter • Winter 2023



PRESIDENT'S CORNER

It's been a mild winter, hopefully giving you plenty of nice days to get outside to control invasive plants, particularly the woody species. This is a good time of the year, preferably with temperatures above freezing, to cut and treat woody invasives such as the Asian bush honeysuckles, common and glossy buckthorn, Callery pear, autumn olive, privet, Japanese barberry, burning bush, tree-of-heaven, and others.

We were excited to hold our 2022 Annual Meeting in-person this fall and to cooperate with Crawford Park District to have a workshop in early September. We look forward to planning more workshops in 2023 and are already planning three workshops at new locations in SW, NW and West-Central Ohio. We are also starting to plan our 2023 OIPC Research Conference which will be held on October 27th in Columbus.

OIPC has an active Google Groups listserv of over 400 participants and we welcome more people to join the group and the conversations. The listserv is a great way to share new invasive plant information, upcoming events, and is a place to ask questions. You can sign up to be a part of this group at oipc@googlegroups.com.

If you are looking for opportunities to help control invasive plants in natural areas, one way is to participate in the Ohio Natural Areas & Preserves Association's Stewardship Projects. See the ONAPA website at www.onapa.org for information on 2023 winter projects. Projects are typically scheduled on Thursdays and involve control of woody species at natural areas all over the state. Many local park districts and metro parks or state and federal

agencies around the state also have opportunities for volunteers to help control invasive plants. Each of us can help to address invasive plant challenges on a local level.

Help us spread the word about invasive plants and visit our website at www.oipc.info frequently! We added some new materials to the website, including an invasive plant focus, or potentially invasive plant. We will be adding more information about alternatives very soon so watch for this new page. If you need a plant identified or are looking for more information on invasive plants, just contact us through our website and we will respond as soon as possible. If you would like to recommend a plant to be assessed for invasiveness by the OIPC Assessment Team, let us know and we can add it to the list for evaluation. Finally, if you would like to contribute an article to our newsletter about invasive plants, let us know as we are always looking for new material.

Jennifer L. Windus, OIPC President

Management of Yellow Floating Heart in Ohio's Lake Erie Basin

Yellow floating heart (*Nymphoides peltata*) is a not-so-lovely aquatic invasive plant that has been found in at least 14 Ohio counties. Once available for backyard water gardens, yellow floating heart was prohibited for sale in our state in 2018. Legacy populations still exist around Ohio and seeds and vegetation threaten to spread to new, wild places.

Where yellow floating heart takes root, dense lily pads and a messy network of running stolons can shade out native vegetation and algae, restrict fishing and swimming and boating, and create stagnant, low oxygen levels in the water. The seeds of yellow floating heart are specifically designed to hitchhike on wildlife giving opportunity for new populations to pop up in unexpected places.

In 2022, Cleveland Metroparks completed a research grant funded by the Ohio Invasive Plants Council on yellow floating heart management and the impacts to non-target plants using the herbicide florypyrauxifen-benzyl (FPB or ProcettaCOR). A private landowner in Lorain County agreed to allow the team to work on their 0.5-acre backyard pond. The homeowner's pond had a diversity of aquatic plants – 24 species in total. Since the FPB is a newer control option, approved in 2018, more information on how it affects other plants will help Ohio natural resource managers evaluate it for yellow floating heart control.



Yellow floating heart ringed the outside edge of the pond. Photo by Mark Warman.

Three treatments were conducted on August 11, August 25, and September 12. With small, still waterbodies, the management team was concerned about a large plant die off and a fish kill, so the pond was divided into thirds for treatment. We applied at minimum label rates because *Nymphoides* is more vulnerable to FPB than other plants and we wanted to spare as much non-target vegetation as possible. Some yellow floating heart plants were treated twice on different dates if regrowth was detected. A 4-gallon backpack sprayer with a 0.2% mix of FPB was

used to apply a foliar application spray to the floating leaves of floating heart.



