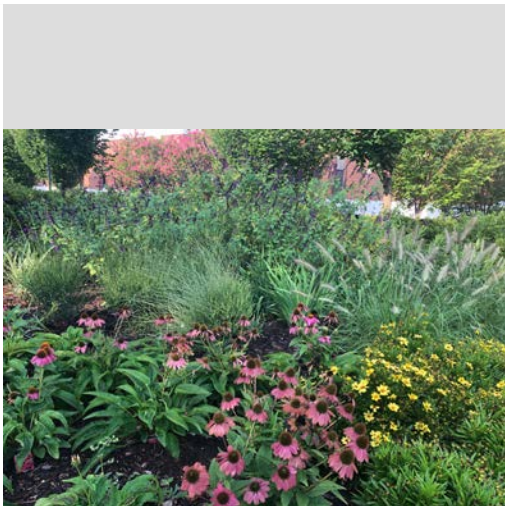


Bee Campus USA - Auburn University

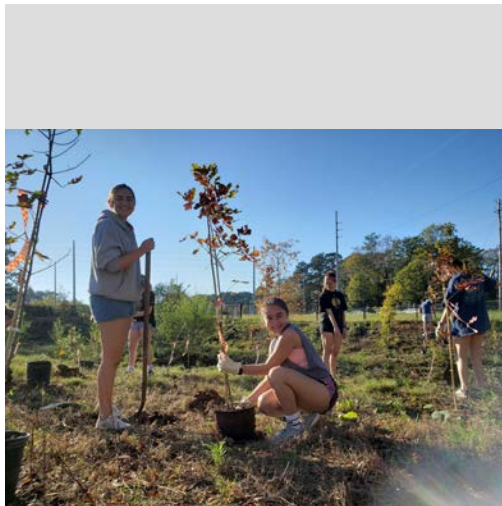
Report on 2020

Pollinator Habitat Creation & Enhancement

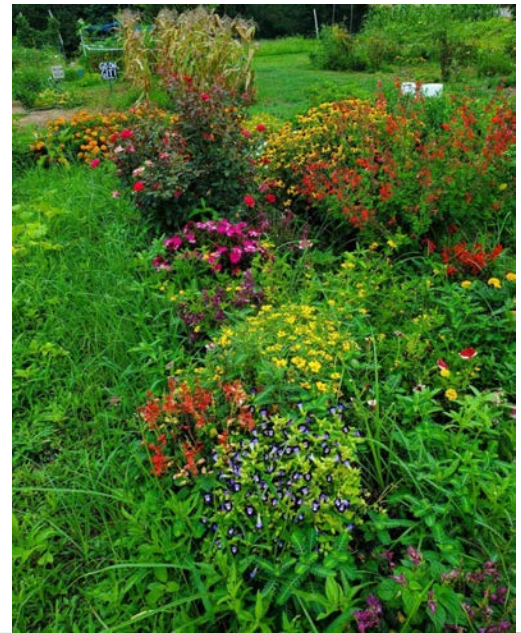
A variety of habitat enhancement projects took place across campus last year. Facilities Management improved over 11,000 square feet of annual and perennial flower beds, along with ornamental containers, with pollinator-friendly plantings. They installed a new, 1400-square foot perennial garden near the Haley Center that included many pollinator & hummingbird-friendly plants. Facilities Management also conducted two separate tree planting events where over 100 native, pollinator-friendly trees were installed. The Donald E. Davis Arboretum continually performs enhancements around the 13-acre arboretum, including maintaining flower gardens with milkweed, natural areas, meadows, native tree and shrub plantings, and the removal of invasive species. Finally, students and staff associated with the AU Community Garden and the AU Bee Lab also grew various plots of wildflowers suitable for pollinators for both aesthetic and research purposes.



The new, pollinator-friendly perennial bed along Hayley Concourse came into full bloom just 12-weeks post-planting.



Student volunteers assist with a pollinator-friendly tree planting in November. They planted 89 trees in an effort to improve stream health and restore habitat for a range of species, including pollinators.



Pollinator plots are a regular component of the AU Community Garden.



