

GRADUATE STUDENT KELSEY SCHOENEMANN STUDIES LANDSCAPE FACTORS AFFECTING NATIVE BUMBLE BEES



by David Carr, Director

You have likely read about the struggles of our native pollinators, here in this newsletter and elsewhere in the national media. There seem to be multiple drivers for pollinator loss, but habitat loss and land-use change are likely important to many of the declines. Some of our native bumble bees are among the species of

concern, and my graduate student, Kelsey Schoenemann, is focusing on landscape factors affecting these important pollinators.

The life cycle of a bumble bee differs significantly from the domestic honey bee. Bumble bees start hives from scratch every year. Beginning in mid-to-late March, individual bumble bee queens born the previous summer emerge from an underground burrow where they spent the winter in a dormant state. Each queen mated prior to disappearing underground, and they will use that sperm to fertilize their eggs to start the new colony. Before the queen can start filling her hive with daughters, however, she needs to find a suitable place to nest and begin gathering nectar and pollen to provision the hive. Nectar is the primary source of carbohydrates for bees, and pollen is the primary source of protein

and lipids for their developing young. This time of being a single mother with no other help around the hive is likely a particularly vulnerable time in the life cycle. If she is successful, her daughters (the hive workers) will eventually take over the responsibility of pollen and nectar collection, while the queen focuses on egg laying. The queen will eventually produce sons (drones) and daughter queens that will mate and then burrow underground, waiting for next spring to begin the cycle anew. All of that, though, depends on her solo efforts in April and May.

With the help of many volunteers from the Virginia Master Naturalists and elsewhere, Kelsey and I have been surveying sites from as far south as Albemarle County, VA and north to Loudoun County, VA. Kelsey and the volunteers have been recording the types of habitat where they find queens that are actively searching for nests. We have collected over 500 queens. Each queen is identified to species (we have five relatively common species of bumble bee here at Blandy), and if she is carrying pollen, we take a sample of that before releasing her. This spring we have accumulated well over 100 pollen samples.

We recently received a grant from the University of Virginia's "4VA" program to support this project. The grant will provide funding for a collaboration between me, Kelsey, and [Dr. Haw Chuan Lim](#) from George Mason University. Dr. Lim has experience doing DNA "barcoding" on pollen, and we will use this technique to identify the types of pollen that the queens are carrying. This information will allow us to understand how species of bumble bees might differ in their pollen use and how pollen use might vary depending on landscape features and the degree of urbanization where the queens were captured. Understanding the use of this critical resource at this critical period in the life of a bumblebee hive could eventually help conservation efforts to reverse the decline of these important parts of our ecosystem.

To hear more about Kelsey's project in Kelsey's own words, visit Blandy's Youtube channel.

COMPASS PROJECT CREATES NEW FOCAL POINT NEAR PEETWOOD PAVILION



Stone masons placed the center stone to one of Blandy's newest focal points near Peetwood Pavilion in March. Located to the south of the pavilion, embedded cobblestones mark the cardinal directions and summer and winter solstice positions, tracking the change in day length across the seasons in the context of the landscape. The centerpiece, a large flat stone, will serve as a speaking platform.

With a breathtakingly beautiful view of the Native Plant Trail meadow and the Blue Ridge Mountains, the Peetwood Pavilion for Environmental Education is located about 50 yards east of Blandy's visitor parking lot.

Ben Smallwood, a local mason with Stone Works, and his son began work on the new mortared

seating spaces near the pavilion in late December.

The landscape improvement project was developed by FOSA's Collections Committee, chaired by Nancy Takahashi, in consultation with the Arboretum's grounds and education staff, and funded with the support of the University of Virginia's Arboretum and Landscape Committee as well as the Foundation of the State Arboretum. The goals of the project are to enhance outdoor educational space for K-12 programs through added seating areas and new plantings as well as to improve the aesthetics of the approach to the building.

We have a little more landscaping work to do, but we think it's looking great! Let us know how you like it!

MILKWEED: MORE THAN JUST MONARCH FOOD!



By Jack Monsted, Assistant Curator, Native Plant Trail

Milkweed is the sole host plant for the caterpillars of the beautiful, threatened monarch butterfly and efforts to preserve this butterfly have brought this once overlooked plant into the public consciousness. Images of its fascinating, orb-like inflorescence can regularly be found gracing the front pages of news websites and anyone even remotely interested in gardening has no doubt heard exhortations to plant milkweed “for the butterflies.”