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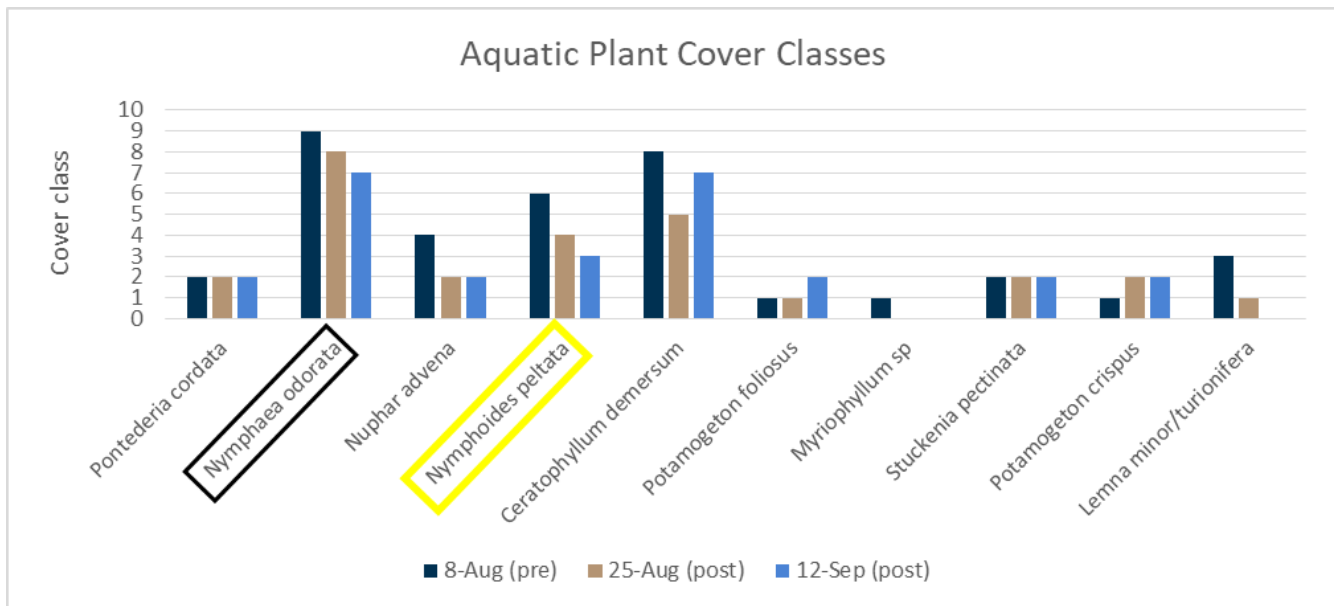
untreated

A picture of treatment area to the left, 14 days after treatment. And an untreated area to the right. Photo by Mark Warman.

The Vegetation Index of Biotic Integrity “Floristic Quality” (VIBI-FQ) was used as one measure of change. VIBI-FQ was developed to allow surveyors to take note of changes quickly in wetland habitats. On average, the VIBI-FQ score pre-treatment was 55.54. Post-treatment scores averaged 48.7 across the treatment zones. The drop in VIBI-FQ score is due to the decline in white water lily (*Nymphaea odorata*) during treatment. Because invasive species count as zeros in a VIBI-FQ score, we also compared the change in cover class between pre and post treatment to better display the effort, communicated in the chart below.



Floating heart mixed with other species. We attempted selective treatments that only targeted the floating heart. Photo by Mark Warman.



Of the 24 species detected, 10 obligate aquatic plants were compared for effects from FPB. Yellow floating heart, outlined in yellow, was reduced from the 10-25% coverage class to 2-5% coverage class. Yellow lilies (*Nuphar advena*), pickerelweed (*Pontederia cordata*), coontail (*Ceratophyllum demersum*), and fennel-leaved pondweed (*Stuckenia pectinata*) tolerated the treatment well. There was a reduction in the total coverage of white-water lily (*Nymphaea odorata*), outlined in black, from 75-95% coverage to 25-50% coverage. Some decline for all aquatic plants was expected as plants senesce or enter dormancy for winter.



The seed pods of yellow floating heart have between 30-40 velcro-like seeds that hitchhike on waterfowl and wildlife. Seed pods tolerated the herbicide FPB at the lowest label rates. Photo by Mark Warman.

Key takeaways from the study include: seed pods appear hardy toward the lowest label rates of FPB, and application for yellow floating heart is best before the plant has gone to seed, in July. Also, the team did not observe drift to untreated areas in this calm water.

If the population returns in 2023, Cleveland Metroparks will continue to manage this population with landowner permission and will keep collecting data. Overall, the research grant helped reduce the potential spread of yellow floating heart in Lorain County and adds data on the effects to non-target plants. The project team thanks OIPC for the opportunity to study the effects of FPB on yellow floating heart and non-target species. Funding for staff time was provided by the Ohio Department of Natural Resources and U.S. Fish and Wildlife Service via the Great Lakes Restoration Initiative.

