The Great Lakes Issue
winter 2020 newsletter
For the whole story of the Great Lakes, go beyond the storied lakes themselves. Look at the area’s habitats, ecosystems, and plants. This perspective is apparent everywhere on our properties, especially in the Great Lakes Gardens at Matthaei. Unique among American botanical gardens, this series of contiguous spaces showcases Great Lakes regional plants growing in specially recreated habitats such as dune, alvar, and wetland. Many of these plants are rare and little-seen in the wild. In fact, the Great Lakes Gardens may be one of the few places you’ll encounter uncommon plants such as lakeside daisy (Tetraneuris herbacea) or orange-fringed orchid (Platanthera ciliaris). A garden of this scale requires time to develop and grow. Staff, student interns, and volunteers have overseen a steady progression of plant establishment since the gardens opened in 2013.

Matthaei-Nichols Director Bob Grese conceived this garden as a way to highlight the plants and places in the Great Lakes and raise awareness of these often fragile and disappearing habitats and the amazing plants adapted to growing in them. As director, Bob has been guided by the mission of preserving and protecting native plants and the ecosystems in which they live. As a professor at the University of Michigan he also incorporates education into all of our spaces and programs.

The Great Lakes Gardens themselves began as a learning opportunity for one landscape architect student who worked as a summer intern several years ago on designing the spaces. Jennifer Austin, who currently works for Boss Engineering in Howell, Mich., as a project landscape architect, helped design the Great Lakes Gardens. Her work provided the basis for the design created by InSite Design Studio. “The educational value was immense,” Jennifer says. She learned a lot about plants she hadn’t known before starting on the project, and she traveled to sites in Michigan and Ontario to view habitats and develop a deeper appreciation for them. Working on the design was also about collaborating with a team of professionals and stakeholders who provided support and direction for the design concept, and then producing a final concept drawing. “It was amazing to have one of my designs realized and that I could include in my portfolio. These are all skills and activities that have come in handy in my landscape architecture career,” Jennifer adds.

Great Lakes Gardens FACTS & FIGURES

• Great Lakes Gardens opened in 2013
• Eight contiguous habitats, including dune, alvar, cobble beach, prairie, oak openings, woodland, wet woodland, and fern and orchid gardens
• More than 300 species of plants
• Nearly 40 rare plants, including 14 with threatened status and five considered endangered
• Plants provide food for pollinators and birds such as the indigo bunting and the monarch butterfly

(On the cover: Snow and ice patterns on Fleming Creek at Matthaei; photo by John Metzler. Above: Orange-fringed orchid, Platanthera ciliaris; photo by Michele Yanga.)
When we think of the Great Lakes we think of large bodies of fresh water. But just as integral to the ecological integrity and health of the region are the many smaller creeks and ponds upstream whose waters ultimately find themselves emptying into the Great Lakes. Fleming Creek, which runs through Matthaei Botanical Gardens as well as several nearby townships and parks, is a microcosm of the ecosystems of the Great Lakes region and the challenges it faces.

Robert Fleming built one of the first sawmills in 1824 on what’s now known as Fleming Creek. Since that time the creekshed has supported agriculture, several gravel pits, and numerous parks, according to a report by the Huron River Watershed Council. More recently, homes, research and medical facilities, and golf courses have also been built near the creekshed, further straining the health of Fleming Creek.

In general, diversity in Fleming Creek is good, with higher diversity in the main and west branches and lower diversity as the creek nears the Huron River. On the botanical gardens site, Matthaei-Nichols has taken steps over the years to restore habitat for creatures such as the eastern massasauga rattlesnake along and near the creek. We’ve replanted American elms that were once part of the creekshed and were lost to disease in the 1960s, and hundreds of student workers, volunteers, and staff each year remove invasive plants so that native species can thrive. We allow “snags” to stay where they fall over the creek. (A snag is a tree that’s fallen or has died and is still standing. As it decays the tree becomes its own ecosystem-in-miniature as it supports populations of birds, insects, and other creatures.) Instead of shoring up the stream bank near one section of the stream that flows through Matthaei Botanical Gardens we built a boardwalk that bypasses Fleming Creek, allowing the creek to do its own thing as it makes its way through the landscape.

The stream is also used for education and research. For the last three years, students participating in the University of Michigan Wolverine Pathways Program visit the botanical gardens and use Fleming Creek as a field site to test the creek’s water for the presence of aquatic creatures that indicate the relative health of the creek. Every January, the Huron River Watershed Council conducts a search for stoneflies, whose presence indicates a healthy stream. For an up-close look, visit the botanical gardens to walk along the Fleming Creek trail to discover this Michigan habitat.

