

Bee Campus USA - Berea College

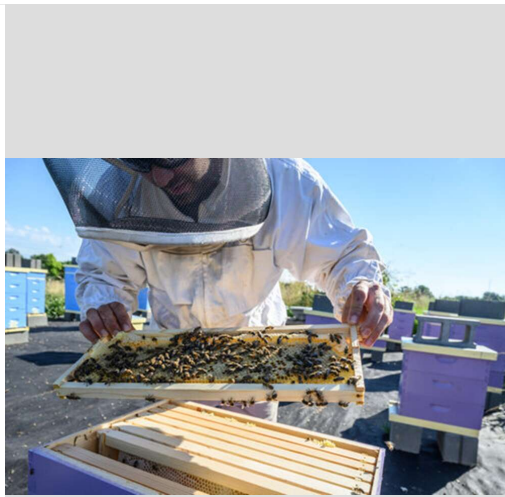
Report on 2021



Pollinator Habitat Creation & Enhancement

Berea College is situated on a small, but very diverse campus. It includes a 9,000-acre forest and one of the oldest, continuously operating student educational farms in the United States. The College Farm includes a horticulture production area that implements initiatives such as certified organic vegetable and small fruit production; plant propagation and sales; seed production; and a small beekeeping enterprise, all of which highlight the importance of pollinators. The Forest and Farm are essential educational campus resources that complement and reinforce in-class academic learning by serving as the primary laboratory for many of the courses taught in academic departments such as Agriculture and Natural Resources and Biology. This necessitates continuously managed production areas and pollinator habitats that are consistently enhanced and maintained by students through the College's federally recognized work-study program with assistance from faculty and staff. Students on the Grounds Team also help maintain a campus landscape that is managed without the use of pesticides or chemicals. In recent years, the College has installed a number of certified Monarch Waystations, and one of them is used to teach students in a Zoology class about monarchs and the importance of planting pollinators to benefit them. The Farm and the College's food security outreach program, Grow Appalachia, have been collaborating since 2020 on a beekeeping initiative with support from a funder to "save the honey bees." In 2021, 24 hives were built and installed at a new apiary at Hunt Acres on the Farm. In addition to strategically purchased bees, a number of trap hives were also built and placed in various locations in the area to catch swarms of bees that arrive in Berea in the summer. The primary goals of the beekeeping effort are: 1. to breed stronger, more resilient bees that can thrive with minimal or no inputs of synthetic pesticides; 2. to develop strains of queens that are uniquely suited to the central Appalachian environment; 3. to partner with Technology and Applied Design students at Berea College in the development and construction of new styles of beehives; and 4. to use the apiary as a learning laboratory for students as well as new and master beekeepers.





The new apiary on the Berea College Farm



Pollinator-friendly Indigo from a new dye garden at the Horticulture Farm that was later harvested for textile hand dyeing for the Berea Student Craft Weaving Program



Pollinator-friendly Indigo from the new dye garden at the Horticulture Farm that was later harvested for textile hand dyeing for the Berea Student Craft Weaving Program

Education & Outreach

Amid the unprecedented challenges of the COVID-19 pandemic, Berea College fully reopened for the Fall 2021 Term. However, several new policies and procedures remained in place to limit exposure to and spread of the virus, including limitations on campus visitors as well as on- and off-campus activities (<https://www.berea.edu/covid-19/>). As a result, the College offered only a limited number of pollinator conservation events during the 2021 calendar year. The FOC hosted a wildflower walk in the spring as well as a plant give away in celebration of National Pollinator Week in June 2021. The center generated numerous social media posts throughout the year that highlighted the importance of pollinators. John Abrams, FOC staff and Bee Campus USA committee member, assisted with two pollinator events hosted by partners at the Maywoods Environmental and Educational Laboratory in eastern Kentucky and at the Taylor Fork ecological area in Richmond, Kentucky. The College's Office of Sustainability also typically offers pollinator-related events throughout the year, but programming was cancelled due to COVID-19 restrictions that prevented gatherings and group events. The College expects to resume hosting more pollinator events as the surge from the omicron variant continues to recede.





Berea College Forestry Outreach Center

June 23, 2021 · 🌐

It's National Pollinator Week so let us highlight one of the frequent visitors to our pollinator garden. This is the American Bumblebee (*Bombus pensylvanicus*), Once one of the most common Bumblebees in North America unfortunately populations of this species have been heavily declining in recent years.



A June 2021 Facebook post from the Forestry Outreach Center



John Abrams leading a wildflower walk in the Berea College Forest

Courses & Continuing Education

The College offered the following for-credit courses: Ecology (SENS/BIO 310) This course is an introduction to the basic ecological principles of terrestrial and aquatic systems. Emphasis is placed on experiential learning through field and laboratory studies. Principles of energy flow, material cycles, physiological ecology, population ecology, ecological succession, community ecology, and biological diversity are addressed. Hands-on exercises and experiments are integrated with lectures, discussion groups, student research projects, and computer exercises to demonstrate the process of scientific inquiry into ecological issues. The course is structured as two class periods and one laboratory period each week. Intro to Agriculture An overview of ecological production systems managed to generate food, fiber, fuel, and other natural resources for human use and the academic disciplines associated with them. The course surveys the diverse natural-resource systems upon which we depend while also emphasizing biological systems managed for the production of renewable resources. Historical and current understandings of sustainable resource use are examined and applied to evaluate local, national, and international issues confronting human society today. Students are introduced to the fields of agriculture, forestry, and wildlife and fisheries management, and have the opportunity to explore careers in these areas. This course is recommended for all first-year students intending to major or minor in Agriculture and Natural Resources as well as any students interested in exploring the major. Plant Science This course is designed to develop an understanding