But what exactly is milkweed? And why do monarch caterpillars love it so much? Since many of the arboretum’s milkweeds are blooming around now, this is an excellent time to shed some light on these extraordinary and often enigmatic plants.

A Multiplicity of Milkweeds

The first thing to know about milkweed is that it is not simply one species of plant, but an entire genus. The milkweed genus (known as *Asclepias* in botanical nomenclature), contains around 100 unique species, all native to different parts of North and Central America. Of these 100 species of *Asclepias*, 13 are found naturally occurring in Virginia.

Our native milkweeds all have several things in common. First, they all contain the milky white sap for which they are named. The white color comes from latex, a sticky substance that deters browsing by many insect and mammal species. In addition to this latex, their leaves also contain toxic compounds called cardiac glycosides meant to further discourage hungry animals. Second, they all share a similar flower shape – geometric, roughly cylindrical blooms which always feature five unique ‘hoods’ around the outside which store the sugary nectar their pollinators are searching for. They’re also all perennial herbs which grow from rhizomes, meaning the stems die back each winter but regrow from the same root material every spring. And finally, they’re all essential habitat for a diverse range of insects, from the humble milkweed beetle to the gorgeous monarch.

Other attributes of the plants, such as the color and size of their flowers, the shape of their leaves, their preferred habitats, and the periods during which they bloom, vary wildly from species to species. For example, common milkweed (*Asclepias syriaca*) can grow up to five feet tall, has very wide leaves and large clusters of purple flowers up to four inches in diameter. By contrast, butterflyweed (*A. tuberosa*) only gets up to two or three feet tall, has bright orange flowers, and very narrow leaves. Both species typically bloom in June. Swamp milkweed (*A. incarnata*) has clusters of tiny but bright pink flowers, typically blooms in August, and grows in wetlands and occasionally flooded areas instead of the dry, sunny meadows the other two prefer.

The list goes on – tall milkweed (*A. exaltata*) prefers a bit of shade and gets up to 6 feet tall, while green milkweed (*A. viridiflora*) has unique pale green flowers. All these factors mean that if you ever do decide to plant milkweed it's important to consider which of our native milkweed species will work best where you want to plant them.

Milkweed Munchers

Milkweeds are host to a dizzyingly diverse array of insects that are often highly specialized and can only be found on milkweed plants. The reason for this is the toxic chemicals in the leaves and sap mentioned earlier. While many pollinators will consume nectar from its flowers, only organisms that have evolved defenses to milkweed's poisons can consume the plant directly.

An interesting side-effect of this co-evolution is that many of milkweed's herbivores absorb and sequester the plant's toxins in their own bodies, becoming toxic themselves. They advertise this toxicity often through bright red or orange markings, which warn potential predators that snacking on them would be a mistake. Such markings are present on the bright red milkweed beetles which eat the leaf buds and flowers of milkweed. The same is true of monarchs which eat lots of milkweed leaves as caterpillars but retain the orange coloration (and the protective toxins) as adults. Even the diminutive milkweed bugs that feast on the plant's seeds are bright orange in color.

Other less showy insects which rely exclusively on milkweed include milkweed tussock moths, swamp milkweed beetles, and even specialized milkweed aphids which are prime food for ladybugs.

Despite their amazing botanical diversity and the myriad lives they support, there's something simply enchanting about coming across a cluster of milkweed, whether in your own garden or in a natural area. Their flowers are truly unique from every other plant on Earth, instantly recognizable from even the briefest of glances. And given that their native range is strictly limited to north and central

America, they're a key part of our natural history, perhaps even our identity as residents of this land. For me, hiking through a milkweed patch feels less like a journey into the wild and more like coming home.

NOTICING FIREFLIES: THEY SELDOM DISAPPOINT



by Ariel Firebaugh, Director of Scientific Engagement

I glimpsed my first fireflies of the year at a full moon walk program in May—a few, frail flashes drifting across the meadow. It's not unusual to see a smattering of early bird fireflies mid-May in northern Virginia, but their appearance during the program still felt unexpected and unearned. We lingered in the meadow to admire the spectacle in the gathering dusk.

The fireflies we saw that night in the meadow were likely fireflies in the genus *Photuris*, a group of feisty, fast-flying fireflies that tend to begin flashing an hour or so after sunset. *Photuris* fireflies put on a good show, but are tricky to catch due to their agile, squirrely flight maneuvers.

