

SEASONS

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SEASONS

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In this Issue

- 1 A Message from the Executive Director
- 2 Planning for Excellence
- 3 *Ever Green* Campaign Update
- 5 Marvelous Magnolias
- 7 Great Groundcovers
- 9 Morris Arboretum Receives Award for Inclusive
Excellence
- 10 Assessing the Grounds at the Washington
National Cathedral
- 11 Step Fountain Renovations
- 12 Spring Ephemerals: Strategies and Challenges
- 13 Secret Spaces
- 15 Spring Classes
- 17 What's Happening?
- 19 Tiptoe through the Tulips
- 20 Tributes & Memorial Gifts

Photo: Bill Cullina



Photo: Eloise Gayer

A Note from the Executive Director

BILL CULLINA, *The F. Otto Haas Executive Director*

“You’ll never miss your water ‘til the well runs dry.” This line from Bill Monroe’s bluegrass classic “Rocky Road Blues” has always stuck with me. The original phrase “When the well is dry, we know the worth of water” is attributed to our own Benjamin Franklin, and although a bit more scolding and professorial in tone, his sentiment is the same. I have lived with well water most of my life and I know that needling panic when you turn the tap and there is only a sputtering hiss. However, the simple truth of this line is obviously more about appreciation rekindled through loss for things we normally take for granted.

The coronavirus thrives in crowded, stuffy, interior spaces but withers in warm sun and fresh air. Being outdoors—something we have increasingly taken for granted in this virtual age—was a lifeline this year. I am so grateful for all the staff at Morris Arboretum who worked to reopen the garden and then provided a safe and peaceful place when the world was in such turmoil. Although we needed to put limits on daily attendance, the response from the community has been incredibly positive. I hope you have had a chance to visit us since we reopened last June. Your membership and support have been so important—thank you! If you had a chance to visit us this season, you undoubtedly also saw many new faces enjoying the Arboretum. Non-member visitation has been very strong this year, and participation in our ACCESS Philly admission program is up 50% from 2019.

Thank you also for your patience with the online ticketing system and admission caps. It is likely that we will continue advanced ticketing through at least this spring. With ongoing changes regarding institutional and government-mandated COVID guidelines, we encourage you to stay in touch with best visiting practices by checking our website, following us on social media, and signing up for our monthly eNewsletter at info@morrisarboretum.org.

Spring is my favorite time of the year, but I have to say I am looking forward to it more this year than ever! There is great bud set on the flowering trees, and the horticulture staff has planted thousands of tulips and other spring bulbs to greet you. I am sure it will be an especially colorful season. Please come, breathe the fresh air, and enjoy our beautiful garden.

I hope to see you soon!



Planning for Excellence

MIRA ZERGANI, *Director of Development*

One of the most important documents in a not-for-profit’s arsenal is its Strategic Plan. It is largely an internal document that motivates staff and volunteers, sets measurable goals, and establishes alignment among the various parts of the organization. Even the drafting of the plan is a valuable exercise that provides an opportunity for the organization to critically appraise its strengths and weaknesses and sets a direction to grow in a way that marries the organization’s mission with the needs of its audience.

Armed with the results of targeted visitor feedback, and in consultation with board, staff, and volunteers, the Arboretum is pleased to have recently completed its Strategic Plan 2021-2026, and is now working to fulfill the following overarching priorities:

- Pursue organizational excellence in all areas of Arboretum effort
- Seek greater understanding of Arboretum audiences to refine visitor experience, programs, outreach efforts, and institutional branding
- Enhance efforts to promote diversity and inclusion among audience, staff, and volunteers
- Implement and improve practices that model best practices in environmental sustainability
- Promote fiscal stability through budget modeling and growth in both earned and contributed revenue
- Complete and begin implementation of a 10-year master plan, the first new master plan at the Arboretum in 40 years

These priorities will guide decision making at the Arboretum over the next five years, and promise to further strengthen and enhance the Morris Arboretum as one of Philadelphia’s and the region’s premier garden destinations.

Photo: Vicki Chandler

everGREEN

Campaign Update – Ever Closer

The close of the *Ever Green* campaign is in sight! As of mid-January 2021, the Morris Arboretum has raised nearly 93% of its \$36 million *Ever Green* campaign goal. Since the campaign was publicly launched in 2017, our generous and devoted donors have made contributions both large and small that have immeasurably strengthened our existing endowments, created newly endowed staff positions and garden features, provided funding to bolster educational outreach efforts for underserved audiences, and helped to maintain the growth of the Annual Fund and other unrestricted sources of support during a tumultuous economic period. For this and much more, the Arboretum is profoundly grateful and looks forward to celebrating a successful end to the campaign in the fall. But first—the Arboretum must raise the balance of \$2.6 million before the campaign closes on June 30, 2021.

While many of the campaign’s original key areas of need have been funded, the events of the past year have brought several new and pivotal fundraising priorities into greater focus:

The establishment of a Resilience Fund is both a short and long-term goal that will provide bridge funding during difficult economic times in order to mitigate operating losses due to external market forces or other crises. The total fundraising goal for this fund is \$2 million.

As part of the Arboretum’s Strategic Plan 2021-2026, Diversity, Equity, and Inclusion (DEI) is a key priority. Successful DEI efforts require consultant expertise in bias training, marketing, visitor studies, and visitor experience consulting. The Arboretum seeks a total of \$100,000 for these ongoing efforts.

The forthcoming Master Plan for the Arboretum will be invaluable in guiding the Arboretum’s transition into new decades of growth. Like all great efforts, master planning can be time consuming and costly, requiring consultants, construction estimators, architects, and landscapers. The Arboretum is seeking \$500,000 in contributions to support the Master Planning process.

If you are interested in supporting these efforts or any other area of interest at the Arboretum, we welcome the opportunity to provide greater detail about these and other areas of need. Please contact Mira Zergani, Director of Development, at mzergani@upenn.edu.

Watch Us Grow

Cultivate the Garden

Lead Research Initiatives

Improve Public Access and Inclusion

Campaign Goal
✦ **\$36 MILLION**
✦ **\$33+ MILLION**
Raised as of January 31, 2021
92% to Goal

everGREEN ✦
Strengthen Our Roots, Ensure Our Growth



Photo: Julia Lehman

While the past year has been one of the most challenging in recent history for all of us, there have been many bright spots along the way. At the Arboretum, two of these bright spots are anonymous donors who recently made major contributions to maintain and enhance two well-loved and popular garden features.