Mark J. Warman, Aquatic Invasive Species Project Coordinator, Cleveland Metroparks

OIPC Announces Award to Grant Recipients!

OIPC congratulates this year's OIPC research grant recipients! Grace Gutiérrez, and Dr. Stephen Hovick of Ohio State University, received support for their project entitled "Fitness impacts of the invasive ephemeral *Ficaria verna* on functionally similar co-occurring native *Erythronium* species." This project examines competition between native and non-native spring ephemeral plants by examining the impacts of lesser celandine, on native trout lilies.

OIPC greatly appreciates the work of all applicants, who took the time to write a proposal about invasive plant concerns in Ohio. We appreciate the work of the review panel, which included reviewers representing land management and academia.

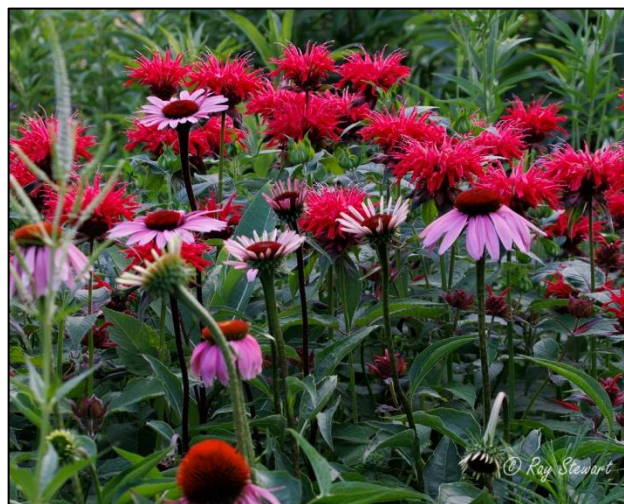
We encourage students, academics, land managers to apply for the 2023 grant cycle, which will be due in late fall. We especially encourage applications for projects that focus on OIPC's research questions which can be found on our website at [www.oipc.org/research questions](http://www.oipc.org/research-questions) or research that focuses directly on improving invasive plant management.

Emily Rauschert, OIPC Board Research Chair & Cleveland State University

Transitioning Journey

The modest home I live in has been in the family since it was built in 1955. My mother-in-law was an avid gardener who adorned this ranch on a suburban quarter acre with plants she loved. Traditional yews surrounded the foundation. Lilac, peony and clematis seemed to sprout everywhere. Forget-me-nots, French Iris, hostas and daylilies were embedded all around. Trees grew to offer shade and a sense of belonging. They included the canopy trees, honey locust and Norway maple with an understory of flowering dogwood and redbud.

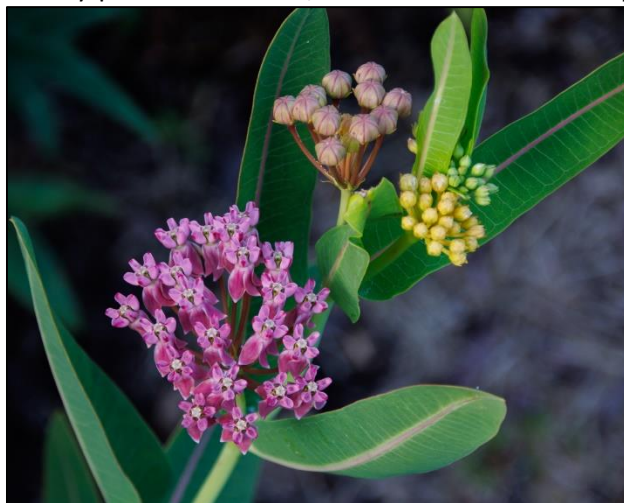
When I arrived in 1990, I added a 500 sq. ft. vegetable garden, a thread-leaf Japanese maple and a couple of Callery pears that soon shaded the back patio from the afternoon sun. It took some time after that to learn that certain plants were invading the natural areas I loved and that residences like mine



A showy bed of coneflower and beebalm.

could be a part of the problem. Thanks to the OIPC and other conservation organizations I learned and developed a plan to transition my landscape towards ecological health with a variety of management alternatives, this included replacement of potential and known invasive plants with Ohio natives. Initially, I just wanted to be sure I wasn't adding to the invasive problems. More recently I have discovered that plant selection also supports a broad range of wildlife that is in desperate need of additional habitat.

