

# Plecker Pond Loop Self-Guided Tour

**0.25 mile wheelchair-accessible walking tour**

**Benches for resting or observing available throughout**

**Leashed dogs welcome; please pick up after your pet**

There is no admission fee, but you can show your support of the Arboretum with a donation or by becoming a member!



EDITH J. CARRIER  
**ARBORETUM**  
JAMES MADISON UNIVERSITY.

# About the Edith J. Carrier Arboretum

## Established 1989

The Edith J. Carrier Arboretum, a woodland sanctuary sitting within a 125-acre tract on the James Madison University campus, is a public, urban garden and forested greenspace that preserves native species, provides opportunities for research, and promotes knowledge of the botanical and natural world for all!

### We are:

An **outdoor classroom** for learners of all ages

A vibrant, evolving **habitat** for flora and fauna

A **green corridor** for migrating birds, butterflies, and mammals

An important **stormwater detention** and management facility for ensuring watershed health

A provider of **lectures, workshops, and programs**

A host of **special events**

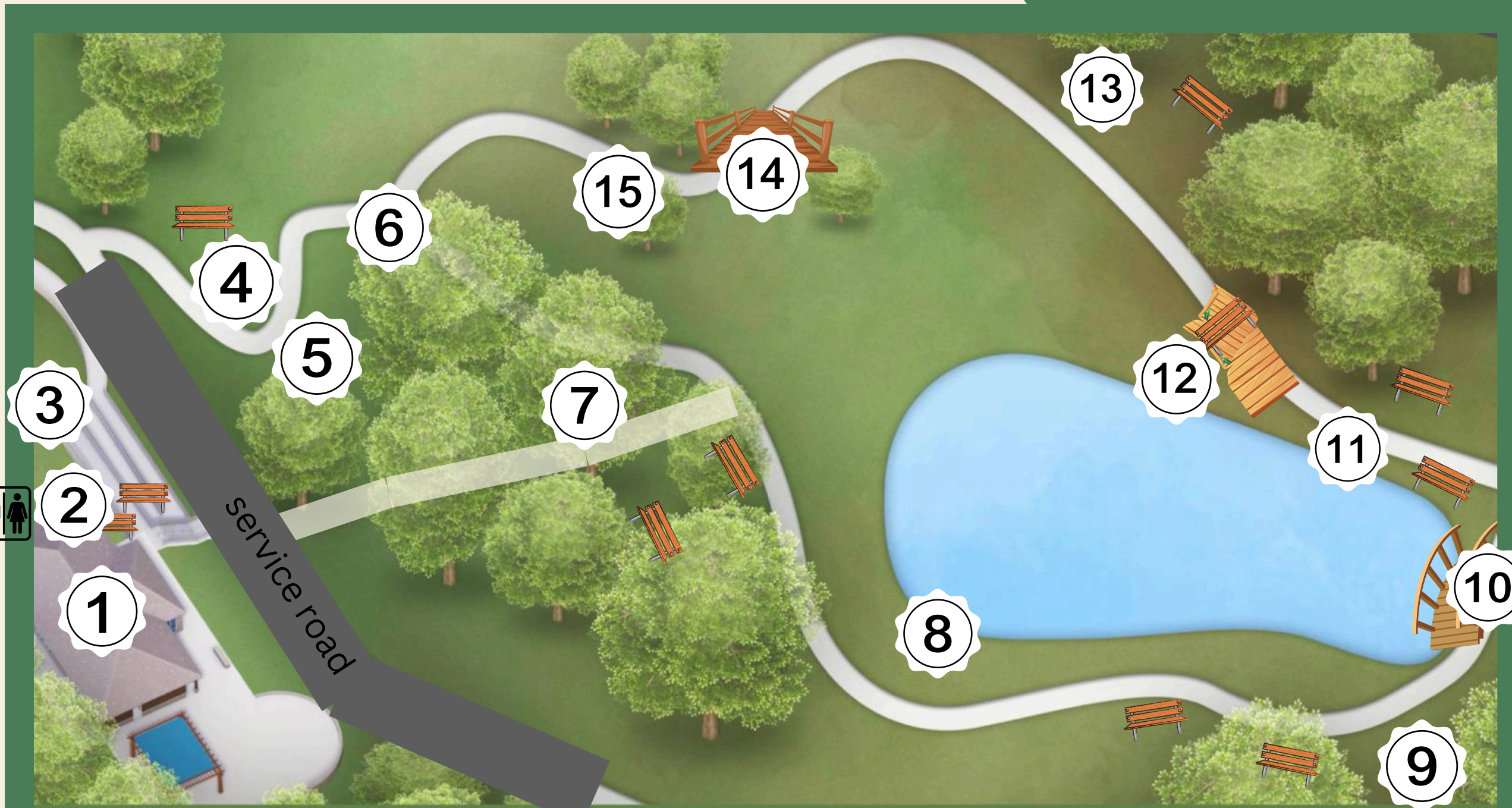
A great place to **volunteer** in the landscape or education

A place to exercise, play, relax, and enjoy **restoration recreation**

A source for native trees, perennials, wildflowers, and ferns for **home landscape purchase**


A **local artists' gallery** and source for **fun gifts**

# Tour Route



## Stops

Numbers indicate approximate locations. There are no physical markers of these stops on the grounds.