Visitor surveys have revealed that the Garden Railway is the top-rated destination at the Arboretum, delighting thousands of visitors young and old, year-round. An anonymous gift of \$500,000 will provide both annual and endowment support for the Garden Railway exhibit, ensuring that future visitors will continue to enjoy the chug-chugging of the model trains in an exquisitely landscaped exhibit dotted with fanciful natural replicas of landmark buildings.

In addition, an anonymous planned gift of \$750,000 provides endowment funds for the perpetual care and maintenance of the Arboretum’s many water features—from the gentle lull of the Key Fountain to the sprawling Swan Pond and everything in between. These features are an invaluable component of the garden experience. They enhance the landscape, create a fuller sensory immersion for the visitor, and provide a source of sustenance for birds, insects, and other wildlife.

The Arboretum is ever grateful to these donors—and to all of our donors—for their support of these kinds of experiences that captivate and enthrall visitors of all ages, ensuring that the Arboretum remains a special sanctuary for so many.



Marvelous Magnolias

ANTHONY AIELLO, *The Gayle E. Maloney Director of Horticulture and Curator*

Photo: Arnold Winkler

One of my favorite aspects of the Arboretum is seeing the Magnolia Slope in full bloom. There is nothing quite like the scent and sight of magnolias (*Magnolia*) in all their glory. These small to medium-sized flowering trees are one of the most diverse groups of ornamental trees in our area. Their flower displays are useful for landscapes of all scales and sizes and help make spring the spectacle that we know and love. The Arboretum has more than 200 plants of 101 types of magnolias and April and early May is the best time to enjoy their beautiful and wonderfully fragrant flowers.

It has been said of magnolias, “No other genus of hardy trees ...can boast so many excellences.” The genus *Magnolia* honors Pierre Magnol, a renowned French botanist (1638–1715) who worked at the Montpellier Botanical Garden and developed the concept of plant families. Magnolias are native to the temperate and north tropical regions of the world, with a number species from eastern North America and the greatest diversity from Asia. There are a huge number of magnolia varieties, with The Magnolia Society International dedicated to their propagation, promotion, and dissemination.

Regardless of their ultimate size or flower color, magnolias prefer moist and well-drained somewhat acidic soil, and full sun. *Magnolia* flowers generally range in color from white to soft pink to deep purple, but recent advances in breeding have resulted in yellow-flowered forms. Magnolias are notorious for flower damage from late frosts, so whenever possible they should be planted in locations that allow the cold air to drain away. They do not tolerate ‘wet feet’ or shade. They grow best when planted in the spring surrounded by a mulch ring to minimize competition from turfgrass and lawn mowers. Magnolias are relatively disease free although they can suffer from scale insect infestations when under stress.

With so many beautiful varieties of magnolia it is difficult to recommend just a few; here are some of my favorites:

- *Magnolia stellata* (star magnolia) flowers in April and is perfect for small gardens, growing to 15-20 feet at maturity. The species has white flowers, while the variety ‘Centennial’ has multiple white tepals (the name for the ‘petals’ of magnolia flowers) tinged slightly with pink. ‘Chrysanthemumiflora’ has deep pink buds that open to a paler pink with a large number of tepals.
- There are many dark-purple flowered varieties but one of my favorites is *Magnolia* ‘Galaxy,’ an excellent deep purple-pink flowered magnolia that blooms in April. This is a more vigorous plant, reaching about 25 feet in 25 years.
- There has been such an explosion of yellow-flowered magnolias in recent years that it is hard to keep track of all of them. These generally flower in late April to early May, and some of my favorites include: ‘Elizabeth,’ one of the first yellow varieties introduced, it grows up to 45 feet, and has creamy yellow flowers; ‘Golden Gift,’ a small tree with bright yellow flowers; ‘Golden Sun,’ with large deep yellow flowers; and ‘Judy Zuk’ (named for the beloved late president of the Brooklyn Botanical Garden) which has fragrant, deep yellow tepals with hints of orange at their base. My favorite is ‘Butterflies,’ which has deep yellow flowers that emerge before its leaves.
- *Magnolia sieboldii* (Oyama magnolia) is an Asian species that blooms in late May into June. A vase-shaped, multi-stemmed tree, these will reach about 20 feet. It has beautiful egg-shaped flower buds that open to a pure white with purple-burgundy flower parts. This is one of my favorites!

- One of our native species, *Magnolia virginiana* (sweetbay magnolia) flowers from late May into early June, with small but sweetly scented flowers. This is one of my favorite small flowering trees, and is the exemption to the rule for magnolias, as it is able to tolerate fairly heavy, damp soil conditions. It is perfectly suited for small gardens or patios. There are a number of evergreen forms (var. *australis*) that are especially attractive, including ‘Green Shadow,’ ‘Henry Hicks,’ ‘Perry Paige’ (SWEET THING), and ‘Jim Wilson’ (MOONGLOW) among others.

We are fortunate in the Delaware Valley to be able to grow such a wealth of magnolias. Their charms are numerous and they are one of the best trees to have in the garden. I hope you become inspired by our collection and add one to your own garden.

Photos: Erin Conley, Bill Cullina, Paul W. Meyer



GREAT Groundcovers

BILL CULLINA, *The F. Otto Haas Executive Director*

The four most widely used pesticides by homeowners in the US are herbicides. Collectively, we spread millions of gallons of 2,4-D, MCPP, and glyphosate on our lawns and gardens every year. Obviously, weeds are a big problem and controlling them without chemicals is the biggest challenge for those wishing to garden organically.

Most non-woody weeds have small seeds that need light to germinate. By covering bare soil with an organic mulch, you can very effectively inhibit weed seed germination, though combining mulch with dense groundcovers is even more effective in preventing establishment. Although neither mulch nor groundcovers will eliminate pernicious weeds such as lesser celandine if already well established, groundcovers will shade out and weaken weeds while making them easier to spot and remove.

A groundcover is defined as any plant under about a foot tall that forms a dense leaf canopy. Groundcovers can be evergreen or deciduous, woody or herbaceous, and clumping or spreading. The list of potential groundcovers is vast, but I will give examples of a few from several of these groups that should thrive in the Mid-Atlantic.

Ask 10 gardeners to name an evergreen groundcover to plant under trees and I bet seven will mention Japanese pachysandra. This ubiquitous plant has some more unusual relatives, though, that less are aggressive and to my mind, more attractive. Our native Allegheny spurge (*Pachysandra procumbens*) has larger leaves that become speckled during the winter. It is a clumping species that should be planted on 16-inch centers to create a solid patch. Its cinnamon-scented, bottlebrush flowers appear from amid the leaves in spring, much like *Pachysandra axillaris*, a relative from China that has smaller, more glossy leaves.

