

Adkins Arboretum Habitat Enhancement and Ecological Restoration Program
Shared Earth Foundation
2018 Report

Staff

Our staff focused on land stewardship and conservation has been growing. This is our first full year of having Kathy Thornton as Land Steward, a full time position. We continue to have key staff Allison Yates, Ginna Tiernan, and Robyn Affron supporting these programs. Sylvan Kaufman, PhD serves as our consulting Science Advisor and Leslie Cario serves as our consulting horticulturist, managing several grants focused on our living collections and nursery. We were fortunate to have Chesapeake Conservation Corps member Blake Steiner leading us in a new phenology program and orchid scouting program. Blake connected with the Smithsonian Environmental Research Center and the Mt. Cuba Center to learn about native orchids and volunteer programs that help to survey the region for native orchid populations. Blake left the Arboretum in July 2017 to pursue his master's degree. We are excited, however, to welcome two new Chesapeake Conservation Corps members, Emily Castle and Nathan Simmons. They started in August 2018 and will continue with us until August 2019.



In addition to our staff, we have a group of seven volunteers who routinely come each week to our Land Steward and Wetland Wranglers work days. These volunteer groups focus on habitat restoration and land stewardship at the Arboretum. Most recently, their focus has been on removing invasive species and supplementing plantings within the wetland and the entrance garden. We also have a Trail Keepers volunteer group that help clear the trails of sticks and fallen limbs to assist our Grounds Manager.

Living Collections Database and Plant Propagation

Leslie Cario has been leading the committee on developing and improving our Living Collections Database, which will make Arboretum specimen plants searchable and accessible to the public. This database will also be instrumental to our staff and volunteers in stewarding the land and understanding the biodiversity on this property. We have a group of four dedicated volunteers who come twice a month to help map and document

plants on the Arboretum. They also take notes on possibilities for sustainable collection (seeds, cuttings). This project is primarily funded by the Institute for Museum and Library Services and the Stanley Smith Horticultural Trust.

Wetland

Our wetland has been supporting noticeably more diverse wildlife since its enhancement in 2017. We had at least three green heron fledglings grow up in the wetland this year, and most recently, a beaver has taken up residence in the southern portion of the wetland. We are currently researching beavers and Nathan Simmons is working on developing and experimenting with a “cohabitation plan” that would allow us to protect any trees and plantings in the wetland, while allowing the beaver to remain here. The beaver has increased the water level slightly, which is ensuring that the invasive canary grass is drowned out. It will be interesting to see the impact on the plants in the spring. The water quality remains healthy in the wetland and with some of the recent heavy rains (up to 5.5” in one night!), the wetland has proved extremely effective in helping to act as a sponge and slowing the water flow into the forest.



Meadow

The meadows were not burned this year, but Allison did mow areas of them to cut down invasive species, such as Japanese knapweed. We hope to get on the burn list for 2019 to help maintain the meadow as a warm-season grassland. Last year, we did an extensive removal of *Ailanthus altissima* from the south meadow, which we are pleased to report have not returned this year. We are on the lookout for the spotted lanternfly, which has now been reported in Cecil County, Maryland and can cause ecological damage.

We have received funding to construct a meadow platform in the middle of the South Meadow, which would allow visitors to walk up a slight incline and look out over the meadow. With very little natural elevation in the meadow, this platform will give visitors a new perspective on the meadow. We hope in this construction, that we will also be able to seed some plants to add to the diversity of the meadow.

Woodlands

This spring, we identified a small patch wavyleaf basketgrass in the southernmost corner of the Arboretum, in a wooded flood plain. We pulled the basketgrass and flagged the

perimeter of the patch, so that we can continue to monitor for new sprouts and any patch expansion. We hope to be able to manage this small patch relatively quickly and without pesticide.

We are excited to partner with the Maryland Arborist Association this upcoming spring to host their annual service day. On April 13, 2019, several arborists will volunteer their time to help us prune and elevate some of our specimen trees, as well as remove any potentially dangerous snagged trees. We did a site walk with them in October 2018 and identified 81 trees that we plan on maintaining. This will help to protect our trees, allow better access on our service road, and keep our trails safe.