1. Frances Plecker Education Center 
2. Education Center Ramp
3. Bottom of the Ramp
4. Journey Stage Garden
5. Bioswale
6. Lawn Entrance
7. Viette Perennial Garden
8. Pondsides
9. "The Elder" Sycamore
10. Pond Bridge
11. Pond Patio
12. Wetland Boardwalk
13. Monarch Waystation
14. Stormwater Functions
15. A Last Look

 = approximate locations of benches

This tour was originally written by JMU student Maya Swift during an interpretive internship in spring 2024 and has been digitized and updated by Arboretum staff.



# 1. Frances Plecker Education Center

Open from 8 a.m. to 4 p.m., Monday through Friday

## What's Inside?

If you're visiting on a weekday, please stop into the Frances Plecker Education Center, where our staff will be happy to assist you.

- Sign our guest book
- Enjoy the work of a local artist on our walls
- Browse our gift shop
- Learn about our plant sales or about volunteering
- See our "Explorer Backpack" selections for a future visit
- Check out our many educational and recreational program offerings for all ages



Restrooms are available outside the Frances Plecker Education Center, to the right hand side as you face the building. These are open to visitors from dawn-dusk everyday.



## 2. Education Center Ramp

Before you head down the ramp, take a look at garden beds in front of the Education Center and next to the Ernst Tree Terrace.

★ = approximate location of specific plants/trees highlighted in this guide



### White Fringetree #1 (*Chionathus retusus*)

Find the largest tree at the top of the bed directly in front of the education center. If it's spring, you may catch the floral scent of the white fringetree (*Chionathus retusus*). This tree is a native of Korea, Japan and China and has slightly whiter, larger, and earlier blooms than the native fringetree you'll see next.

### White Fringetree #2 (*Chionathus virginicus*)

While on your way down the ramp [but still near the top], look to your left. Do you see the small tree with the multi-colored, furrowed bark that is covered in moss and lichen? This is another White Fringetree, but this one is native to Virginia with slightly less fragrant cream-colored flowers that bloom in May or early June and grow in long clusters. Which do you prefer?



### Three-Flower Maples (*Acer triflorum*)

The two small trees with peely (exfoliating) bark at the bottom of the ramp are three-flower maples. These trees get their names from their flowers that bloom in the early spring and grow in clusters of three.

[Click here to learn more](#)



about what we mean by "native," "non-native," or "invasive species!"

### 3. Bottom of the Ramp

To your left near the bottom of the ramp, you will spot the White Oak (*Quercus alba*), a native overstory tree keystone species that can be seen everywhere around the Arboretum.

★ = approximate location of specific plants/trees highlighted in this guide



### White Oak (*Quercus alba*)

The white oak is a deciduous tree. Its bark is gray, plated at the bottom, and gradually gets shaggier further up the tree. The white oak's leaves have smooth, round lobes that are dark green in the spring and summer, red-orange in autumn, and then fall off of the branches in the winter time.



### What is a Keystone Species?

In every ecosystem, there are particular organisms without which the entire food web would collapse. In the Oak-Hickory forest, it's the oak tree. Oaks provide acorns, which are food for squirrels, deer, and all manner of other forest animals. They also provide habitat for insects and a wide range of other benefits.

[Click here to learn more](#)



about why oak trees are outstanding plants!

## 4. Journey Stage Garden

Take the sidewalk nearest the kiosk into the Plecker Pond Loop, and you'll see the Journey Stage Garden on your left. The Journey Stage Garden has a miniature stage where visitors can stop and observe the beauty around them. There are a few different species of trees and shrubs in this garden. There are also a variety of perennials that bloom in spring, summer, or fall depending on the species.

★ = approximate location of specific plants/trees highlighted in this guide



### Purple Coneflower (*Echinacea purpurea*)

The purple coneflower is a perennial native to the Eastern United States with drooping, lavender-colored petals that bloom in the spring and last through the summer.

### Eastern Bluestar (*Amsonia tabernaemontana*)

The eastern bluestar blooms between March and April. Its flowers stay blue-purple until the fall, when they turn yellow-orange.