Ten years ago, I started making big decisions knowing that time and money were in the equation, I took the first of many major steps. Where the Callery pears once stood, I now have shade cast by



Purple milkweed is a nectaring source for many pollinators and food source for monarch butterfly larvae. Photo by Ray Stuart.

smooth sumac and redbud with an understory of pawpaw trees completing the screen. The crabapples which had suffered from apple scab are now gone. Lilacs weakened by borers have also been removed. Where a Kousa dogwood once stood is a sassafras tree and the yews were exchanged for winterberry holly. The air conditioning unit is now shielded by northern spice bush and shadblow serviceberry. Ohio native species are now edging out introduced and exotic ones.

Some of the traditional landscape plants were stressed, in part because they were strangers here. Natives are genetically and evolutionarily suited to the local climate, soils and ecology. Advantages of

local native plants in the landscape works two ways; low maintenance because of adaptation to local conditions and consequently to support bees, butterflies, birds and other creatures that belong here.

Last year was finally time to deal with the 60-year-old Crimson King Norway maple. Its invasive potential had been established and other considerations weighed in on its fate. The dense shade it casts makes its invasive nature an issue, robbing the understory of all but the most shade tolerant plants. That was also a negative in my little setting. In my maturing landscape, the big, thick purple hulk was a bully that had to go. A small more



A native garden and sustainable stewardship practices in even in small spaces can be big wins for pollinators and wildlife. Through the National Wildlife Federation you can certify your landscape as wildlife habitat and through the Xerces Society for Invertebrate Conservation you can sign a pledge for pollinators. These signs can help spread the word and educate others, especially in the urban landscape.

gracile specimen has now taken its place, the white fringe tree. Sizes and shapes of the various woody plants are now mutually harmonious with great possibilities for an expansive variety of understory plants.

I have focused this story on the journey with woody plants, but the bigger story is with the herbaceous ones. Most of the flower beds here are filled with perennials, including rain gardens and pocket prairies. I have taken my love of botany and experience with landscaping to the next level. I formed a non-profit organization, Webbedfoot Designs, Inc. to offer consulting and design services for those who want to take on similar transitions by using native plant materials in their own landscapes. Proceeds will help fund pollinator education and public native garden efforts. Find more information at webbedfootdesigns.com.

Ray Stewart, Webbedfoot Designs, Inc.



Are You Removing Invasive Plants and Replacing Them with Natives?

OIPC is looking for articles to add to our newsletter about your experience. We want to share your story to help inspire others to redesign their landscape or remove invasives from surrounding natural areas so that they can also experience the value of replacing them with natives. Please contact us through our website if you are interested.

Planting and Growing Native Trees and Shrubs

The ever-changing landscape industry has tried to meet the demands for more native species but there are unique challenges that come with native production and sales. Below some of those challenges are explained.

Provenance. Provenance, or where something originates, is a critical factor in the success or possibly failure of a native tree or shrub planting. An example species that highlights the challenge of provenance is the redbud (*Cercis canadensis*). Its native range is all of eastern United States from Maine to Florida however, there are genetic differences making the northern grown redbuds much more tolerant to cold temperatures while southern grown specimens are more tolerant to heat. Trying to grow a redbud from the wrong provenance will prove to be unsuccessful. Knowing the seed source of this shrub can be imperative for planting success.

Genetic Diversity. Native trees and shrubs are as diverse as people. All are seedling grown making each individual a one of a kind. Uniformity is lost when using seedlings and having matched trees or shrubs for a “uniformed look” becomes very difficult to achieve when using natives.

Transplanting. Many native trees have a pronounced tap root making the typical harvesting and transplanting techniques used by the landscape industry difficult. It takes much more effort to harvest a native tree with a tap root and the survivability of planting a tap rooted native is also negatively impacted. This adds risk to the industry when guaranteeing trees.

Symbiosis. In nature many native plants have developed a symbiotic relationship with particular fungi and microorganisms that are found in the soil. The mycorrhizal fungus must be present for some native species to thrive. If the soil is deficient in these beneficial microbes the native plant may, over time, decline and die. In short, native plants like healthy soils. Often these soils need to be high in organic matter and alive with beneficial microorganisms.

Site Location. Many native trees and shrubs are a bit less tolerant of the wrong site location. It is necessary to understand where a species grows naturally so you can replicate its requirements in your landscape.

So, if native plants can be so picky why should the landscape industry provide them and why should we as consumers demand availability? Native plants create habitat. They are food and nectar sources for native wildlife even in the urban setting. They provide food through all seasons. Trees in the white oak family have acorns that are sweet and edible in the fall. Trees in the red oak family have bitter acorns in the fall. For red oak acorns, winter rains and snow are required to leach the tannins from the acorn, making it available to consume in late winter. Native trees and shrubs also provide shelter and space for nesting. The exfoliating bark of the shagbark hickory can provide nursery space for bats such as the Indiana Brown Bat.