Several weeks later, I saw my first common eastern or big dipper firefly (*Photinus pyralis*) of the summer while walking my dog in Winchester. These fireflies start flashing right around sunset. Because they are slow and low to the ground, common eastern fireflies seem fated to be scooped into cupped palms or mason jars.

I used to spend hundreds of hours each summer counting fireflies as a graduate student at Blandy. Night after night, I hunkered down in the field with a clipboard, a gallon of coffee, and an iPod to block out Blandy's Jurassic nighttime nature noises (I swear I've heard velociraptors out there). These days, my time with fireflies is less planned, but somehow more precious. I get a kick out of following a single firefly as it floats across a field or liberating a lost firefly from the screen porch.

I hope you'll join me in taking some time to notice our local fireflies this summer. They seldom disappoint. If you're the kind of person who likes to figure out what species you're looking at, I recommend Lynn Faust's *Fireflies, Glow-worms, and Lightning Bugs: Identification and Natural History of the Fireflies of the Eastern and Central United States and Canada*. This guide is engaging, easy-to-read, and full of brilliant observations from Faust's decades of firefly study. If you still can't

get your fill of fireflies, you're welcome to join us for the Blandy Firefly Festival the evening of June 24th for crafts, games, lightning bug lore, and general firefly fandom. However you choose to celebrate these fascinating insects this summer: Happy fireflying!

2022 TREE OF THE YEAR: AMERICAN SYCAMORE



Arbor Day, “the nation’s tree planting holiday,” proved to be the perfect day for The State Arboretum of Virginia to announce its 2022 Tree of the Year. T’ai Roulston, Arboretum curator, told a crowd gathered at Blandy that the majestic American Sycamore (*Platanus occidentalis*) was selected for its value as one of the largest trees in the eastern U.S. and its exfoliating bark which creates a beautiful, mottled layer of light greens, grays, and browns.

To commemorate Arbor Day, representatives from the Foundation of the State Arboretum, staff from Blandy, Terry Lasher from the Department of Forestry, and Clarke County Administrator Chris Boies teamed up to

plant a tree, adding an American Sycamore to the allée of sycamores that lines the entranceway to Blandy. The tree was added to a tree and shrub collection that dates to the 1930s.

The Arboretum’s 2022 Tree of the Year was selected after deliberation by Curator T’ai Roulston and Blandy arborists.

“A vital part of our mission is to practice and promote tree education, science, and conservation,” said Roulston. “Through research and public programming, we want to share with everyone – of all ages – how important trees are to the environment.”

The American Sycamore is a massive tree, with heavy, spreading branches that can grow to a height of 70-100 feet with a canopy spread of 60-80 feet. Its leaves, which often measure up to eight inches across, help make the sycamore one of our most impressive shade trees.

Sycamores are also called buttonwood or buttonball trees because of the one-inch balls that hang from the tree through the winter months and then fall each spring.

Sycamore is a large deciduous species of wide distribution across the eastern and central U.S. and is used for lumber and pulpwood. Sycamore seeds are eaten by wildlife, and its hollowed limbs are often used as nesting sites for birds and mammals. In the wild, it is most often found in riparian areas, but as a cultivated tree it can grow well in upland sites. It is often used as a street tree, sometimes forming an impressive allée – a tunnel of green lined with streaked white trunks. The downtown area of our local city of Winchester gets much of its natural grandeur from these massive trees.

In 1744, a Shenandoah Valley settler named Joseph Hampton supposedly lived with his two sons for most of the year in a hollow sycamore in Clarke County, VA. And in 1770, while surveying for the Kanawha Canal, George Washington recorded in his journal a sycamore tree with a trunk that measured almost 45 feet in circumference.

This is Blandy's fourth pick for Tree of the Year. Past Trees of the Year include:

- 2021: Pawpaw (*Asimina triloba*)
- 2020: Sassafras (*Sassafras albidum*)
- 2019: Eastern Redbud (*Cercis canadensis*)

SPRING EDUCATION PROGRAMS SERVE 2,400+ STUDENTS FROM 29 LOCAL SCHOOLS



by Emily Ford and Lillian Ledford,
Environmental Educators

Historically, spring has been the time when the most students, often heavily weighted towards elementary grades, visit for our environmental education programs. The "virus that will not be named" put an obvious damper on that in recent years, but this spring it was a sheer delight to have over 2,400 students from 29 different schools in Clarke, Warren, Loudoun, Frederick Counties, and Winchester City school districts, and several independent and home school groups. Starting the first week of March, our big spring program push wrapped up in the second week of June.