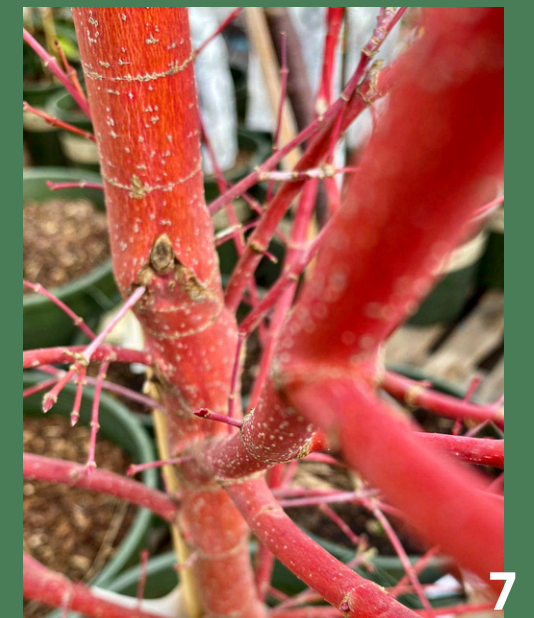


### Chinese Pistache (*Pistacia chinensis*)

The Chinese pistache is a small, deciduous tree that is native to China with long leaves that have about 10-12 'leaflets.' The Chinese pistache's leaves are dark green when they sprout in the late spring. They stay this color until mid-October when they turn into a brilliant orange-red color.

### Coral Bark Maple (*Acer palmatum* 'Sango-kaku')

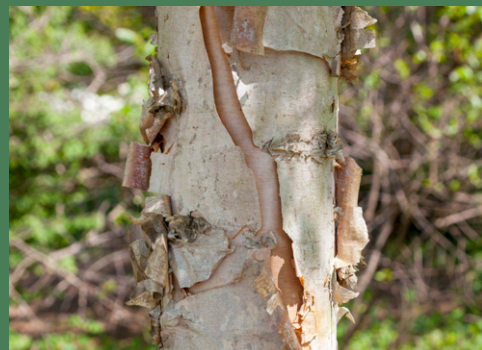
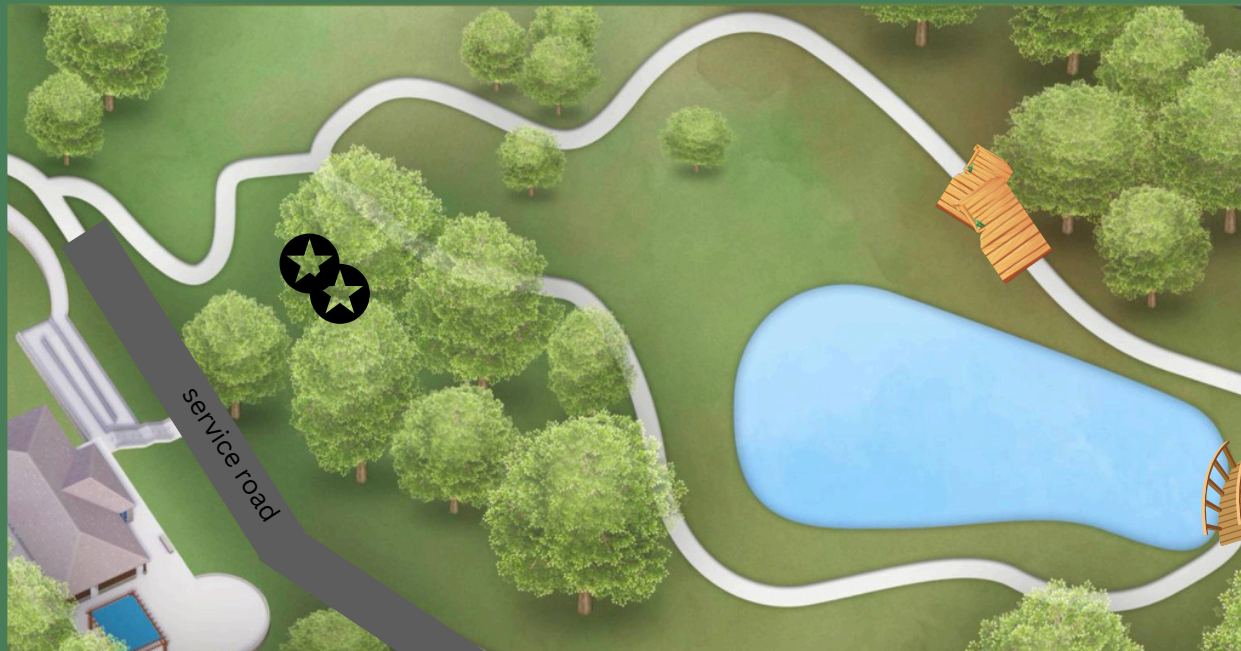
After leaving the Journey Stage Garden, look to your right and you will easily spot the coral bark maple with its beautiful pink and coral-colored bark. The coral bark maple is a **cultivar**, meaning humans selectively bred it to give the tree's bark that vibrant color.



## 5. Bioswale

As you continue on the paved path, look to your right. Do you see the dip in the ground filled with trees that have brown, exfoliating bark that exposes the white inner layers? These trees are river birches, and the 'dip' in the ground is called a stormwater retention bioswale. These 'swales' were constructed to collect stormwater run-off and is a Best Management Practice (BMP) at work. It is one of several stormwater BMPs in the Arboretum.