Fleming Creek

FACTS & FIGURES

• Fleming Creek is composed of 48 miles of branching stream channels
• Drains 31 square miles of land.
• Fleming creekshed contains six lakes greater than 10 acres and 119 ponds less than 10 acres.
• Stream habitat and the condition of fish and aquatic insect communities is considered excellent.

A microcosm of the Great Lakes’ ecosystems
A grant-funded project is underway to reduce sediment, erosion, and phosphorus from entering the Huron River through School Girls’ Glen in Nichols Arboretum. Large volumes of stormwater runoff enter the glen from the adjacent Forest Hill Cemetery and from a nearby storm sewer. This results in severe erosion in the glen and carries with it phosphorus from horticultural activity in the cemetery.

The project is called “Middle Huron Sediment Reduction.” It’s funded by the Michigan Department of Environment, Great Lakes, and Energy with money from a U.S. Environmental Protection Agency grant program that helps many states achieve success in their efforts to improve water quality. In addition to Forest Hill Cemetery, partners include the City of Ann Arbor, Huron River Watershed Council, Washtenaw County Water Resources Commission’s Office, Michigan Department of Environment, Great Lakes, and Energy (formerly the DEQ), the Department of Environment, Health & Safety, two faculty members of the U-M College of Engineering, and the Maumee, Ohio-based Mannik Smith Group, a consulting company.

The two-phase project will reduce stormwater runoff from Forest Hill Cemetery through the use of boulder walls, new groundcover vegetation, and by redirecting stormwater from roads into rain gardens and grassy depressions. Phase 2 will include stabilizing the eroding slopes of School Girls’ Glen along with design ideas for reducing runoff and erosion.

Throughout, Matthaei-Nichols and the Huron River Watershed Council will monitor the project. Two automated flow sensors will be installed at the top of School Girls’ Glen to assess the amount of stormwater runoff entering the glen from the cemetery via the Reader Center rain garden and the Washington Hts. storm sewer. Water-quality sampling will take place at the top and bottom of School Girl’s Glen to assess E. coli, suspended solids, phosphorus, and discharge.
You can see the impact Director Bob Grese has had on our programs and spaces just by walking through our gardens, trails, and natural areas. But it’s Bob’s multi-faceted and collaborative approach to connecting people with nature that has made an indelible impact on Matthaei-Nichols.

Great Lakes Gardens Endowment Fund
Your support is also valued in the continued maintenance and care of this one-of-a-kind garden.

Bob’s active role in envisioning the Great Lakes Gardens, his commitment to planning, implementation, and assessment. The interns developed leadership and professional skills throughout the project. The result is a showplace for the region’s rare and unusual plants and the habitats and ecosystems they occupy that will engage students, faculty, and visitors in the skills throughout the project. The result is a showplace for the region’s rare and unusual plants and the habitats and ecosystems they occupy that will engage students, faculty, and visitors in the skills throughout the project. The result is a showplace for the region’s rare and unusual plants and the habitats and ecosystems they occupy that will engage students, faculty, and visitors in the skills throughout the project.

John shared his thoughts with us about what matters to him as a member and a photographer.

Why did you become a member?
To save money on parking! I first visited Matthaei in November 2017. I really liked it, but with the holidays and all, I didn’t get back out until late-January, 2018. I was out there six more times in the next 2.5 months, each time for two to four hours. So I joined. We’ve since increased our level of donation because we enjoy the place so much we feel we should give something back to it.

What keeps you coming back?
I love being in nature. So maybe the photography is just an excuse to get out hunting the good times. When I was getting ready for deer hunting (with my camera) last fall, I read about bats, deer hunting to learn more about deer habits. One of the things I came across was a study of hunters. The vast majority of hunters say the thing they like best is getting out into the woods, even if they don’t shoot anything. That’s pretty much where I am—I rarely go out with a plan to photograph something specific. I go out to be out.

What do you look for when composing a photo?
I try to capture the fleeting beauty of the moment in nature. For example, one sunny, windy day several weeks ago I was at Matthaei, leaves were falling and rising and dancing through the air. I was able to capture a simple leaf blowing across a pure blue sky. It’s a simple shot, but it conveys the feeling of a beautiful fall day.

Do you have a favorite photo of our properties?
I have many pictures that are among my favorites. There are many places at Matthaei that I enjoy. The thing about nature—flora and fauna—is that you never visit the same place twice. The changing of seasons, weather, lights, animals and their growth cycles, keep the garden fresh.