Native trees and shrubs also tend to have longer lives. They have evolved over thousands of years to grow in a particular region. This gives them an advantage having the ability to fight off local pests and disease. Many natives when full grown make an impressive and impactful statement. Nothing can compare to a native tree's beauty and grandeur. A true testament to the resilience and evolution of mother nature.

I encourage everyone to consider planting natives knowing that all of the environmental benefits will be realized for generations to come.

David Listerman, Listerman & Associates, Inc. & OIPC Board.

Kudzu: A Growing Threat in Ohio

Kudzu, *Pueraria montana* var. *lobata*, an invasive plant commonly referred to as the "vine that ate the South", is now making its way north and is an invasive plant that all Ohioans should be on the lookout for. Kudzu is native to Japan and southeast China and was first introduced to the United States in the late 1800's as an ornamental vine. It was

further promoted in the 1930s through 1950s by The Soil Conservation Service (now USDA's NRCS) for erosion control because of its ability to establish quickly. Soon, it was realized that not only would the vine rapidly hold down the soil, but it would outgrow its space and densely cover literally everything in its path including shrubs, mature trees, and buildings!



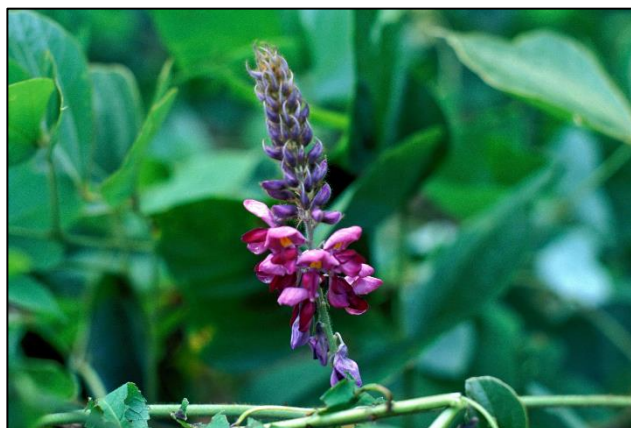
Kudzu grows at a rapid pace and can quickly engulf and kill trees and shrubs by depriving them of all sunlight. Photo by Kerry Britton, USDA Forest Service, Bugwood.org.

Kudzu spreads through seeds, runners, rhizomes, and through rooting that occurs at nodes forming new plants. An established Kudzu vine can grow at an incredible rate of one foot per day and one vine can reach 100 feet in length. An invasive plant that



Kudzu has dark green compound leaves that are 2-8 inches in length. It has 3 leaflets that are oval or deeply lobed. The underside of the leaves have small white hairs. Photo by Annemarie Smith, ODNR Division of Forestry, Bugwood.org.

grows this aggressively displaces native vegetation and wildlife at an alarming rate. Kudzu is a perennial, semi-woody climbing vine in the pea family. It has alternating leaves made of three oval-shaped or deeply lobed leaflets. The plant begins to reproduce after about three years, producing fragrant purple or reddish blooms that hang in long clusters. The plant typically flowers in mid to late summer and then in fall produces flat, fuzzy brown seed pods.



Kudzu individual flowers are about ½ inch long and are arranged in long hanging clusters. The flowers are highly fragrant and purple or reddish in color. Photo by Barry Rice, sarracenia.com, Bugwood.org.

Kudzu thrives in areas with mild winters and hot summers which typically kept the plant out of the northern United States and the Midwest however with climate change, this invader is finding opportunity to grow into new natural areas. When looking at EDDMaps (Early Detection & Distribution Mapping System), Kudzu has been documented in 19 of Ohio's 88 counties, mostly in counties of south and southeast Ohio however it has also been documented in the Cleveland area and in The Wayne National Forest. Kudzu is designated as an invasive plant by the Ohio Department of Agriculture, making it illegal to propagate, sell, or distribute in Ohio.