Education & Outreach

The COVID-19 pandemic essentially halted campus operations from March through December. Prior to the shutdown, the For the Bees student group engaged their fellow students during Organization Days on the Hayley Concourse on a few occasions, but all other traditional on-campus outreach events did not occur. After an adjustment period, the Auburn University Bee Lab (AU Bee Lab) and the Alabama Cooperative Extension Service (Extension) were able to revamp their outreach efforts to provide virtual offerings. They successfully ended up offering 35 events with over 9000 people participating. Their collaborative “At Home Beekeeping Webinar Series” consisted of 15 different webinars featuring experts from various universities who presented content targeted primarily at beginning beekeeping and integrated pest management. Extension also offered the “Raising Trees Webinar: Let’s Talk about Birds & Bees in the Backyard Suburban Habitat” in December 2020 and the the AU Community Garden hosted a webinar with Dr. Miriam Jenkins on “Pollinator Gardening” in November 2020. In addition to these webinars, the AU Bee Lab researchers made the following 10 virtual presentations: - Williams, G., Fauvel, A.M. Beekeeping equipment - looking forward to the spring season. At Home Beekeeping Webinar Series, Virtual. 29 December 2020. - Wall, C. An Evening with the AU bees. 1st Annual Evening with AU-BEES, Alabama, Virtual. 15 December 2020. - Aurell, D. BIP Tech Team and Some Notes on European Foulbrood. 1st Annual Evening with AU-BEES, Alabama, Virtual. 15 December 2020. - Williams, G. Honey bee Best Management Practices. Auburn University Student American Veterinary Medical Association Monthly Meeting. 3 November 2020. - Williams, G. Best Management Practices for Apiculture. Madison County Beekeepers' Association, Alabama, Virtual. 14 May 2020. - Williams, G. Best Management Practices for Apiculture. Chattahoochee Valley Beekeepers' Association, Alabama, Virtual. 11 May 2020. - Williams, G. Best Management Practices for Apiculture. Blount County Beekeepers' Association, Maryville, USA. 9 March 2020. - Williams, G. Best Management Practices for Apiculture. Tallapoosa River Beekeepers' Association, Dadeville, USA. 20 February 2020. - Williams, G. Developing Best Management Practices for Apiculture using Citizen Science. COLOSS Asia Conference, Chiang Mai, Thailand. 6 February 2020. - Williams, G., Bruckner, S., Abbate, A. AU-BEES: Research Update. 2020 ALFA Commodity Meetings, Montgomery, USA. 4 February 2020. Beyond these organized outreach events, the AU Bee Lab has an extensive online presence reaching over 300,000 unique users a day. As a part of their 2020 content, they featured a Bee of the Month, a Wildflower of the Month, and information promoting National Pollinator Week, along with their regular informational and behind-the-scenes content. The Donald E. Davis Arboretum and the Auburn University (AU) Community Garden also maintain robust social media channels, where they have featured content on how to protect and support a range of pollinators. The AU Bee Lab also provided blog content for the Office of Sustainability communication efforts. Finally, as a part of the Bee Lab’s awareness and fundraising efforts, they have sold honey, t-shirts, and even partnered with a local hotel to create a signature cocktail whose sale helps support the lab.





For the Bees student group sells bracelets and stickers to raise funds for bee education and protection efforts.



The AU Bee Lab partners with The Collegiate Hotel for awareness and fundraising efforts by selling a specialty drink. This year a portion of the proceeds raised during Pollinator Week helped to support both the AU Bee Lab and the Food Bank of East Alabama.

Courses & Continuing Education

The most extensive coverage of pollinators happens within the College of Agriculture. Students taking courses within the department of Entomology & Plant Pathology learn about pollinators in various classes, including Bee Biology & Management, Integrated Pest Management, and Economic Entomology. Topics covered in these courses include native bees, native wildflowers, pollination, honey bees, beekeeping, and integrated pest management. In addition, various courses within the School of Forestry and Wildlife Sciences and the College of Architecture, Design & Construction touch on pollinators and/or pollinator-habitat to varying degrees as they relate to forest ecology, environmental interpretation, and landscape design. In addition to these formal course offerings, Extension hosted its 25th annual Alabama Beekeeping Symposium in February 2020. This day-long symposium featured presentations from academics and practitioners



covering all aspects of beekeeping and targeted to both beginner and veteran beekeepers. Attendees could also visit the vendor expo, where they could meet with industry suppliers. The event continues to be one of Extension's most widely anticipated programs. Beyond curriculum and extension, Auburn faculty and students presented research findings at meetings and conferences throughout the year. Auburn's Bee Lab faculty and researchers also remain actively involved in the Bee Informed Partnership and the COLOSS Association.



Researchers in the AU Bee Lab work on their varroa management project.