We’ve increased our level of donation because we enjoy the place so much we feel we should give something back to it.
Spring & Summer 2020 Volunteer Garden Ambassador Programs

We seek volunteers with a love of learning and interest in working with a diverse population of visitors, including children and families. Continuing education garden tours and trainings are led by our horticulturists throughout the season.

Shifts are variable based on the specific Ambassador program. May–October time frame, with the exception of the Peony program only having June shifts.

- Gaffield Children’s Garden Ambassador (NEW!): Training on Sat, April 18th (8am-12pm)* at Matthaei Botanical Gardens
- Garden Ambassador (REVISED!): Training on Sat, April 18th (8am-12pm)* at Matthaei Botanical Gardens
- Peony Ambassador: Training on Thurs, April 23rd (6-7:30pm) at the Nichols Arboretum Reader Center

*After an introduction to being a garden ambassador, participants in the April 18 sessions will break into their primary interest of volunteering with the Children’s Garden or other garden spaces.

Ready to register? All interested volunteers are required to pre-register and discuss their interest by emailing the Volunteer Coordinator, cmchess@umich.edu.

Matthaei-Nichols by the Numbers

The numbers below reflect how many people from the University of Michigan and local communities value interaction and learning from nature on our properties in fiscal year 2019 (July 1, 2018–June 30, 2019).

Student and community volunteers make zombie run hum

Thanks to the 40 volunteers from U-M Beta Theta Pi, Circle K, SEAS, various community members and other U-M students who transformed themselves into zombies for the fun and experience of our runners! Additional thanks to those volunteers who helped with registration and water tables. Matthaei-Nichols’ caretakers also provided a safe and fun atmosphere as course marshals.

Thank you to the volunteer groups that helped out with our eco-restoration efforts this autumn!

Student and faculty engagement and research

<table>
<thead>
<tr>
<th>Student &amp; faculty engagement and research</th>
<th>Volunteer participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>U-M students using our sites</td>
<td>Individual volunteers</td>
</tr>
<tr>
<td>43</td>
<td>1,266</td>
</tr>
<tr>
<td>U-M classes held at our sites</td>
<td>Total volunteer hours</td>
</tr>
<tr>
<td>33</td>
<td>12,413</td>
</tr>
<tr>
<td>Instructors</td>
<td>Group workday volunteers</td>
</tr>
<tr>
<td>43</td>
<td>1,551</td>
</tr>
<tr>
<td>Summer interns</td>
<td>Group workday hours</td>
</tr>
<tr>
<td>19</td>
<td>1,576</td>
</tr>
<tr>
<td>U-M student volunteers groups</td>
<td></td>
</tr>
<tr>
<td>68</td>
<td></td>
</tr>
<tr>
<td>Research projects</td>
<td></td>
</tr>
<tr>
<td>106</td>
<td></td>
</tr>
<tr>
<td>Researchers</td>
<td></td>
</tr>
</tbody>
</table>

Nonprofit partners

- Audubon Society, Michigan Botanical Club, Herb Society, Ann Arbor Backyard Beekeepers

University of Michigan Groups

- Backpacking Club
- Beta Mu
- Circle K
- Cross Country Team
- Department of Prehistory (UM Outreach Group)
- Enroots 201 Class
- School of Information Service Days (UMIS)
- Stamps Scholars
- Eta Kappa Nu (HKN)

Campus Farm Student Engagement

- Friday workdays
  - Number of student participants: 45
  - Number of hours: 1,668
- Plus, 17 student farm crew members
- 10 student managers
- 1 farm management fellow

Matthaei-Nichols by the Numbers

<table>
<thead>
<tr>
<th>Matthaei-Nichols by the Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student and faculty engagement and research</td>
</tr>
<tr>
<td>----------------------------------</td>
</tr>
<tr>
<td>U-M students using our sites</td>
</tr>
<tr>
<td>43</td>
</tr>
<tr>
<td>U-M classes held at our sites</td>
</tr>
<tr>
<td>33</td>
</tr>
<tr>
<td>Instructors</td>
</tr>
<tr>
<td>43</td>
</tr>
<tr>
<td>Summer interns</td>
</tr>
<tr>
<td>19</td>
</tr>
<tr>
<td>U-M student volunteers groups</td>
</tr>
<tr>
<td>68</td>
</tr>
<tr>
<td>Research projects</td>
</tr>
<tr>
<td>106</td>
</tr>
</tbody>
</table>