★ = approximate location of specific plants/trees highlighted in this guide



### River Birch (*Betula nigra*)

These native trees thrive in moist conditions with their roots soaking up excess amounts of water, which makes them a great choice for a bioswale. According to the [Indigenous Peoples' Perspective Project](#), river birches have traditionally had many other uses, from making syrup to tea and medicines; or for crafts such as basket making.

### Pignut Hickory (*Carya glabra*)

You can also see native pignut hickories in the bioswale. The Arboretum features red hickory and mockernut hickory trees, too. Hickories can be difficult to tell apart, but all feature multiple leaflets on a single stem; and after they reach a certain age, diamond-shaped latticed bark. Hickory nuts are an important food source for Arboretum animals. If you find a green hickory nut on the ground on your walk, pick it up, rub it with your thumb, and smell--for what most people consider a pleasant surprise!

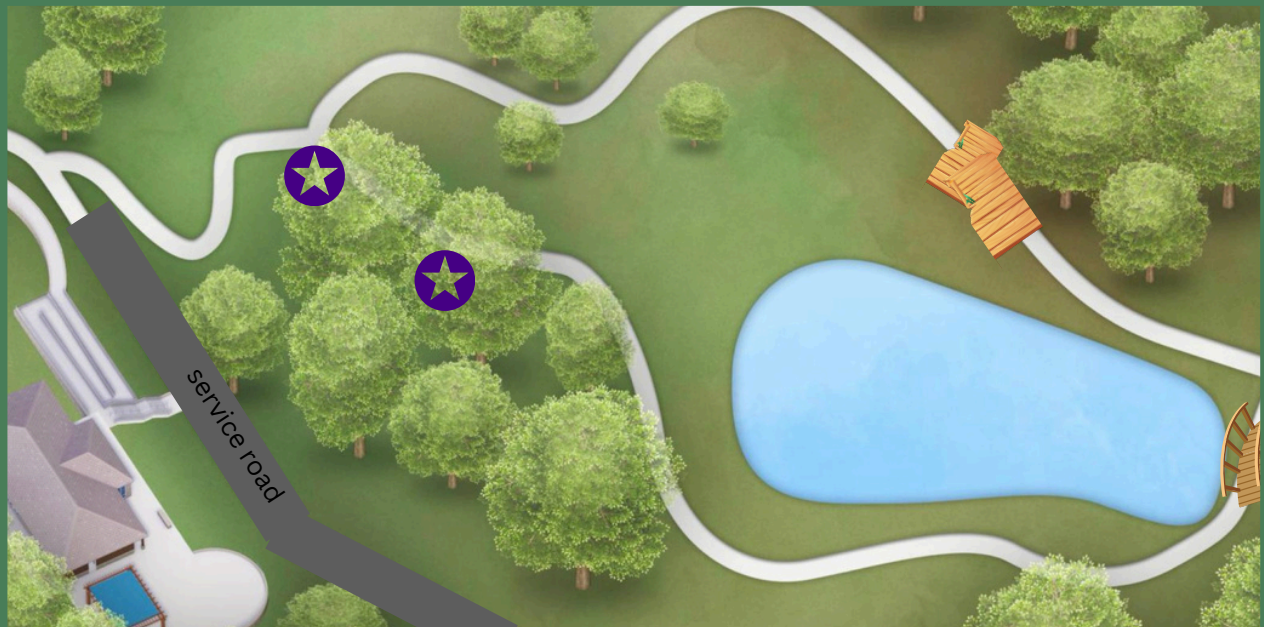


[Click here to learn more](#)



about the Arboretum's stormwater functions





# 6. Lawn Entrance

The shrub on your right as you turn the corner onto the main pond loop is a paperbush. You'll then pass three young American Sycamores on your right before approaching the Viette Perennial Garden.

★ = approximate location of specific plants/trees highlighted in this guide

## Paperbush (*Edgeworthia chrysantha*).

The paperbush has yellow-white flowers that open in February or March, but the silvery-white flower buds are visible all winter long like little holiday ornaments. If you happen to be visiting while this bush is in bloom, you are unlikely to miss the very strong sweet aroma!



## Eastern Redbud (*Cercis canadensis*)

On the corner before the Viette Perennial Garden, where a steep sidewalk comes down from the education center, there is a beautiful Eastern Redbud. It is a native, deciduous, understory tree. It is a member of the legume family because of the way it produces seeds--in structures known as pods. In March or April, you will typically see the Eastern Redbud showing off its rosy pink, almost purple flowers all around its native Virginia. This particular specimen, however, is a white-flowering variety. In the summer, you will see its green heart-shaped leaves, which turn yellow in the autumn.





## 7. Viette Perennial Garden

To the left of the Eastern Redbud is a ginkgo tree, and then you'll come to a woodchipped path that leads into the Viette Perennial Garden. Within this garden are more ginkgoes, hydrangeas, mixed perennials, and an assortment of trees and shrubs.