Another exceptional, shade-tolerant evergreen from China is wild ginger (*Asarum splendens*). It boasts deep green, arrow-shaped leaves tattooed in silvery gray. Look for large patches of it near the Log Cabin at the Arboretum. Chinese wild ginger spreads slowly to form dense, six-inch high patches that deer don't seem to bother. Our local Canada ginger (*Asarum canadense*) makes a wonderful groundcover too, though it is not evergreen nor deer-resistant. Both need some moisture in summer to look their best.

The barrenworts (*Epimedium*) have seen a surge in popularity as recently discovered species from China have quadrupled the variety available to gardeners. We are planting several of the evergreen and semi-evergreen barrenworts and appreciate their drought tolerance and beauty. Most species and hybrids are clumping, and as such should be planted in groups of six or more to create a groundcover effect. The deciduous *Epimedium koreanum* 'Harold Epstein' is an exception, spreading 6-12 inches a year via underground rhizomes.

Look for some of the clumping, evergreen species in the Widener Woods, including the beautiful *Epimedium lishihchenii*, demure *Epimedium brachyrrhizum*, and unique *Epimedium wushanense*. Myriad hybrids are available too, including favorites such as 'Pink Champagne,' 'Domino,' and newer selections such as 'Rise and Shine.' Although many barrenworts are expensive to buy, they can be easily divided in spring if deciduous, and in fall if evergreen.

Some ferns make excellent groundcovers for shady spots too. Like barrenworts, there are clumpers and spreaders. Although too large to be considered a groundcover, ostrich fern (*Matteuccia struthiopteris*) has widely naturalized along the waterways at the Arboretum, and its dense, spreading colonies shade out even pernicious weeds easily. Christmas fern (*Polystichum acrosticoides*) is one of only a handful of evergreen ferns that are hardy in our area. This rugged, foot-high clumper is perfect for massing under the shade of trees. Several wildflowers can be used as groundcovers, especially under a high tree canopy or in a spot that receives a few hours of morning sun. A few of my standbys include clumping, 16-inch-tall great merrybells (*Uvularia grandiflora*) and twinleaf (*Jeffersonia diphylla*). When established, both produce dense, weed-smothering canopies. The lovely little crested iris (*Iris cristata*) is another one to try. Its mounds of sickle-shaped leaves spread slowly on thin rhizomes to form an interwoven patch. Although it is a woodland species, I find that it performs much better as a groundcover in partial sun and moist soil. The same can be said for creeping foamflower (*Tiarella cordifolia*). Growing to six inches tall much like the iris, this stoloniferous wildflower quickly spreads by offsets much like strawberries.

For a partially sunny location with drier soil, consider Pennsylvania sedge (*Carex pensylvanica*), a vigorous, spreading species that is a great no-mow turf substitute for low traffic areas. The fine leaves emerge in early spring and mature to medium-green before turning golden and russet as the plants go dormant in the fall.

If you have full sun, dry soils, and a limited budget, I'd suggest some of the sedums. *Sedum* 'Angelina' is especially striking. Its needle-like, evergreen leaves emerge chartreuse then mature to a bright, golden-yellow in the summer. Cold weather brings out a lovely mango-orange and red that carries through the winter. Like other sedums, 'Angelina' is a cinch to propagate. Simply snap off stems in spring or summer and bury the ends in soil. It will root in and begin a new colony within a few weeks.

Although I would not consider most asters groundcovers, there is one incredible selection that deserves mention. 'Snowflurry' (*Symphyotrichum ericoides* 'Snowflurry') sends out prostrate stems from a central crown that grow about two feet in all directions. During the summer, you might mistake it for a juniper because of its gray-green color and small, almost needle-like leaves. Any confusion will end in early fall though as the mats cover themselves in a thick shag of white flowers beloved by bees, butterflies, and other pollinators. It too prefers full sun and well-drained soil.

Consider adding one of these great groundcovers to your home landscape. They may be just the thing your garden is missing.

Photos: Bill Cullina



Asarum splendens with painted fern and tulips



Carex pensylvanica



Osmunda with *Tiarella wherryi* and iris



Epimedium lishihchenii



Morris Arboretum Receives Award for Inclusive Excellence

SUSAN CRANE, *Director of Marketing*

Morris Arboretum's Youth Education and Guided Tours programs have been selected by the National Association of College Auxiliary Services (NACAS) for the 2020 Edwin R. Golden Award for Inclusive Excellence. This award was established in 1992 in honor of Edwin R. "Bob" Golden for his foresight in acknowledging the need for attention to issues of cultural diversity in the Association.

Morris Arboretum is being recognized for three innovative ways that the organization models cultural diversity and inclusion in its programming:

Recognizing that Inclusiveness Takes Many Forms

Last year, Arboretum staff customized an autism-adapted tour for visitors with special requirements and was recognized with a Brighter Future Award which is given out by the Philadelphia Intellectual Disability Services and Public Awareness Committee.

Valuing the Diversity of Language; Collaborating to Facilitate a Mission

Morris Arboretum's Youth Education guiding principle has inclusiveness at its heart, targeting every child. This vision is exemplified in the Arboretum's collaboration with the social services organization ACLAMO (Latin American Community Action of Montgomery County /Accion Comunal Latinoamericana) to develop summer enrichment camps.

ACLAMO Summer Enrichment Camp 2019

Photo: Chelsea Melvin

Reducing Economic Barriers

To promote inclusiveness in youth education curriculum-based field trips, the Arboretum created a restricted endowment fund that provides sustained program support that does not rely on participation fees and finances the transportation costs for Title-1 schools.

"Ideas for new programs come from a variety of sources that include calls to the Arboretum for information about specialized tours as well as contacts made in the community by the development office," says Bryan Thompson-Nowak, Director of Education. "When you hear requests for tours for special needs visitors several times and have to tell callers that you don't have a program now, you realize that there is a need," he says. "

Morris Arboretum's *F. Otto Haas Executive Director* Bill Cullina added, "We are here to include and inspire everyone, so it is part of our mission to create programs that fit our communities' accessibility needs. Morris Arboretum is so proud to have been recognized by the community of our peers for the work we've accomplished regarding inclusivity. Receiving this year's Edwin R. Golden Award for Inclusive Excellence raises the profile of the diverse programs currently conducted at Morris Arboretum, both among our leadership and at the University of Pennsylvania. It is validation for the work toward diversity we have done, and impetus to redouble our commitment to do much more."