Native Orchids

With the help of the Smithsonian Environmental Research Center and the Mt. Cuba Center, Blake Steiner began the process of developing an orchid scouting program at Adkins. Several years ago, there was an orchid research program here and we are hoping to build on that. Our predominant orchids here are the pink lady slipper orchid, crane fly orchid, and the downy rattlesnake plantain. There is also a good chance that there are some additional species that we have yet to locate and confirm. We hope to continue mapping and scouting for the orchids, so we can better understand their populations here.

Phenology

Blake Steiner, Robyn Affron and Kathy Thornton all became certified as phenology leaders through the USA National Phenology Network with the goal of creating a phenology program at Adkins Arboretum. Blake spearheaded this program and conducted a volunteer training, which taught



volunteers how to observe and collect data for specific species on the Arboretum property. The current species of focus are cardinal flower, arrowwood viburnum, red maple, tulip poplar, common milkweed, the monarch butterfly, the bluebird, and the pink lady slipper orchid. This data is entered into Nature's Notebook and shared nationwide. The East Coast has a lot of data gaps for various species and we are working to help fill the gap. Observations of these species will also help to inform our land management practices.

Robyn has continued to organize the volunteers for this program, so that data is consistently collected throughout the year.

Wood ducks, Bluebirds, and Purple Martins

We are enhancing our bird monitoring programs at the Arboretum. Previously the wood duck, bluebird, and purple martin monitoring was entirely volunteer based and slightly sporadic. Now, while we still rely heavily on volunteers, we have staff members overseeing this data so that we can ensure the data is collected correctly and analyzed, that the boxes are in good condition, and that these nesting sites are available to the birds in the right seasons.

Our Chesapeake Conservation Corps member Nathan Simmons is working with Land Steward Kathy Thornton to focus on the wood duck boxes at Adkins. We currently have seven boxes located throughout the Arboretum and we would like to put up a few more. A large tree fell next to one of our wood duck boxes, so we plan on relocating the box to keep the risk of predation down. There is another box that was installed in a dense area and has not been used. This box will be repaired and relocated to a better spot. We also hope to install a new box in the Visitor Center wetland to better highlight the wood duck program and to help educate visitors about wood ducks.

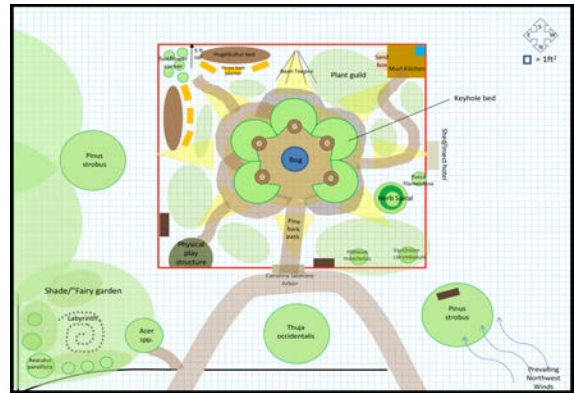
Blake Steiner focused on our bluebird program this spring and trained a new volunteer, Wayne, who has been coming to the Arboretum each week to check the Arboretum's 20 boxes. The boxes have been relatively successful this year and we plan on analyzing the 2018 data this winter. We are starting to incorporate this data into Nature's Notebook through the USA National Phenology Network.

Kathy Thornton and Robyn Affron have been working on the purple martins and attended a purple martin lecture earlier this year. In the past, the houses went up too late in the season and did not attract purple martins. This year, the houses were cleaned and up in advance of the purple martin arrival. Unfortunately, we did not have any nesting purple martins this year, but we hope that they will now be able to rely on these boxes being up and ready for them to use.