★ = approximate location of specific plants/trees highlighted in this guide

### What's Different This Month?

The Viette Perennial Garden changes significantly throughout the seasons. In the winter, you may only see the greens and browns of the trees and shrubs, but in the spring and summer, the peonies (*Paeonia*), black-eyed Susans (*Rudbeckia hirta*), and other perennials are in bloom, making the garden an array of bright colors.



peony



black-eyed Susan



### Ginkgo or Maidenhair Tree (*Ginkgo biloba*)

Ginkgoes are recognizable for their green or yellow fan-shaped leaves, or in the winter time for their 'nubs' or spurs that protrude out of the branches. Ginkgoes are native to China and are called 'living fossils' by scientists because they are perhaps one of the oldest tree species in the world. The ginkgo's leaves turn yellow in autumn. When the leaves fall, they do so almost all at once, leaving a beautiful yellow mess on the forest bed. As you continue down the paved path, you'll spot more ginkgoes of various shapes and sizes.

### Oakleaf Hydrangea (*Hydrangea quercifolia*)

Probably the most striking shrub in the garden, the oakleaf hydrangea's flowers bloom in late June or July. They start the season white, then gradually fade to purple or pink, and turn brown in the fall. Native to the southeast United States, this shrub is named after its large, leathery, oak-shaped leaves that turn strikingly red in the fall before dropping.



[Click here to learn more](#)



about seasonal changes

## 8. Plantings around Pond

After enjoying the Viette Perennial Garden, you will finally approach the pond. It was constructed in the mid-to-late 1980s as part of the beginning of the Arboretum development. As you make your way around the pond, you will notice the line of trees hovering over the edge of the pond to your left.

★ = approximate location of specific plants/trees highlighted in this guide



### Pickerelweed (*Pontederia cordata*)

In and around the edge of the pond, you may spot some pickerelweed, a native aquatic plant that grows tall, blue-purple flowers in late summer to fall. It is an important late-season source of food for hummingbirds and provides good habitat for birds and pond animals.

### Sweetbay Magnolia (*Magnolia virginiana*)

The first tree in the row is the sweetbay magnolia, which is a small, native tree that blooms creamy-white, bowl-shaped, fragrant flowers in the late spring, but can be identified in the off-season by smooth, gray bark. Because the sweetbay magnolia is an evergreen tree, its shiny, dark green leaves can be spotted even in the wintertime.

### Japanese Maple (*Acer palmatum*)

Going down the line, the next tree is the Japanese maple, known for its spreading **crown**, or canopy. This tree's leaves emerge red in May or June, but oftentimes the leaf colors vary depending on the cultivar.

### Flowering Dogwood (*Cornus florida*)

In between the two Japanese maples is the flowering dogwood, which is the Virginia state tree! This native tree is notable for having bark that looks like alligator skin. Dogwood leaves are green and ovate, but the surprise comes in its flowers. They aren't white with four petals--those are actually **bracts**, modified leaves. Botanically, the flowers are actually the tiny yellow structures (petals and all!) in the center of the bracts.



[Click here to learn more](#)



about the pond construction and renovation



## 9. “The Elder” sycamore

To your right, there will be another kind of dogwood tree: the Kousa Dogwood. Just before you make the curve to the left to reach the bridge, look to your right and about 15 yards off the path. You’ll find the “Elder” American sycamore. It is over 100 feet tall, so it is fairly easy to spot.

★ = approximate location of specific plants/trees highlighted in this guide

### **Kousa Dogwood (*Cornus kousa*)**

Kousa dogwoods are small or medium-sized trees native to East Asia with grayish-brown, exfoliating bark that appears tan-orange underneath. They have a similar structure to the North American dogwood we just observed, but their bracts are creamy-white with pink tips and are seen in the late spring. The leaves are slightly pointier in shape. There are a number of Kousa dogwoods throughout the Arboretum--keep your eyes open.

### **American Sycamore (*Platanus occidentalis*)**

American Sycamores are native trees with scaly bark that gradually exfoliates to expose the white inner bark the further up the tree that you look. This is a natural process and doesn’t indicate a problem. Their large leaves look somewhat like maple leaves but are broader. The seedballs look at a distance like yellowish-brown cherries dangling high in the branches through the winter and into the spring. Sycamores are water-loving trees and typically grow in bottomlands where water collects or near streams and rivers.

### **“The Elder” Sycamore**

This particular tree is the second biggest tree by circumference in the Arboretum. We call it the “Elder” sycamore because it is well over 100 years old; it was growing here when Harrisonburg Normal School for Women (then Madison College and ultimately JMU) opened in 1908. Its circumference is over 12 feet, and its diameter is 47 inches.



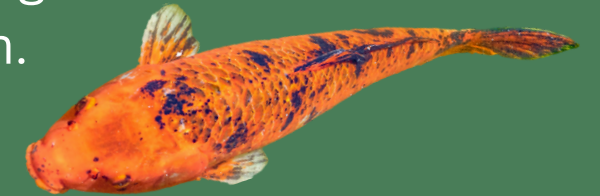


## 10. Pond Bridge

Besides its essential stormwater detention function, our pond is fundamental to the Arboretum ecosystem. It supports many animals directly, and its ripple effects are felt well into the woods.