Through personal observations of Kudzu infestations in southern states and through viewing many photos of Kudzu invasions, it is obvious that rapid response to prevent establishment is imperative. To control Kudzu, the extensive root system must be destroyed but once established this can be extremely difficult. Taproots of Kudzu have been documented to weigh up to 400lbs and can easily be 12 feet deep

underground. Mechanical control methods involve repeatedly cutting vines just above ground level during each month of the growing season. Diligence here is the key. Kudzu is edible so goats can also be used to control the vine. In a well-established population, gaining control using only mechanical methods can take up to 10 years. Because of this, it is most effective to use herbicide foliar treatments or cut-stump treatments or to combine mechanical and chemical applications. When the vine is primarily growing near the ground, foliar applications of a 2% water based solution of glyphosate or triclopyr with a 0.5% non-ionic surfactant are effective. Kudzu actively grows at temperatures above 65 degrees F. so applications should not be done below that temperature. When the vine is growing vertically into trees, cut-stump applications with 25% glyphosate or triclopyr are effective. Since Kudzu is in the pea family, it is also possible to use herbicides that are legume selective which can better protect native vegetation if the Kudzu densities are sparse. Following and understanding herbicide labels are key to selecting an herbicide that is best for the situation.



Kudzu infestations often become so dense that broadcast herbicide applications using boom sprayers are often necessary to effectively cover the extent of the population. Rapid response drastically reduces the amount of herbicides and time needed for control. Photo by James H. Miller, USDA Forest Service, Bugwood.org.

Because rapid response is so critical for control and prevention of spread, mapping Kudzu in Ohio is also critical. Mapping can be done through citizen science using EDDMapS. EDDMapS aggregates data from other databases and organizations as well as volunteer observations to create a national network of invasive species distribution data. These data become the foundation for a better understanding of invasive species. The accurate identification and mapping of invasives is the first step toward control and eradication. Volunteers can report observations either online or through smartphone applications.

LaRae Sprow, OIPC Board & Metroparks Toledo

**SAVE THE DATES !
2023 OIPC WORKSHOPS and OIPC
RESEARCH CONFERENCE**

Tuesday, May 2nd – Richfield Heritage Preserve, Richfield

Tuesday, August 8th – Greenacres Foundation, Cincinnati

Tuesday, September 12th – Cedar Bog Nature Center, Urbana

Friday, October 27th – OIPC Research Conference, Columbus

We are also planning a workshop with the Johnny Appleseed Metro Park District in Lima. Date will be determined soon.

Watch our website and listserv for more details in the next few months.

OIPC Welcomes New Board Members

OIPC currently operates with a Board of 12 members that represent different areas of interest and experience related to invasive plant issues in Ohio. The members represent local government, federal government, non-profit organizations, interested public, academia, and the landscape/horticultural industry. Three board members recently left at the end of their terms and three new Board members have accepted positions to fill the openings. OIPC expresses sincere gratitude to the dedicated work of its Board. Thank you Michele Banker, who held the OIPC secretary position for 6 years, Nancy Traub who held the treasurer position, and Marilyn Baumer who helped with several programs and workshops. To show our appreciation, all outgoing board members were presented with a Berry Poppins Winterberry, *Ilex verticillata*, shrub at our recent Board meeting.

We are excited to introduce our new Board members. Derrick Cooper from The Nature Conservancy joins us representing the non-profit sector. Steve Herminghausen, representing interested public, is associated with Sustainable Westerville, The City of Westerville Green Team, and is President of the Westerville Garden Club. Jennifer Mansfield, with Greenacres Foundation in Cincinnati, also represents the non-profit sector.

All of our Board members are dedicated to invasive plant issues in Ohio. Their efforts do not start when they become Board members and do not stop when they leave. Thank You!

2 EASY WAYS TO SUPPORT OIPC!



Kroger Community Rewards

Use your Kroger Plus card to help OIPC grow. For your continued support you must enroll annually so be sure to check if your enrollment has expired.

Visit: KrogerCommunityRewards.com sign in or create a new account. Select OIPC and click on "enroll." The codes for OIPC are:
#23916 Cincinnati Region (includes Dayton and Lima)
#47319 Great Lakes / Columbus region (rest of Ohio)



Support OIPC when you shop at Amazon.com!

OIPC is an eligible non-profit in the charitable program AmazonSmile! Amazon's foundation donates 0.5% of qualifying purchases to an organization you select. Use this address to go directly to the page that benefits OIPC; smile.amazon.com/OIPC or start at smile.amazon.com and you will be prompted to select a charity. There is no cost to you since Amazon makes the donation on your behalf. Save the link and use it every time you shop with Amazon!

The Ohio Invasive Plants Council coordinates statewide efforts and direction to address the threats of invasive species to Ohio's ecosystems and economy by providing leadership and promoting stewardship, education, research, and information exchange.



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