As an element of one of our major projects (a four-year grant project funded by NOAA), we taught all Clarke County Public School (CCPS) kindergarten students about butterflies, pollinators, life cycles, and habitats. CCPS 2nd grade simulated bird migration and feeding strategies and explored the varied abodes of Blandy to find birds nesting, feeding, and going about their birdy business. Fifth grade poured water over different land surfaces to discover how water flows over bare soil versus land with vegetation, then created filters to scrub any sediment from that water. As an action project in their schoolyard, Boyce Elementary 5th grade planned and planted a riparian buffer of native plants using the knowledge gained from their field experience at Blandy and classroom activities in tandem with the project. Sixth grade joined us for a "classic" Meaningful Watershed Educational Experience (MWEE) field investigation, identifying aquatic organisms and analyzing water chemistry to determine water quality, conducting a site analysis (with an emphasis on understanding the process of weathering), but with a unique Blandy historical twist: considering how previous

residents, students, workers, and enslaved people obtained the resources they needed to live their daily lives.

That seems like a lot, but we also hosted and engaged the *entire* population of Frederick County Public School (FCPS) 4th grade in their MWEE experience! The fourth-grade field experiences tied into their curriculum through a problem-based learning project back in their classroom. Hands-on investigations included: modeling how erosion of soil impacts runoff and the filtering power of plants along streambanks, developing a solution to decrease turbidity in water that flows downstream, and exploring food webs and adaptations of the living things in our streams and rivers.

In addition, various grades from two Winchester City Public Schools (Quarles and John Kerr) visited to tie real-world experiences and outdoor investigations into their computer science curriculum. During their students' visits, they found patterns in nature (flower shape, petal, textures), developed skills for creating sequences of instructions for a nature investigation, and collected and analyzed data appropriate to their age level. Learn more about this project here <https://www.wps.k12.va.us/Page/11579>

Both public and private school teachers, with whom we have worked for several years, visited for field investigations and we were delighted to work with many of our teacher friends again! We wish you all a great summer filled with learning and exploring.

HORTICULTURAL GRANT WILL EXPAND ARBORETUM'S IRIS VARIETY DISPLAY AND EDUCATION GARDEN



The State Arboretum of Virginia at Blandy Experimental Farm has received a \$20,000 horticultural grant from the Stanley Smith Horticultural Trust to expand and develop its Iris Variety Display and Education Garden. The existing Walter Flory Memorial Iris Garden at the State Arboretum of Virginia was located here in 2016 with the donation of irises by the local Iris Society chapter.

Founded on Stanley Smith's passion for ornamental horticulture, the Stanley Smith Horticultural Trust has awarded over \$20 million in grants to support the field since 1970. The Trust's grantmaking supports education and research in the art and science of ornamental horticulture, to foster human interest in

shaping, nurturing, and appreciating nature's beauty.

The expanded garden will build on the current bed layout of irises and will demonstrate to the visiting public how irises can be applied in their own homes or community landscapes. The garden will also be a site for educational programs run at the Arboretum for children from local schools. The project builds upon the arboretum's current collection of 150 tall and short bearded iris species and cultivars.

The Walter Flory Memorial Iris Garden, honoring the first curator of the Arboretum, is a component in the most highly-visited precinct of the Arboretum, and is a short walk from the Quarters Building, the main point of entry into the Arboretum. Through expansion and physical design improvements to the site, new plantings, interpretive signage, and enhanced access, irises will be presented in a beautiful garden setting, and grouped by classification and bloom period.

The next stages of design development will be carried out by professional landscape architects and gardeners who sit on the Collections Committee of the FOSA Board, working in conjunction with Carrie Whitaker, the Arboretum Assistant Curator for Herbaceous Gardens.