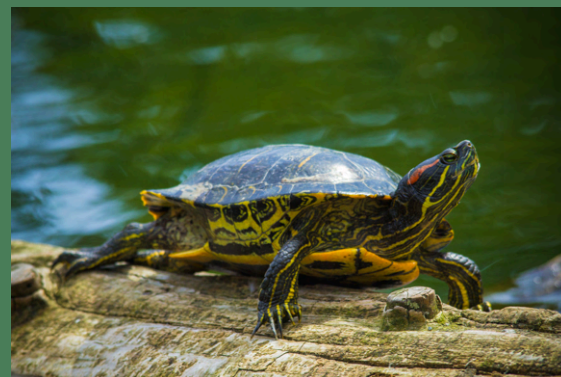
### What's Swimming in the Pond?

Japanese Koi (*Cyprinus rubrofuscus*) are large, colorful carp. Koi were introduced here in the 1990s and are often featured in garden ponds. As part of the Arboretum's turn toward native species, we don't intend to replace them as they disappear. Few remain.



### Bluegill (*Lepomis macrochirus*)

From the pond bridge, look down carefully. You'll likely find these small, thin, native fish that can usually be spotted beneath the bridge. They are named for the blue dot on the side of their head near their gills. They are a type of sunfish. They search for food with their eyes and are likely to come over when you arrive.



Other critters that you may spot in and around the pond are red-eared sliders (*Trachemys scripta elegans*), which are semiaquatic turtles, American bullfrogs (*Lithobates catesbeianus*) and their tadpoles, and mallards (*Anas platyrhynchos*), an easily recognizable species as the most widespread duck in North America. In turn, the presence of those animals attracts water-loving predators such as the great blue heron and the green heron.



The herons aren't the only birds around. Visitors to the Arboretum have identified over 150 species of birds on [ebird.org](http://ebird.org), where we are a designated birding hotspot. Check it out and add your own observations!

[Click here to learn more](#)



about our birds



## 11. Pond Patio

The stone patio was constructed in 2023 to rectify issues in the previous pond edge design when it comes to flash flooding. It has the added benefit of enabling visitors to get closer to the water for reflection and relaxation.

★ = approximate location of specific plants/trees highlighted in this guide

### **Star Magnolia (*Magnolia stellata*)**

Once you exit the bridge, don't take the stairs. Instead, follow the sidewalk as it curves to the left. Look for the star magnolia tree to your right. It is recognizable in the winter "off-season" for its large, fuzzy buds. In the spring and summer, you might smell and see the star magnolia's large white flowers from a distance.

### **More Sycamores!**

Just past the star magnolia, do you see any more American Sycamores? Right before you reach the tree whose leaves 'weep' into the surface of the pond, you can spot two of them--one on the left and one on the right. You may also notice another sweetbay magnolia, too!

### **Golden Weeping Willow (*Salix alba 'Tristis'*)**

This striking tree, a variety of the white willow, is a star of the pond area with its broad canopy of graceful golden, weeping branches. The Golden Weeping Willow is a deciduous tree. Its branches still droop down all year round, but its green leaves emerge in the early spring and gradually turn yellow until the fall, when they drop. Its leaves are spirally arranged, narrow, and long with finely serrated edges that sweep the ground and the surface of the pond. The mallards in particular seem to enjoy hanging out in the shade and cover the branches provide.



## 12. Wetland Boardwalk

Just past the weeping willow, you will reach the wetland boardwalk. A wetland is a distinct ecosystem prone to occasional flooding, resulting in predominantly aquatic or semiaquatic vegetation that thrives in the wet soil. You'll find water-loving trees, shrubs, and smaller plants here that we don't have elsewhere.

★ = approximate location of specific plants/trees highlighted in this guide



### Baldcypress (*Taxodium distichum*)

Trees like the baldcypress have a symbiotic relationship with wetland environments. During flooding episodes, the baldcypress's roots soak up the water to mitigate the spread of floods. The baldcypress is recognizable for its massive trunk that is strongly buttressed into the ground and its 'knees,' or the roots that protrude upward out of the soil. Scientists are still theorizing why the trees have these knees. Their best guess is that they are an adaptation to help them survive wet conditions. In winter, you may see the branchlets on the ground beneath the tree--it is a deciduous conifer with its needles spirally arranged along the branchlet, giving it a feathery look.



### Lizard's Tail (*Saururus cernuus*)

In the summer, you may notice the Lizard's Tail, a tall, upright perennial with seemingly hairy flowers that curl towards the top. In the fall, these flower stalks turn brown.



### Horsetail Rush (*Equisetum*)

This plant is another "living fossil," because this genus existed in the Jurassic period. It is a botanical relative of ferns and reproduces by spores rather than producing seeds. The stems are rough and coated in a substance that made them useful for scouring pans in an earlier age, so they are sometimes called "scouring rush."