NACAS is a professional trade association that supports the non-academic segment of higher education responsible for generating business through a diverse array of campus services that students need and value—such as food services, bookstores, housing, and transportation.



Assessing the Grounds of the Washington National Cathedral

ADI SHILOH, *The Martha S. Miller and Rusty Miller Endowed Urban Forestry Intern*

Photo: Jason Lubar

Well before dawn last fall, staff from the Arboretum's urban forestry and arboriculture departments headed to the Washington National Cathedral. The Cathedral grounds include extensive gardens, cared for and beautified by the All Hallows Guild. The grounds also include a five-acre woodland, called Olmsted Woods, all part of a 26-acre watershed.

Over the years, the Olmsted Woods suffered from over- and misuse by neighbors, visitors, and school children resulting in soil compaction, erosion, uncontrolled water runoff, and invasive exotic plants taking over the landscape.

Confronted with the severe and ongoing landscape deterioration, the All Hallows Guild commissioned the landscape consulting firm Andropogon Associates as a restoration consultant. The Morris Arboretum Urban Forestry Consultants (UFC) were hired as sub-contractors of Andropogon Associates and tasked with providing a tree inventory and assessment with a focus on risk management. The team assessing the Olmsted Woods included Jason Lubar (Associate Director of Urban Forestry), Jehane Samaha (previous UF Technical Consultant), Andrew Hawkes (Assistant Arborist), and Liam McTigue (Arborist Intern). The Urban Forestry Consulting team is experienced in providing tree-related consulting services to a diversity of clients such as landscape architecture firms, educational and non-profit institutions, businesses, professional organizations, and federal, state, and local governments.

For this project, UFC produced the assessment by first mapping the area for use in GIS (Geographic Information Systems) software, and then by locating, tagging, and identifying the relevant trees. Next, the team took and estimated measurements, risk rating, and provided care and maintenance recommendations, entering this data into the ArcGIS Collector app. A final map, along with a report summarizing work completed and findings were then compiled to present to Andropogon Associates and All Hallows Guild.

The assessment UFC performed addresses tree-related issues in the Olmsted Woods and provides decision-making information that will help guide the All Hallows Guild to reduce tree-related risk, budget, and guide future restoration efforts in the Woods, and buttress the information that will be presented in Andropogon's report and other deliverables.

The UFC is a source of income for the Morris Arboretum through the offering of contracted services. Consulting revenue directly supports the Arboretum's educational programs and mission which is to promote an understanding of the relationship between plants, people, and place. If you are interested in the services UFC offers or in online classes available through the School of Arboriculture, you can find more information at morrisarb.org/arboriculture.

To read more about the Olmsted Woods & Amphitheater, go to allhallowsguild.org. You can also find All Hallows Guild on YouTube, where they offer more highlights on their gardens.

Step Fountain Renovations

LESLIE CRANE, *Development Associate: Communications and Corporate Relations*

Last year, the Arboretum announced that it was embarking on a comprehensive project to restore the elegant Step Fountain. After a three-month delay due to the COVID-19 closure and an additional unexpected six-week delay due to the discovery that the foundation materials differed from the original drawings, the restoration is complete! The 104-year-old fountain has been restored to its original beauty using historically accurate materials, while the internal workings have been upgraded to a modern standard.

The scope of work included conserving the Step Fountain’s original limestone balustrade, lion heads, and urns, as well as the bluestone pavers and pedestrian steps. New cheek walls (sidewalls) were recreated with Indiana limestone, and new water steps were recreated out of Pennsylvania bluestone. Internally, the old circulation system was replaced with a more energy efficient system, and a new filtration system was installed that utilizes an ionizer and UV sterilizer, reducing the need for chemical water treatments. This spring, Arboretum horticulturists will add flowering shrubs and other colorful plantings to complement the beauty of the fountain (see below). Access to the area will also been improved with grading and the addition of an ADA-compliant path. The path paving is temperature-dependent and will be completed later in the spring

This project was made possible with the generous support of the William B. Dietrich Foundation, and with the expertise and oversight of Kreilick Conservation, LLC, in collaboration with Pullman SST, Inc. (masonry) and PondWorks (plumbing.)



Photo: Bill Cullina

Spring Ephemerals: Strategies and Challenges

DR. TIMOTHY BLOCK, *The John J. Willaman Director of Botany*

Merriam-Webster defines the noun form of the word ephemeral as “something that lasts for a very short time ... specifically: a plant that grows, flowers, and dies in a few days.” This definition seems to fit our impression of those early-spring-flowering plants we refer to as “spring ephemerals” with one notable error. Just because these plants leaf out, flower, produce fruits, and disappear from sight within a few days each spring, they certainly do not “die[s] within a few days.”

Most spring ephemerals in our flora grow from underground structures such as bulbs, corms, rhizomes, or storage roots. The carbohydrates stored in these structures provide the immediate energy needed to send up new stems each year. These sugars and starches are replenished by the photosynthesizing leaves, even though they may be present each year for only a few days.

Most of our spring ephemerals grow in wooded areas. Therefore, it is necessary for them to complete their biological tasks each year before the canopy of trees and shrubs leaf out in the spring. Otherwise, the light available on the forest floor would be too dim or diffuse to allow these generally diminutive plants to survive.



Photos: Tim Block



Unfortunately, our often strikingly beautiful spring ephemerals face serious threats on several fronts. One problem is that white-tailed deer are especially hungry in the spring while, themselves, reproducing after facing their own challenges with winter. Deer are particularly attracted to certain species such as mayapple (*Podophyllum peltatum* – pictured above). Another challenge to spring ephemerals is posed by common, non-native, invasive species such as garlic mustard (*Alliaria petiolata* – pictured at left) which produces chemicals that inhibit the growth of other herbaceous species, and lesser celandine (*Ficaria vernalis*) which simply outcompetes many native species for space, both above and below ground.