CLARKE COUNTY STUDENTS, TEACHERS, TRAVEL TO EASTERN SHORE TO EXPERIENCE CHESAPEAKE BAY



by Candace Lutzow-Felling, Director of Education

Nine Clarke County Public Schools high school students accompanied by two teachers, the Clarke County Public Schools Instructional Specialist, and Candace Lutzow-Felling, Blandy's' Director Education, traveled to the Chesapeake Bay in April. Over an activity-packed four days they learned about Bay ecology, economy, culture, and history. Students observed and identified Chesapeake Bay organisms in their natural habitat led by Kiptopeke State Park rangers. The rangers taught the students how to bait traps to catch crabs and how to use a seine net to gather and observe the diversity of organisms in the

shallow Bay waters. Students discovered flounder, snails, mollusks, sponges, lots of baby fish, and blue crabs, of course! During a kayak ecotour, we learned about Bay ecology and how clams are raised.

We also traveled into the deep waters of the Bay on the Miss Jennifer, a boat owned and captained by Chesapeake Bay waterman, Jay Cordon. During this boat trip we learned about the aquaculture and shipping industries active in the Bay and how important Bay health is to sustain the fishing, clam and oyster industries. We also toured Cape Charles, a lovely small town along the Bay and learned about Eastern Shore history at the Barrier Island Center. At the end of the trip, students reflected on their Eastern Shore experience:

“I learned that the Bay provides thousands of aquaculture, clamming and oystering jobs and more, which brings in millions of dollars to the economy each year. I also learned that blue crabs in the Bay aren’t actually blue but are instead greenish with blue-tipped claws!” remarked one student.

Another student said: “I enjoyed staying busy on this trip. We were always experiencing something new whether it was a hike, fishing, crabbing, boating, or reading at a museum. We were always on the move.”

And another student commented: “If I were to lead a group of high school students on a trip like this, I wouldn’t do anything differently. I enjoyed both the opportunity to look at nature and the local attractions, too.”

The student Eastern Shore experience was made possible by a Jack Kent Cooke Foundation grant awarded to the Foundation of the State Arboretum (FOSA). Lutzow-Felling identified, planned, and coordinated all of the activities and lodging on the Eastern Shore for the students. Three Clarke County educators served as chaperones and made all of our meals. This immersive field experience was a wonderful collaborative effort between FOSA, Blandy Experimental Farm, and Clarke County Public Schools.

This Eastern Shore professional learning experience was also made possible by a grant from the National Oceanic and Atmospheric Association Bay Watershed & Education Program awarded to Blandy Experimental Farm in partnership with Clarke County Public Schools

WOULDN'T IT BE GROOVY TO BE A GINGKO GUIDE?



They're glorious, they're golden, and we're looking for ginkgo geeks to be Ginkgo Guides!

Blandy's Ginkgo Grove attracts thousands of visitors each fall – many of whom are visiting Blandy for the first time. We are actively recruiting volunteers (“Ginkgo Guides”) to help introduce visitors to the Ginkgo Grove and to Blandy's grounds this fall.

Ginkgo Guides should expect to attend a **two-hour orientation session Sunday, October 16th, from 2 to 4 PM**, and to work one or more three-hour shifts

during weekends in October and early November.

The training session will cover:

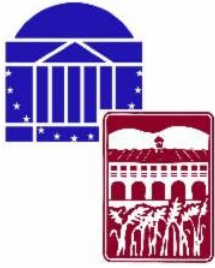
- The ginkgo's unique evolutionary history and biology
- The history of Blandy's Ginkgo Grove
- Tips to help visitors enjoy the Grove safely

To learn more and sign up, please contact Ariel Firebaugh, Director of Scientific Engagement at alf7f@virginia.edu or call (540) 837-1758.

Hip, Hip Hooray! Garden Fair Will Be Back at Blandy in 2023!



Save the Date for next year's Garden Fair on Mother's Day weekend! We heard you loud and clear and we'll be back at Blandy for the 33rd Annual Garden Fair, May 12-14, 2023. We're looking forward to seeing you!



University of Virginia Blandy Experimental Farm NSF REU 2022 Program Participants



Patrick Crumrine, PhD
REU Coordinator
Rowan University



Emma Ainsworth
Hometown:
Enid, Oklahoma
Oklahoma State University
To burn or not to burn: How do burn
and soil type affect how rodents
detect and consume seeds?
Mentor: Alyson Degrossi



Skye Austin
Hometown:
Ashburn, Virginia
Shenandoah University
Temperature and host plant effects
on butterfly wing morphology,
movement, and
thermoregulatory behavior
Mentor: Rebecca Forkner