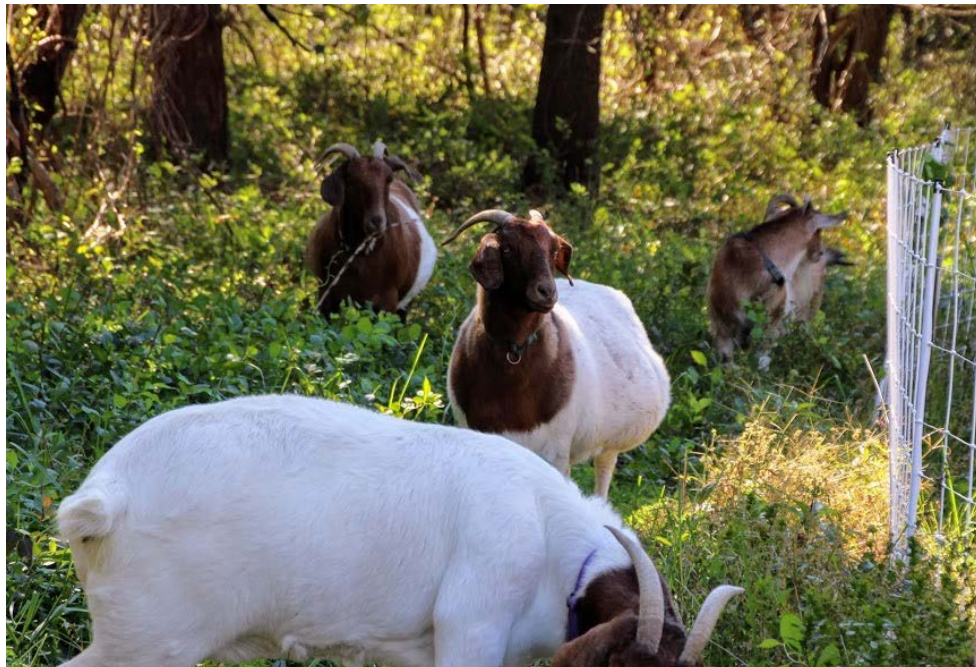
Funshine Garden

Emily Castle is giving our Funshine Garden some much needed attention. A small group of volunteers work at the Funshine Garden each month, weeding and pruning the plants. The Funshine Garden is used with many school groups that come through to learn about plants, worms, and gardening. Emily plans reduce the required maintenance of the garden and increase its potential as an educational permaculture playground for children of all ages. Emily's permaculture design includes mandala/keyhole garden beds, a mini bog, hugelkultur, a mud kitchen, an expanded shady fairy garden, and various plant guilds that demonstrate plant relationships.



Goats

Tiarella, Sunshine, Pearl, and Rosie continue to work hard at the Arboretum clearing invasive vines. They also continue to display their charm and personality when visitors come by. The goats are currently working on about a quarter acre section of woodland edge across from their winter enclosure. The goats, once again, were the highlight of this year's Arbor Day Run! Runners of all ages came out to participate in the fun run, 5k, or 10k. Allison Yates continues to provide supervision and management of the goat herd, while Ray Davis, Robyn Affron, Nathan Simmons, Emily Castle, and Kathy Thornton help to provide goat care assistance.



Climate Change

Whether it is through our daily interaction with visitors, our land management choices, or our programming, climate change is included in our decisions and plans for the future at Adkins Arboretum. As a nature resource center, our staff know the importance of engaging with people and communicating important environmental issues.

Recently, Adkins Arboretum hosted a climate change communication workshop led by Coreen Wielminster (Chesapeake Bay National Estuarine Research Reserve) and Mary Helen Gillen (Pickering Creek Audubon Center). We had about 20 people attend this workshop. Coreen and Mary Helen presented the group with useful resources and strategies for talking about climate change in a productive and positive way. Studies have shown that over the past two years, there has been a subtle change of attitude from concerned and cautious to disengaged and doubtful with regard to climate change. Studies have also shown that most people tend to not talk about this environmental issue. The value of this workshop was to help people bridge these connections and empower them to start these conversations with people in their community. By finding common values, we can create a positive conversation about important issues without getting caught up on things that we may disagree on.



This year, we revisited our Living Collections Policy and added a statement that it is important to consider changing climate and plant tolerance with new plantings. Our zones are changing and so we should potentially be looking to our southern neighbors for plants that will be more adapted to our future climate.