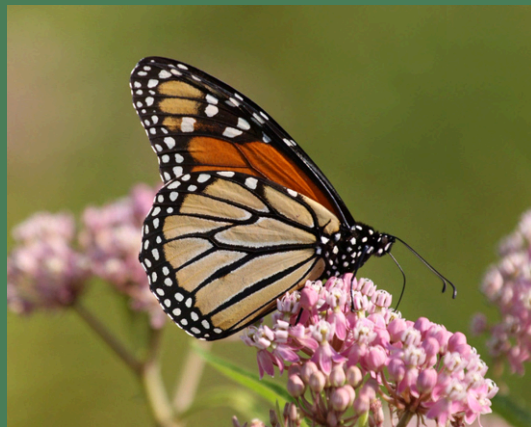




## 13. Monarch Waystation

Past the wetland boardwalk, you approach the Monarch Waystation on your right, and a second wetland cell featuring an American beech tree on the left.

★ = approximate location of specific plants/trees highlighted in this guide



### Monarch Waystation

The Monarch Waystation is a registered habitat with [Monarch Watch](#) that provides essential resources for monarch butterflies as they migrate across the United States to Mexico. The Monarch Waystation is designed as a pollinator garden featuring various milkweed species (*Asclepias*) and other flowering plants for nectar sources for the adult butterflies. This garden offers shelter supporting not only monarchs but also other butterfly species and their larvae.

### A Space in Flux

This garden is a space in flux and shows how habitats change over time. The tree canopy around this area has grown up since the waystation was planted, so now it is a shadier location than the plants in it prefer. Other more aggressive plants (like cup plant) have also spread to this area, and many of the original plantings are therefore not thriving. Rehabilitation efforts, including a potential relocation of the garden to a sunnier spot, are being considered by Arboretum staff.

### American Beech (*Fagus grandifolia*)

You can see the American Beech's leaves year-round because it is a marcescent tree, meaning its dry leaves from autumn cling to its branches throughout the winter. Young oak trees also often have this feature, though it is more pronounced on the beech. The beech is a native tree with a short, smooth trunk and a spreading crown of branches and leaves.







## 14. Stormwater Function

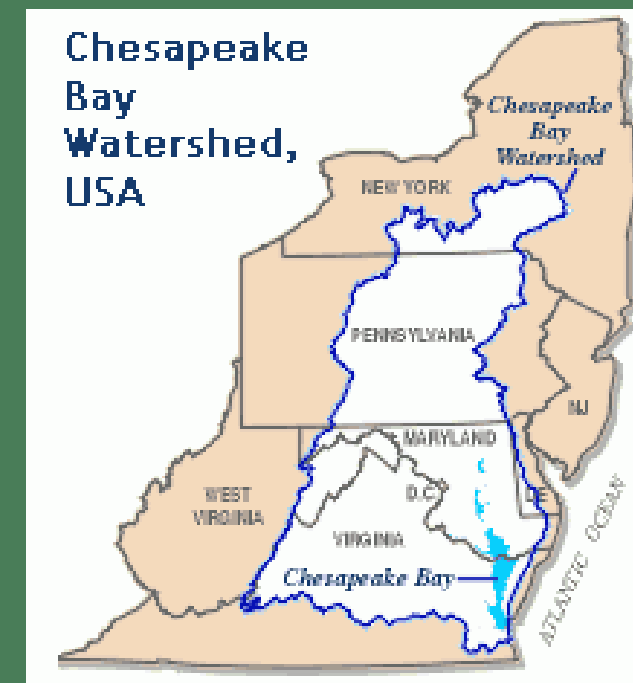
As you make your way around the backside of the pond, take a look around you. What do you notice about the shape of the arboretum, or specifically where you are “planted”?