Yet another threat to spring ephemerals, and a very active area of research, is apparent climate change, specifically how the earlier onset of spring over time may be affecting the ability of these very sensitive species to reproduce. Research by Walck* et al. (2011) demonstrated how climate change affects seed production,

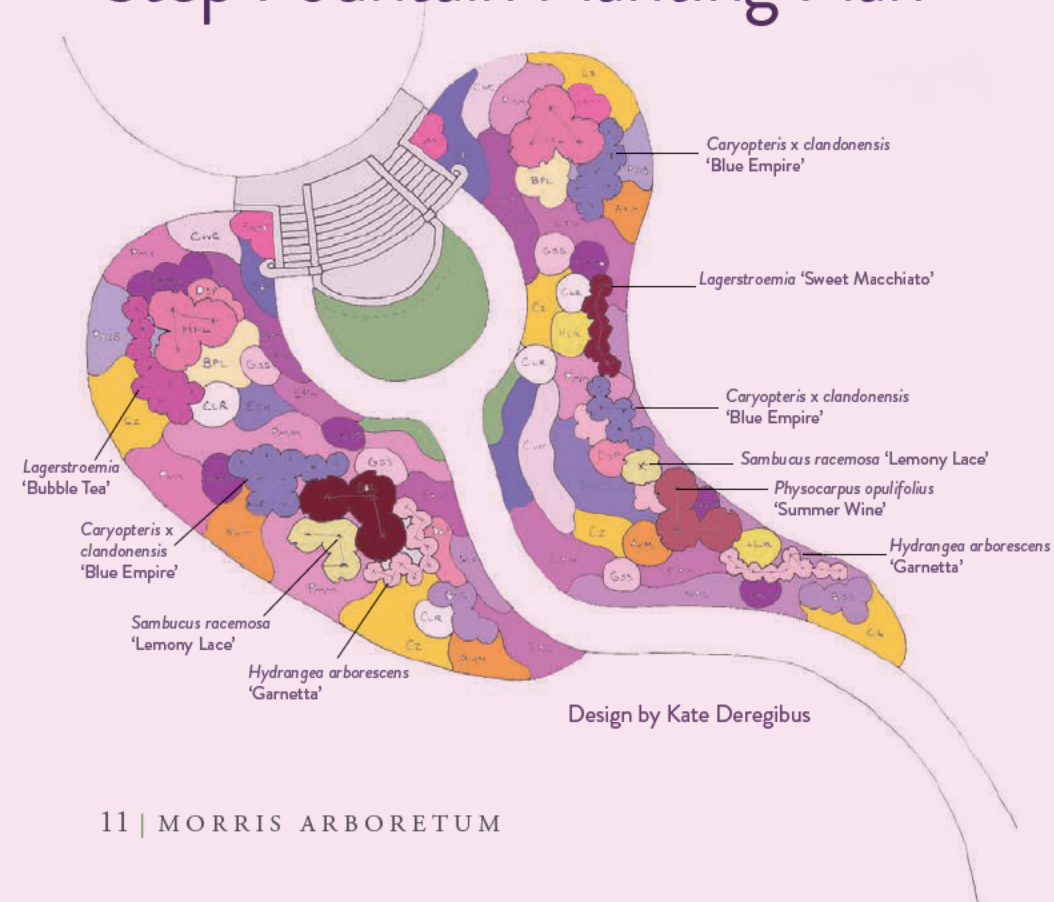
seed germination, persistence of seeds in the soil, and other factors that can negatively impact natural populations of plants in general. Other research (Kudo and Ida, 2013; Gezon et al., 2016) investigated the possibility that spring arriving earlier may cause a timing mismatch between flowering and pollinator visitation in specific spring ephemeral species. While these projects are a start, much additional work remains to be done to illuminate the effects of climate change on the spring ephemeral flora.

Still, there are many places in our area where spring ephemerals can be seen in some profusion (some quite spectacular). If you visit the woods on a regular basis this spring you are bound to be there at the right time to see whatever species call that area home. Although they will seem to only be there for a short time, rest assured they are still present underground, and will show themselves again next year.

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Walck, J. L., Hidayati, S. N., Dixon, K. W., Thompson, K. and Poschlod, P., 2011. Climate change and plant regeneration from seed. *Global Change Biology* 17: 2145-2161.

*An interesting aside: the lead author of this paper, Jeff Walck, is a former Morris Arboretum Pennsylvania Flora Intern.

Step Fountain Planting Plan



Shrubs

- Caryopteris x clandonensis* ‘Blue Empire’
- Hydrangea paniculata* ‘Fire Light’
- Hydrangea arborescens* ‘Garnetta’
- Lagerstroemia* ‘Bubble Tea’ (Dwarf)
- Lagerstroemia* ‘Sweet Macchiato’ (Dwarf)
- Physocarpus opulifolius* ‘Summer Wine’
- Sambucus niger* ‘Black Lace’
- Sambucus racemosa* ‘Lemony Lace’

Other Plants

- Akm *Agastache* ‘Kudos Mandarin’
- Am *Allium* ‘Millenium’
- Bpl *Baptisia* ‘Pink Lemonade’
- Bss *Baptisia* ‘Sparkling Sapphires’
- Clr *Clerodendrum incisum* ‘Musical Notes’
- Cwc *Calametha nepeta* ‘White Cloud’
- Cz. *Coreopsis verticillata* ‘Zagreb’
- Dsp *Digitalis purpurea* ‘Sugar Plum’
- Ech *Echinops bannaticus* ‘Blue Glow’
- Epw *Echinacea purpurea* ‘Pow Wow Wild Berry’
- Gss *Gypsophila* ‘Summer Sparkles’
- Hlq *Helianthus* ‘Lemon Queen’
- Npc. *Nepeta* ‘Cats Pajamas’
- Npm *Penstemon* ‘Midnight Masquerade’
- Pmx *Penstemon mexicali* ‘Red Rocks’
- Pbjb *Perovskia atriplicifolia* ‘Blue Jean Baby’
- Samt *Salvia* x ‘Amante’
- Sams *Salvia* x ‘Amistad’
- Sba *Salvia patens* ‘Blue Angel’



Secret Spaces

SUSAN CRANE, *Director of Marketing*

The Arboretum has many places to find your space and relax. From the first-time visitor to the seasoned member, there is always something new to discover on each visit. While John and Lydia carefully designed their garden to include expansive areas for horticultural display, they also created many ‘secret’ spots that continue to delight visitors today. Many have an intriguing story to tell. On your next trip to the Arboretum, venture off the paths and uncover these hidden garden treasures for yourself.

The Orange Balustrade is a ‘garden room’ built shortly before 1900 that offers views of the hillside across the Morris estate. The design was described as an Italian Villa Garden, a popular landscape at that time. The terracotta balustrade is surrounded by lush, mature trees and is a peaceful and shady retreat complete with benches and a small cascading fountain.

Completed in 1912, **The Japanese Overlook Garden** features a winding path leading to a stone viewing platform. Home to Asian conifers and deciduous trees, the area also contains a number of Fudo (Japanese for ‘immovable’ stones) thought to provide protection from evil spirits. This calming space invites visitors to spend a few minutes in contemplation or meditation.