Youth & children’s education

- Title One school field trip participants
  - Number of student participants: 2,400
  - Number of hours: 1,668
- Youth ed program participants
  - Number of student participants: 44:
- Field trips (school year & summer)
  - Number of student participants: 275
- Other schools/loc. program participants
  - Number of student participants: 275
- Youth ed programs
  - Number of student participants: 19

Public nature-based programs sponsored by Matthaei-Nichols (Shakespeare; art & other exhibits; concerts; workshops; family events)
Temperate House to Undergo Major Reconfiguration

Plans are underway for a renovation to the temperate house in the conservatory at Matthaei Botanical Gardens. The current design and layout features plants that were sitting/gathering area will be installed just outside the covered portico that separates the rectangular koi pond (currently home to a large grapefruit tree). Medicinal plants the tropical and temperate houses. Work will roll out over 2020.

A-Squared Peonies Get Mcubed Funding

A grant from the University of Michigan Mcubed will help us reconceive the tropical and temperate houses. Work will roll out over 2020.

Curator Michener Receives Hollenshead Award

Matthaei-Nichols Curator David Michener was one of five University of Michigan faculty and staff to receive the Carol Hollenshead Inspire Award for Excellence in Promoting Equity and Social Change. The award honors Michigan faculty and staff to receive the Carol Hollenshead Inspire Award for Excellence in Promoting Equity and Social Change. The award honors

A transformation is taking place in the Marie Azary Rock Garden. This space is named after Marie Azary, a rock-garden enthusiast and supporter of the botanical gardens who donated her rock garden in 1965. “The Great Lakes chapter of the North American Rock Garden Society asked us to partner in a revitalization of the rock garden,” says Collections Horticulturist Mike Palmer. “The renovation will give the garden a greater diversity of plants and microhabitats.” The local chapter agreed to contribute labor, plants, and materials such as the special locally sourced tufa rock—a porous form of limestone—used for rock gardens. The garden had grown less diverse over time, according to Doug Corley, Matthaei-Nichols garden manager. “Removing the rock and remapping seeds collected from the garden’s important food and ceremonial plants. ‘Our working together comes from active listening, which is an expression of humility about appreciating what is important to understand and act upon’ says Michener.

Exhibits highlight Shakespeare in the Arb, Great Lakes Gardens

A Midwinter’s Daydream

March 11-March 1, Matthaei

Uncommon Plants from Our Unique Places

An exhibit showcasing the plants of the Great Lakes as photographed by Laura Mueller. In celebration of the 20th anniversary of Shakespeare in the Arb, the Arboretum will feature living, photos, news items, and posters.

A grant from the University of Michigan Mcubed will help us reconceive the tropical and temperate houses. Work will roll out over 2020.

The peony team is led by Dr. Andrea Thomer, Professor at the School of Information. The other team members are Drs. Liliana Cortes-Ortiz of EEB/Genomics Diversity Lab, Yin-Long Qiu of Belarus), and David Michener of Matthaei-Nichols. Visit mcbud.umich.edu for more information.

Transcendent Bonsai: The Ever-Contemporary International Art Form

In a special January presentation sponsored by Ann Arbor Farm & Garden, Dr. Andrea Thomer, Professor at the School of Information. The other team members are Drs. Liliana Cortes-Ortiz of EEB/Genomics Diversity Lab, Yin-Long Qiu of Belarus), and David Michener of Matthaei-Nichols. Visit mcbud.umich.edu for more information.

Doug Corley, Matthaei-Nichols garden manager. “Removing the rock and remapping seeds collected from the garden’s important food and ceremonial plants. ‘Our working together comes from active listening, which is an expression of humility about appreciating what is important to understand and act upon’ says Michener.

In a special January presentation sponsored by Ann Arbor Farm & Garden, Dr. Andrea Thomer, Professor at the School of Information. The other team members are Drs. Liliana Cortes-Ortiz of EEB/Genomics Diversity Lab, Yin-Long Qiu of Belarus), and David Michener of Matthaei-Nichols. Visit mcbud.umich.edu for more information.

The peony team is led by Dr. Andrea Thomer, Professor at the School of Information. The other team members are Drs. Liliana Cortes-Ortiz of EEB/Genomics Diversity Lab, Yin-Long Qiu of Belarus), and David Michener of Matthaei-Nichols. Visit mcbud.umich.edu for more information.