★ = approximate location

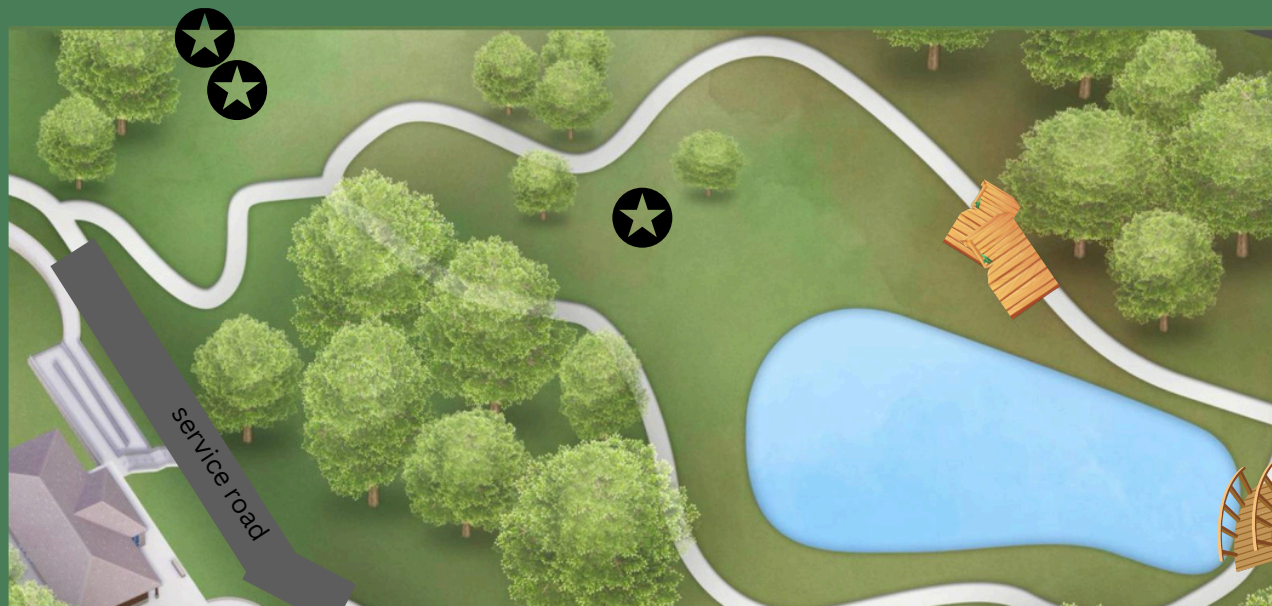
### The Bottom of the Bowl, Connecting the Valley to the Chesapeake Bay

No matter where you look, you’ll notice that where you are standing, as well as the pond, is located in the center of what looks like a giant bowl--which is basically what the Arboretum is. This area was engineered as a flood control basin. It drains over 800 acres of developed area both of the city of Harrisonburg and JMU’s campus, and it sits upstream of JMU’s main campus.

The Arboretum’s trees and plants intercept and absorb approximately 825,000 gallons of rain and storm runoff a year. Having this space as a stormwater management strategy mitigates the impact of high-volume rain events on the main campus. The Arboretum is designed to flood so that the rest of the campus and its many buildings flood. The Arboretum’s trees and plants also serve as a pollution filter, removing tons of excess phosphorus and other pollutants from the water. All that water ultimately flows to the Chesapeake Bay, providing JMU and the Shenandoah Valley with a tangible link to the ecological and commercial health of the entire mid-Atlantic region.



Map from usgs.gov



## 15. A Last Look

Before going much farther, take a look at the American sweetgum near the edge of the lawn toward the pond. Then as you near the end of this tour, look up towards where you first entered the lawn at the looming evergreen trees--in this mix are Eastern White Pines and Arborvitae.

★ = approximate location of specific plants/trees highlighted in this guide



### American Sweetgum (*Liquidambar styraciflua*)

There is a reason that this is planted at the edge of the lawn and not near the walkway. The deciduous American sweetgum produces hard, globose fruit that is covered in spines to protect the seeds inside from being eaten. They fall from the tree, and the spikes do not feel good on the bottom of your feet! The star-shaped leaves are strikingly beautiful shades of orange and yellow in the fall.

### Eastern White Pine (*Pinus Strobus*)

Eastern white pines are the massive pines that reside on the far side of the stream. They are native evergreen trees that grow pinecones in the spring and drop these pinecones in the fall around two years later. The Eastern White Pine's needles grow in clusters of five along the sides of its branches. They are thin and blue-green, and shed in the fall around two years after sprouting.



### Arborvitae (*Thuja occidentalis*)

Closer to the Journey Stage Garden are the arborvitae. They are significantly smaller than the white pines but are still native, evergreen, coniferous trees. Unlike the white pine, the arborvitae have more scale-like, laterally compressed leaves that extend outwards amongst the branchlets.



Thank you for visiting the  
Edith J. Carrier Arboretum!

## There's Still More to Discover!

As you make your way back towards the Frances Plecker Education Center, be sure to stop in and ask any questions that you may have pertaining to the Arboretum: our staff is always more than willing to chat! The Education Center is open Monday - Friday from 8:00 a.m. to 4:00 p.m., but the grounds and trails are open every day, 365 days a year, from dawn to dusk.

We invite you to explore the rest of the Arboretum with your newly learned botanical knowledge and see if you can spot any trees, shrubs, or flowers that we discussed. Enjoy your visit!

## Please Join our Community of Supporters!

We invite you to show your support for the Arboretum by becoming a Friend of the Arboretum Member. We have a variety of membership levels, each with their own particular benefits. You can find more information and [become a member here](#).

## Other Features at the Arboretum to Check Out

- At Home in the Woods Family Garden
- StoryWalk and John Clayton Trail
- Wheeldon Rhododendron Garden
- Wood Wildflower Garden in spring
- Meditative Labyrinth, Native Shade Garden, and Black Squirrel Stumpery in the Upper Arboretum

Even more resources about plant and animal identification, classes and events, and ways to get involved at the Arboretum can be found [on our website](#).