The Springhouse offers a tranquil resting spot with an open view to the trees above and the adjacent Azalea Meadow. It dates back prior to the Morrises when part of the landscape was used as a dairy farm and it served to keep perishables cool. With temperatures that are much cooler than the surrounding area, the Springhouse is an especially welcome respite on hot summer days.

The Grotto under the Mercury Loggia is an artificial cavern lined with Wissahickon schist and a favorite spot with young visitors. A narrow, winding path leads through the grotto into a Ravine Garden on the north side of the Loggia. Historically, grottos similar to this were designed as a cool location for intellectual ponderings.

The state champion **katsura tree** was planted around 1900 and is an iconic treasure of the Morris Arboretum. The huge, spreading canopy and wide, exposed roots captivate all who come upon it. When fully leafed out in summer, its branches provide a giant, natural umbrella from the rain. In the fall, as the leaves decompose, they give off the aroma of burnt sugar or cotton candy. Stop by in late summer or fall to see if you can catch the scent yourself.

In 1910, “Garden Steps, Wall & Seat” were built into the hillside at the north end of the Rose Garden. The seat was installed years before Lydia had the Rose Garden and Rock Wall terrace dug into the hillside (1924) and the “Blue Pool” was also added later. The spot, now known as **Lydia’s Seat**, was a favorite garden approach along the path down the hill from the mansion to the mixed flower, kitchen, and herb gardens that preceded the Rose Garden. The view today is just as special, but a bit more secret.

Did you know that there are woodland trails that link the Fernery to the Visitor Center and the wetland? Trails through the area known as **Penn’s Woods** have existed since at least the Morrises’ time. Though not fully accessible and more of a hiking trail, if you have not experienced this part of the Arboretum, it is well worth a look, as it provides a new perspective, and a fun and different visitor experience.

Photo: Kate Deregibus



Spring Classes

Take this time at home to learn something new. To register for virtual classes go to morrisarb.org/onlineclasses. For in-person classes or field trips register at morrisarb.org/onlocationclasses or call (215) 247-5777, ext. 125. *On-location classes are small and socially distanced, and masks are required. Following up-to-date institutional and state-mandated COVID restrictions, these classes are subject to change.*

Propagating Carnivorous Houseplants (Virtual Class)

Emily Conn, Horticulturist

Take a walk on the wild side with this introduction to carnivorous plant propagation. We will focus on three common carnivorous houseplants: *Nepenthes* (pitcher plant), *Sarracenia* (trumpet pitcher plant), and *Drosera* (sundew). This class will explore the cultural conditions required for these plants to thrive, as well as propagation via seed, division, and cuttings with a live demonstration of

Nepenthes propagation. Finally, we will review resources for acquiring carnivorous plants with a focus on local growers and nurseries, as well as how to find the materials to build container gardens for your carnivorous plant collection.

Friday, April 2, 1:00pm – 2:00pm

Members: \$10 | Non-members: \$15

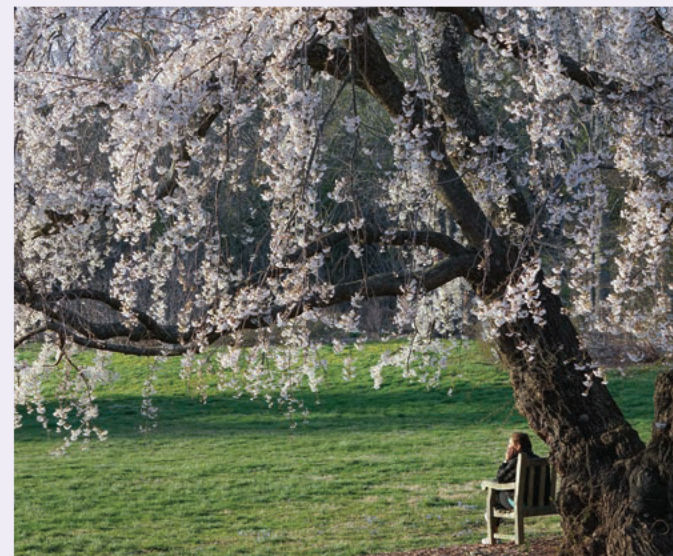
Japanese Flowering Cherries: “The Loveliest Trees” (Virtual Class)

Anthony Aiello, The Gayle E. Maloney Director of Horticulture & Curator, Morris Arboretum

Japanese flowering cherries are one of the great highlights of spring and among the most beloved ornamental flowering trees. Flowering cherries have long been a captivating presence in Japan and throughout the U.S. since their introduction over 100 years ago. In this lecture, Tony Aiello will detail the introduction of flowering cherries into various locations in the eastern US, with a focus on those planted throughout Philadelphia. Tony has been using the Morris Arboretum's cherry collection as a model for preserving its horticultural heritage and at the same time providing best practices for veteran tree care. He has also been working with other botanic gardens in the northeast to identify, propagate, and share rare varieties of flowering cherries.

Friday, April 9, 1:00pm - 2:00pm

Members: \$10 | Non-members: \$15



A - Z of Spring Bulbs and More (Virtual Class)

Jenny Rose Carey, Author and Renowned Gardener

In this lecture, Jenny Rose Carey will take us on a journey to show you an array of flowering bulbs that peak in spring and continue throughout the year. Beyond standard daffodils, look to expand your bulb palette with these easy-to-grow plants that have diverse shapes, cheerful colors, and different bloom times. They are an easy way to enliven your garden! Jenny will illustrate this online program with photos of gardens in England, Holland, and America.

Wednesday, April 21, 10:00am - 11:00am

Members: \$10 | Non-members: \$15



Birding at Brigantine (Field Trip)

Sharon Meeker, Experienced Birder and Trip Leader

Join us for a day-long birding adventure at the Edwin B. Forsythe National Wildlife Refuge. This southern New Jersey refuge, also known as Brigantine, features more than 47,000 acres of protected coastal habitat, and is located in one of the Atlantic flyways' most active flight paths. It provides tidal marsh and meadow habitats, as well as shallow coves and bays that are important resting and feeding habitats for migratory water birds. We will see birds that are migrating north from their Central and South American wintering sites. Waterfowl will be abundant, and we also hope to see shorebirds and raptors. Field trip size is limited; registration is required for each attendee. Bring binoculars, lunch, and something to drink. Dress for the weather. We will drive separately and meet at the Edwin B. Forsythe National Wildlife Refuge Visitors Center. Directions will be provided upon registration. Morris Arboretum field trips adhere to CDC guidelines including social distancing and requiring face masks during the program. Leaders reserve the right to ask a participant to leave the program if they are not adhering to these guidelines. Leaders may briefly remove their face mask

to be heard by the group while maintaining social distance. Please do not come to a program if you are sick or have a sick family member. There will be no sharing of equipment including binoculars or spotting scopes.