of the processes and factors affecting plant growth and development. Biological, soil, genetic, and environmental factors are discussed in relation to agronomic, horticultural, and forest plants. Sustainable practices in crop production and management are also introduced. Environmental Economics The aim of this course is to analyze the role that public policy currently plays—and the role it should play—in helping manage and protect our local, national, and global environment. Pollinator services were discussed as part of the course. Research in the Berea College Forest Although the College does not offer continuing education courses, the Forestry Outreach Center often hosts researchers. In 2021, an Eastern Kentucky University graduate student (and Berea College alumna) researched bumblebees in the Forest's tallgrass prairie. She worked in multiple field sites around the Commonwealth of Kentucky, but she found Berea's site to be the most biologically diverse. She noted that the prairie has a healthy population of the American Bumblebee, which will soon be added to the endangered species list.





The Ecology course used this Crimson Clover patch as a laboratory in 2021



Service-Learning

The College offered a “Design and Production in Woods” class during the Fall 2021 Term, which was designated as a service-learning course in collaboration with Berea’s Grow Appalachia program. The course involved students working with Grow Appalachia staff to design beehives for the College’s beekeeping initiative (described above). The service-learning course provided students with experiential learning beyond the textbook. The Technology and Applied Design Department will continue its collaboration with Grow Appalachia with the goal of building and distributing the beehives to new and established beekeepers in the area. As one student described, “It’s different from other design classes because in those, you are not really working with anyone in practice. But in this class, we can apply what we’re learning. We’re serving a purpose, so it’s really different. Usually, we’re doing projects for ourselves or for a grade, but now it’s for someone.”



Instructor Dr. Gary Mahoney (left) and his Design and Production in Woods students



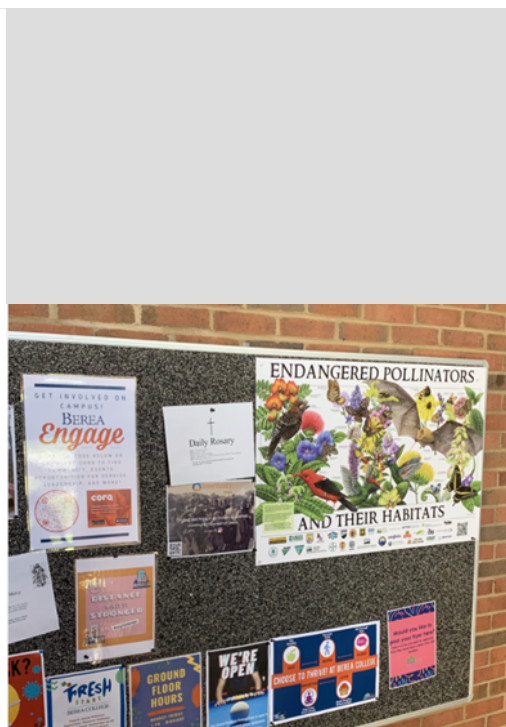
Students presenting a prototype of their beehive

Educational Signage

In recent years, the College has installed permanent educational signage on campus and at the Forestry Outreach Center that offers information on pollinators, trees, and the College’s “no spray” approach to landscape management. Two additional permanent signs were installed in the summer of 2020 to notify the campus community and visitors of Berea’s status as a Bee Campus USA-certified institution. One was placed near a gateway area of campus and the second was posted near a large Monarch Butterfly Waystation on the main campus. Two temporary educational notices installed during the Fall 2020 Term to raise student awareness of endangered pollinators remain posted in high-traffic areas on campus. The College has commissioned several bee mural panels that will be installed on campus with interpretive signage



in 2022.



An educational pollinator poster on a bulletin board in a high-traffic area outside of Dining Services



The first of several commissioned bee mural panels



A temporary pollinator garden educational poster at the Forestry Outreach Center

Policies & Practices

Berea College uses “No Spray” practices on its main campus, meaning that no pesticides or herbicides are used to discourage the growth of weeds and only organic fertilizers are used on landscaped beds (<https://www.berea.edu/sustainability/campus-culture/berea-college-grounds/>). This allows all native plants to grow on campus grounds.

Integrated Pest Management Plan:



<https://www.berea.edu/sustainability/learn-landscape-lesson-2-0%20/>

Recommended Native Plant List:

<https://www.berea.edu/sustainability/bee-campus-usa/>

Recommended Native Plant Supplier List: [Regional Suppliers of Native Pollinators Links.docx](#)



Permanent signage on the main campus that explains the College's "No Spray" practices



Learn More

<https://www.berea.edu/sustainability/bee-campus-usa/>
thompsonte@bereda.edu



Berea College Bee Campus USA 2021-22 Committee



Top row, from left to right: John Abrams, Rosemarie Adams, Dr. Nancy Gift, and Kenny Holbrook Bottom row: Laurie Roelofs, Teri Thompson, Wendy Warren, and Dewey Williams Not pictured: Rose Cottrill