Ashley Barkley
Hometown:
Portageville, New York
SUNY Plattsburgh
Impacts of artificial light at night on
growth, stomatal conductance,
and chlorophyll content in two
native perennial grasses
Mentor: Kyle Haynes



Caleb Freeman
Hometown:
Silver Spring, Maryland
Howard University
Interactive effects of spatial
habitat arrangement and predator
identity on intraguild predation
among aquatic insects.
Mentor: Patrick Crumrine



Casey Greenberg
Hometown:
Columbia, Maryland
St. Mary's College of Maryland
The effect of light on egg
recognition in the gray
catbird *Dumetella carolinensis*
Mentor: Daniel Hanley



Silas Hernandez
Hometown:
Great Meadows, New Jersey
Last Stroudsburg University
The role of dappled light
on egg recognition
Mentor: Daniel Hanley



David Lovett
Hometown:
Lewisburg, West Virginia
University of Virginia
The impact of road salt on
pollinator mortality
Mentor: Dave Carr



Lindsey Monteith
Hometown:
Chesapeake, Virginia
College of William and Mary
Where could it be?
Habitat suitability modeling and
surveying for the Rusty Patched
Bumble Bee (*Bombus affinis*)
Mentor: T'ai Roulston



Julia Owens
Hometown:
Rosemount, Minnesota
Carthage College
Arts in your plants:
Benefits of axillary nectaries
on the protection of Black-eyed
Peas (*Vigna unguiculata*) by ants
Mentor: Mary McKenna



Esteban Rosario
Hometown:
Yabucoa, Puerto Rico
University of Puerto Rico –
Humacao
Effects of pond water volume
reduction on the emigration of
Eastern Painted Turtles
(*Chrysemys picta picta*)
Mentors: Alyson Degrossi and
Patrick Crumrine

2022 RESEARCH FOR UNDERGRADUATES PROGRAM

Blandy's latest cohort of undergraduates studying at Blandy this summer as part of the Research Experience for Undergraduates (REU) program have arrived! The students come from all over the country and from as far away as the University of Puerto Rico. After several years with a limited number of students able to participate due to social distancing measures, this summer's program has 10 students living and researching at Blandy.

The goal of the REU program is to provide promising undergraduates with exposure to and experience in field research, led by mentors who are faculty from several universities, including the University of Virginia faculty at Blandy. The program is overseen by Dr. Patrick Crumrine of Rowan University and is funded by the National Science Foundation and Blandy Experimental Farm. The students will present their research findings at the Research Forum in August.

Welcome to Blandy's REU students!

- Emma Ainsworth, Oklahoma State University
- Skye Austin, Shenandoah University
- Ashley Barkley, SUNY Plattsburgh
- Caleb Freeman, Howard University
- Casey Greenberg, St. Mary's College of Maryland
- Silas Hernandez, East Stroudsburg University
- David Lovett, University of Virginia
- Lindsey Monteith, College of William and Mary
- Julia Owens, Carthage College
- Esteban Rosario, University of Puerto Rico – Humacao

GRADUATE RESEARCHERS OUTLINE THE FOCUS OF THEIR RESEARCH



Curious about what's happening in the greenhouses and assorted other buildings across our grounds? Here's your chance to hear from a few of our graduate student researchers who are studying three very different topics. You can find the presentations on [Blandy's Youtube channel](#).

[Pollen Collection and Nest Site Selection in Queen Bumble Bees](#)

Learn how graduate researcher **Kelsey Schoeneman** enters the world of the queen bumble bee to learn what it likes to eat and where it likes to live. (UVA Environmental Sciences, mentor David Carr)

[The Intersection of Planting Design and Nature-Based Learning Environments](#)

Graduate researcher **James Barnes** explores how technologies may change how we design, manage, and engage with greenspace, focusing on children and the schoolyard. (UVA Landscape Architecture, mentor Jennifer Roe)

[Identifying Invasive Species' Spread by Remote Sensing](#)

Is it possible to identify the spread of invasives using a drone and a computer? Graduate researcher **Kelsey Huelsman** (pictured above) examines the technology. (UVA Environmental Sciences, mentor Howard Epstein)

CLARKE COUNTY NATIVE REAGAN JOHNSON SPENDING SUMMER AS HORTICULTURAL INTERN



Reagan Johnson is this summer's Horticultural intern working with Carrie Whitacre, Assistant Curator, Herbaceous Gardens.