Wednesday, April 28, 9:30am - 1:00pm

Members: \$45 | Non-members: \$50

Carve a Wooden Spoon (On-location Class)

Karl Newman, Master Cabinetmaker, Green Woodworker

Green woodworking is undergoing a renaissance, and carving a wooden spoon is a great introduction to this craft. Start your woodworking hobby in this exciting class with master cabinetmaker and green woodworking expert Karl Newman. This class is offered twice, with two dates to choose from. Please select one date and register for one session only. Class size is limited. Morris Arboretum in-person classes adhere to CDC guidelines including social distancing and requiring face masks during the program. Leaders have the right to ask a participant to leave the program if they are not adhering to these guidelines. Leaders may briefly remove their face mask to be heard by the group while maintaining social distance. Please do not come to a program if you are sick or have a sick family member. There will be no sharing of equipment.

Please select a date when registering:

Session 1: Saturday, May 22, 10:00am - 12:30pm

Session 2: Saturday, June 5, 10:00am - 12:30pm

Members: \$50 | Non-members: \$55



Caring for Roses in Your Garden (Virtual Class)

Eloise Gayer, Assistant Horticulturist, Chanticleer Garden

With the right tools and knowledge, any gardener can enjoy a fragrant, colorful, beautiful rose in their garden. This class will provide an overview of rose care including pruning, planting, fertilizing, and disease prevention, as well as resources for independent study. We will learn about different types of roses and their particular cultural requirements, the best roses to grow for the Philadelphia area, and we'll explore some of the Morris Arboretum's most exciting rose varieties, which will be at their peak in early June. A question-and-answer session will follow the lecture.

Wednesday, June 2, 10:00am - 11:00am

Members: \$10 | Non-members: \$15



WHAT'S HAPPENING?

Garden Educators

Outdoor venues have become increasingly popular during the pandemic and the Arboretum is no exception. Visitors new and old have flocked to the Arboretum this past year in great numbers to enjoy the outdoors and take part in the many casual educational opportunities the Arboretum offers.

Optimistically, as COVID restrictions begin to lift later this year, we look forward to incorporating Garden Educators on the grounds. These volunteers will provide a welcoming presence and impromptu garden interpretation for both first-time visitors, and as a service to our members who include the Arboretum as a vital part of their family activities now more than ever.

We remain committed to safely adapting the ways the Arboretum continues to connect plants, people, and place. See you in the garden!



Practicing Sustainability

Battery technology has finally caught up to the power demands of commercial landscaping equipment. This advancement makes it possible to pursue garden maintenance in an even more sustainable way.

Over the past several years, the Arboretum has acquired a range of electric equipment for daily garden maintenance. Last year, we purchased three small electric trucks. With their smaller stance and noiseless engines, these vehicles are less obtrusive in the garden. We already possess an array of battery-operated chain saws, string trimmers, and leaf blowers. To the visitor, the obvious benefit of this equipment is a quieter experience, as the constant background hum of gas-powered equipment is diminished. For the garden staff, there are several benefits to using battery-powered equipment including easier starting, reduced vibration, less engine maintenance, and the elimination of exhaust fumes.

Each year we look to replace more vehicles in our fleet with electric equivalents to further reduce our carbon footprint. "May we have been worthy stewards is our hope," John Morris desired his legacy would be at his Compton estate. We think he would approve of our equipment purchases.



Member Dividend Plant Distribution

Save the Date!

Friday, May 14 – Sunday, May 23

10am – 5pm

At the Fernery Plaza

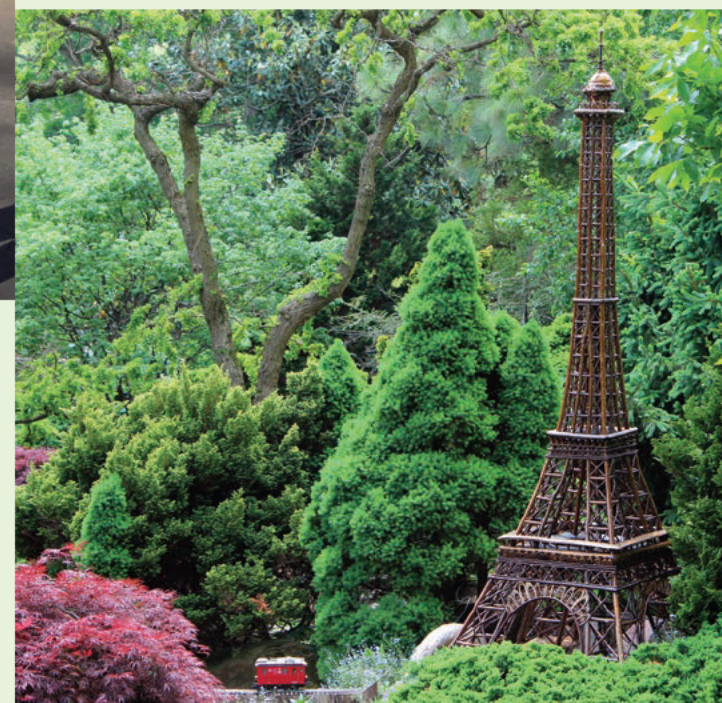
Did you know that in her will, Lydia Morris states that the Morris Arboretum is to distribute plants? In addition to sharing plants with other public gardens, the Arboretum has had a tradition of sharing plants with members for decades. Whether you are a seasoned gardener or planning to put your hands into the soil for the first time, you are invited to take a plant in appreciation of your membership. A selection of woody and herbaceous plants will be available.



Garden Railway

The Garden Railway opens on the Saturday of Memorial Day weekend (May 29) with model trains zipping in and out of tunnels and over bridges along a quarter-mile outdoor track. Perfect miniature replicas of famous Philadelphia landmark buildings will be interspersed with structures representing the *Wonders of the World*. Visitors will see the Eiffel Tower, Great Wall of China, Sophia Hagia, and other wonders for a breathtaking trip around the world. The Garden Railway is open daily 10-5pm through Labor Day. Check our website for special events including Circus Week (June 26–July 5) and Thomas the Train Weekends (July 24–25, August 21–22 and Sept. 18–19). The display is free with admission, however advance tickets are required. Visit morrisarboretum.org to purchase tickets.