Curator Michener Receives Hollenshead Award

Matthaei-Nichols Curator David Michener was one of five University of Michigan faculty and staff to receive the Carol Hollenshead Inspire Award for Excellence in Promoting Equity and Social Change. The award honors

A Midwinter’s Daydream

March 11-March 1, Matthaei

Uncommon Plants from Our Unique Places

An exhibit showcasing the plants of the Great Lakes as photographed by Laura Mueller. In celebration of the 20th anniversary of Shakespeare in the Arb, the Arboretum will feature living, photos, news items, and posters.

A-Quared Peonies Get Mcubed Funding

A grant from the University of Michigan Mcubed will help us reconceive the tropical and temperate houses. Work will roll out over 2020.

The peony team is led by Dr. Andrea Thomer, Professor at the School of Information. The other team members are Drs. Liliana Cortes-Ortiz of EEB/Genomics Diversity Lab, Yin-Long Qiu of Belarus), and David Michener of Matthaei-Nichols. Visit mcbud.umich.edu for more information.

Transcendent Bonsai: The Ever-Contemporary International Art Form

In a special January presentation sponsored by Ann Arbor Farm & Garden, Dr. Andrea Thomer, Professor at the School of Information. The other team members are Drs. Liliana Cortes-Ortiz of EEB/Genomics Diversity Lab, Yin-Long Qiu of Belarus), and David Michener of Matthaei-Nichols. Visit mcbud.umich.edu for more information.

Doug Corley, Matthaei-Nichols garden manager. “Removing the rock and remapping seeds collected from the garden’s important food and ceremonial plants. ‘Our working together comes from active listening, which is an expression of humility about appreciating what is important to understand and act upon’ says Michener.

In a special January presentation sponsored by Ann Arbor Farm & Garden, Dr. Andrea Thomer, Professor at the School of Information. The other team members are Drs. Liliana Cortes-Ortiz of EEB/Genomics Diversity Lab, Yin-Long Qiu of Belarus), and David Michener of Matthaei-Nichols. Visit mcbud.umich.edu for more information.

The peony team is led by Dr. Andrea Thomer, Professor at the School of Information. The other team members are Drs. Liliana Cortes-Ortiz of EEB/Genomics Diversity Lab, Yin-Long Qiu of Belarus), and David Michener of Matthaei-Nichols. Visit mcbud.umich.edu for more information.
**FEBRUARY**

**Sat., Feb. 1, 10-12:30 pm**

**Identifying Invasive Plants**

Ann Arbor Botanical Garden.

A program by Mike Donley.

Join Mike Donley and a team of experts as they identify what invasive plants are and explain how to remove them from our natural areas.

**Sat., Feb. 2, 1-3 pm**

**Flower Arranging**

A presentation by Megan Bollinger (matthaeinichols) or Facebook.

This program may contain the following allergens: Pollen, palm oil.

**Sat., Feb. 8 10 am-noon**

**Sweet Spot: Tea & Cocoa Party**

From tea, and make your own special tea blend to take home. Then sit down and enjoy a spread of sandwiches, pastries, cookies, and a hot chocolate bar.

20-YE-01 $12.00/child includes all materials and tea

**Sat., Feb. 15, 10-11:30 am**

**Catching Your Breath**

A discussion by Pittsburg-based Don Drife.

Featuring orchid displays; free orchid raffle; tickets will be sold at the door; 5.00 each.

Mon., Feb. 17, 10-11:30 am

**Simple, Smart Beekeeping**

A program on how to keep healthy hives in an easy way.

3.00 admission; all ages.

**Sun., Feb. 23, 1-4 pm**

**New Dahlia Introductions**

Great Lakes Judging Orchid

A video presentation that teaches judges how to award scores.

April

**Wed., Apr. 1, 7:30-9:30 pm**

**Spring Flowering Shrubs**

Michigan Botanical Club Huron Valley

A discussion by U-M Herbarium's Dr. Erika Wildermuth.

**Wed., Apr. 8, 7 pm**

**Mich. Botanical Club Huron Valley**

A presentation on volunteering for the Sierra Club by Huron Valley Group member, volunteer, and activity leader Kim Richardson.

Sat., Apr. 18, 1-4 pm

**Ann Arbor Garden Club & Rhododendron Society**

New Dahlia Introductions

A video presentation that teaches judges how to award scores.

**Sat., Apr. 25, 1-4 pm**

**Ann Arbor Garden Club & Rhododendron Society**

Descriptions

Great Lakes Judging

A presentation on volunteering for the Sierra Club by Huron Valley Group member, volunteer, and activity leader Kim Richardson.