Reagan grew up in White Post, VA, just down the road from Blandy, and graduated from Clarke County High School in 2020. She says growing up on a farm allowed her to spend much of her time outdoors, which fueled her love for nature and the environment. She remembers coming to Blandy often as a kid to enjoy the gardens and always looked forward to the Garden Fair plant sale which she regularly attended with her mom.

"It's really rewarding to be able to come and work at a place that I always loved visiting in my childhood," said Reagan. Now, she visits on her own to walk her dogs along the trails in the Arboretum.

Reagan is currently a student at SUNY College of Environmental Science and Forestry in Syracuse, NY, majoring in Sustainable Energy Management with plans to work in the implementation of renewable energy systems with an overall goal to help combat climate change. She is mainly interested in building electrification and creating symbiotic relationships with nature and renewables. She plans to use her time at Blandy to learn more about plant function in hopes of applying that to the implementation of agrivoltaic systems.

Agrivoltaics is when solar panels are used in conjunction with agriculture. Reagan says this can look like crops growing in rows under the panels, having livestock living and grazing in the same fields as solar panels. There are many benefits to agrivoltaics, such as added shade for animals, improved water usage for plants, increased crop production, decreased land use, improved renewable energy production, and more.

Reagan is particularly excited by pollinator-friendly solar projects, where habitats can be made under panels to help increase the pollinator populations.

"Blandy is a great example of a healthy habitat for pollinators, especially the pollinator garden," said Reagan. "So spending time learning and working with these various plants will be very beneficial when I work to apply them with solar panels in the future."

FOSA HOLDS ANNUAL MEETING, ELECTS NEW BOARD MEMBERS

The Foundation of the State Arboretum held its Annual Meeting on Saturday, June 4 at Blandy and elected three new members for three-year terms, FY23-25.



Nate Adams, III is an attorney who has practiced law in Winchester since 1987. He was admitted to the Virginia State Bar in 1981. Nate is active in the community, currently serving on the Handley Board of Trustees and as its designated representative to the Winchester Education Foundation. In the past, Nate has served with other nonprofits, including Blue Ridge Hospice and the Shenandoah Valley Discovery Museum. He also has participated on the Winchester/Frederick County Economic Development Commission, the Winchester Planning Commission, and the President's Roundtable at Shenandoah University. Much of Nate's nonprofit experience has focused on education, mentoring high school students and participating in the Gifted Independent Studies program for Frederick County.



Geraldine "Bean" Carroll has spent many years participating in plant conservation and restoration, most recently with the national Center for Plant Conversation, where she served as treasurer and currently is an advisor to the board. She is also a non-resident member of the Women's Board of the Chicago Horticultural Society. Bean currently is an active member of the Fauquier-Loudoun Garden Club. In her own gardens, she emphasizes pollinator-friendly and native plants. Bean serves as the COO and manager of the Middleburg office of Charles Carroll IV, MD (specializing in hand and orthopedic surgery), where she applies her expertise in personal finance, operations, and systems.

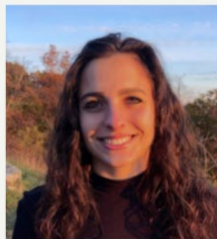


Alison Teetor recently retired after 31 years as the Natural Resource Planner for Clarke County, Virginia. She continues to lead the county's conservation easement program as the part-time Conservation Easement Specialist. She was largely responsible for developing the county's Geographic Information System (GIS) to create online mapping to support county initiatives. With her experience in land use at the county level, Alison has worked with many conservation-minded county

residents as well as various state-wide organizations, including the Virginia Department of Agriculture and Consumer Services (VDACS). Before joining Clarke County, she worked with Shenandoah National Park and the Colorado Division of Wildlife. Alison is part of the local equestrian community and often rides at Blandy. She recently joined FOSA's Equestrian Committee.

Current FOSA Board Members who were re-elected for three-year terms include:

- **Thom Flory**
- **Celie Harris**
- **Alex Newhart**
- **Tracy Smith**



**Luciana Codella,
Arboretum Specialist**



**Stefany Feldbusch,
Environmental Educator**



**Stephanie Fox,
General Services Technician**



**Maggie McCartney,
Field Station Manager**



**Alberto Arcos Rodriguez,
Building Maintenance
Specialist**



**Stephanie Swaim,
Public Relations and
Marketing Coordinator**

Say hello to the staff members who joined
the Blandy team in 2021-22!