The Garden Railway is supported, in part, through the generosity of Gwen and Ed Asplundh, by gifts given in memory of Joe Shuttleworth, and with contributions from Bachmann Trains.



Philadelphia Rose Society Show

Sunday, June 6

9am – 3pm

Make plans to attend *A Rose Exhibition: In Full Bloom!* featuring America's favorite flower. A wide variety of roses that are well-suited for growing in our area will be on display. Detailed handouts on rose selection and care will be available, and Philadelphia Rose Society Consulting Rosarians will be on hand to answer your rose questions. This event will be held outdoors and all necessary COVID-19 protocols including social distancing, will be followed.



Tiptoe through the Tulips

This past summer, the Arboretum installed a deer fence around the public garden perimeter. With our resident deer population gone, we now look forward to reintroducing a number of garden plants that had been impossible to grow otherwise. One springtime favorite making its comeback this year is the tulip. These flowers have been described as the “art and soul of spring” and they have been missing from the Arboretum for decades. Typically, these bulbs are like cotton candy to deer, and a determined deer would eat them like crazy. From digging up bulbs to munching on leaves and flowers, it was impossible to grow tulips to any effect with deer in the garden. This fall, we planted more than 8,000 tulips in the Arboretum. You should see large groupings of tulips at the newly renovated Step Fountain, throughout the Rose Garden, and dotted around in other locations. Some varieties to be on the lookout for are *Tulipa* ‘Banja Luka.’ This Darwin-type tulip is a sturdy, long-lasting form with yellow petals decorated with red striping. *Tulipa* ‘Negrita’ is a lovely Triumph-type tulip with deep plum-purple flowers. *Tulipa* ‘White Emperor’ is an award-winning, milky-white form of Emperor tulip. Make sure to visit and see these lovely heralds of spring!

“A flower blooms for it’s own joy.”
— Oscar Wilde

Tributes & Memorial Gifts

The Morris Arboretum is grateful to the following donors who made tribute and memorial gifts between August 16, 2020 and January 31, 2021.

In honor of Marianne Banbor
Friends of Independence Library

In memory of Henry Berger
Joy Lappin

In memory of Diana M. Butcher
The Shaw and Spangler Families

In memory of Michael Ciliberti
Janeen S. LaFaver

*In honor of Diane & Stuart
Donaldson*
Mary Jane Raymond

*In memory of Elizabeth Oswald
Evans*
Lynn Ruthrauff

In memory of Marian Garfinkel
Debra L. Rodgers & Paul W. Meyer

In memory of Sally Gendler
Nancy & Myles Alderman
Nora Bianchi ‘84
Jean Levitt Birnberg
Elizabeth & Stephen Bitterman
Alison Burns
Margery Cooper
Robert S. Davis
Gene Dilks
Geoff Edelson
Irma & Christopher Fralic
The Garden Club of Philadelphia
The Hass Family
Corinne Heyes, Dartmouth ‘82
Rachelle L. Kaiserman
Her friends from LUPZ & CHCA
Lisa Madzin
Nancy & R. Earle Matlack
William Miller
Alison & Alexander Nalle
Elesa Nelson
Susan Peck

Anne Standish
Leslie Weissner
William Zempsky
Marcie Ziskind

In memory of Vera Glassman
Val & Roger Wood

In honor of Robert Gutowski
Carolyn & George Bassett
Deborah Glass
David Hollenberg

Diana Post
Ann Rhoads
Debra L. Rodgers & Paul W. Meyer
Peter Trentacoste
Leslie Weissner
Quentin White
Leslie & Steve Zavodnick

In memory of Ann & Harry Harvey
Leslie Weissner

In honor of Ellen Nalle Hass
Perry Benson, Jr.

In honor of Donna Hecker
Elizabeth & Mark Hecker

In memory of Edna Hughes
Debra L. Rodgers & Paul W. Meyer

*In memory of Thomas M.
Hyndman Jr.*
Jan & Bill Lutz

In memory of Dale Kinley
Jane & Armand van Nimmen

In memory of Joan F. McCracken
James C. McCracken

*In honor of Morris Arboretum Staff
and Volunteers*
Madelyn Ladner & Robert Gutowski

In memory of Samuel Ozer
Debra L. Rodgers & Paul W. Meyer

In memory of Ruth Preucel
Anne E. Brown
Department of Anthropology of Brown
University

*In honor of Debra (Debbie) L. Rodgers
& Paul W. Meyer*
Felice Fischer

In memory of Lucille Roland
Sharon & J. Christopher Miller

In memory of Jerome Snyder
Marlene & Eric Address
Deb, Steve, Andrew & Andi Appel
Holli Bluestein
Shelly Chasan
Marcine & Bernie Eisenfeld
Pam & Joel Spiller

In memory of Betty & Lew S. Somers III
Elizabeth Somers Stutzman

In memory of Thomas J. Stroudt
Kate & Brian Russell
Suzanne & Leonard Russell

In memory of Babbie Wetherill
Debra L. Rodgers & Paul W. Meyer

In memory of Marilyn Wills
Peg Bogart
Lora Jo & Russell R. Dickhart

In memory of Janet Wilson
Albert Wilson
Bruce Wilson
Gary Wilson
Judy Wilson

Photo: Bill Cullina

Seasons newsletter is printed on FSC® (Forest Stewardship Council™) certified paper, which supports the growth of responsible forest management worldwide through its international standards.

Photo: Julia Lehman



Explore, Discover, Learn

We invite you to take advantage of all the great **self-guided** tours and activities available on our website. You'll find many interesting, educational, and fun things to do under the "Explore" tab. In addition to information on birding to buildings and features that you can browse at home, there are tours and family activities you can enjoy while at the Arboretum.

For our younger audience, family activities include ways to see the Arboretum through animals' eyes in Arboretum Adventure. Your Guide to Tree Adventure is a printable pdf with places for rubbings on three interpretation panels. Bring your own pencil for this activity, where you will learn about leaves, tree rings, and roots. The Tours section features self-guided tours on everything from Native Trees to Creative Expressions. If you are new to the Arboretum, try out the Introductory and Garden Highlights tours. Longtime members may find new discoveries in the Japanese Elements and Sculpture tours. Discover something new every time you visit!

STAY IN THE LOOP – *With ongoing changes regarding institutional and government-mandated COVID guidelines, please stay up to date with best visiting practices by checking our website, following us on social media, and signing up for our monthly eNewsletter at info@morrisarboretum.org.*