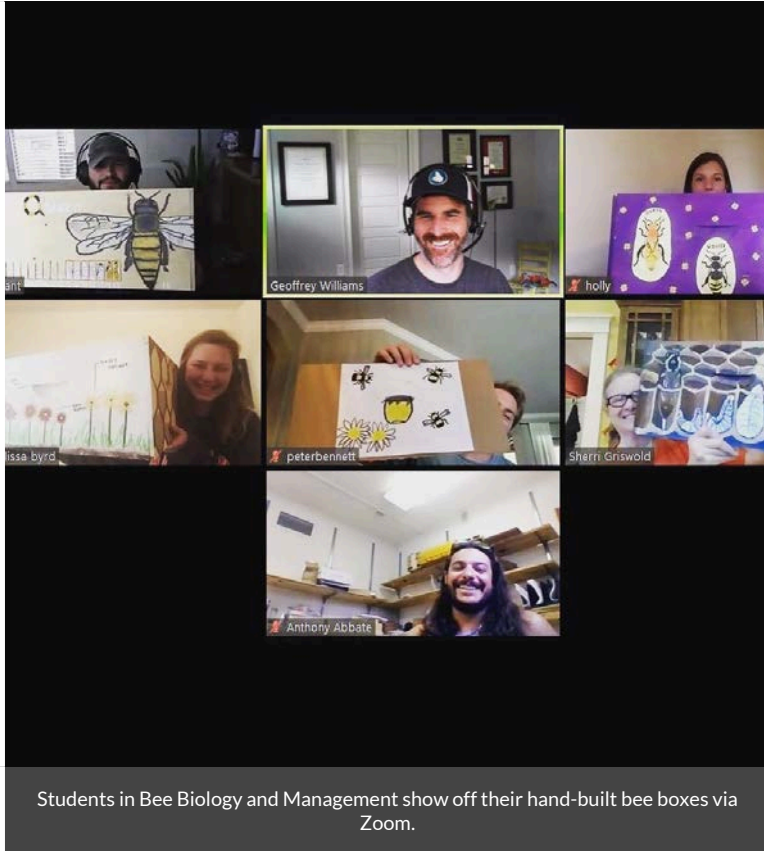
AU Bee Lab researchers conducting fieldwork in the Pisgah National Forest as part of their work with the National Forest Service exploring how forest management practices impact insects, including bees and beetles.

Service-Learning

Auburn students participated in a variety of formal and informal service-learning opportunities throughout the year. Undergraduate students in the College of Agriculture's Bee Biology & Management course had extensive service learning opportunities, including visiting with practicing apiarists, planting pollinator-friendly wildlife plots, building bee hotels and hive boxes, and learning about honey harvesting. Extracurricular opportunities for service learning stemmed primarily from student employment at the Donald E. Davis Arboretum, the AU Bee Lab, and the AU Community Garden, and from involvement in the For the Bees student group. In these settings, students helped with habitat enhancement projects,



conducted outreach education activities on campus and in the community, and assisted with Bee Lab and Community Garden activities.



Students in Bee Biology and Management show off their hand-built bee boxes via Zoom.



Each spring semester students in the Bee Biology and Management course build bee hotels.

Educational Signage

Auburn University maintains strict standards for campus signage, so no permanent signs have been installed to date. The COVID-19 pandemic limited the opportunity to engage others in-person, but some signs/informational posters we shared included: a sign featuring Auburn's Bee Campus USA designation; signs on how to connect with the Auburn University Bee Lab for more information on research and outreach efforts; various signage at outreach tables of both the AU Bee Lab and the For the Bees student group that covers information on bees; a sign designating the For the Bees pollinator plot at the community garden; and a variety of social media posts on pollinators from units like the AU Bee Lab, Donald E. Davis Arboretum, AU Community Garden, and the Office of Sustainability.





The For the Bees student group added a sign to their pollinator patch in the AU Community Garden.



The Office of Sustainability uses their windsign to spread the word about the university's Bee Campus designation.

Policies & Practices

The university's Landscape Master Plan and Sustainable Operations Guidelines provide the overarching framework for how Auburn approaches landscape and pest management. The Integrated Pest Management (IPM) Plan operationalizes these frameworks and includes education, exclusion, sanitation, maintenance, biological and mechanical controls, and pre-approved, site-appropriate pesticides. An IPM decision at Auburn University Landscape Services consists of the following steps: 1. Identify pest species. 2. Estimate pest populations and compare to established action thresholds. 3. Select the appropriate management tactics based on current on-site information. 4. Assess the effectiveness of pest management. 5. Keep appropriate records. Decisions concerning whether or not pesticides should be applied in a given situation are based on a review of all available options. Efforts are made to avoid the use of pesticides by adequate pest-proofing of facilities, good sanitation practices, selection of pest-resistant plant materials, and appropriate horticultural practices. When it is determined that a pesticide must be used in order to meet pest management objectives, the least-hazardous material,



adequate for the job, is chosen. All pesticide applicators are trained in the principles and practices of IPM and the use of pesticides approved for use by Auburn University Landscape Services. All applicators must comply with the IPM policy and follow appropriate regulations and label precautions when using pesticides in or around Auburn University facilities. The IPM Policy and Practices apply to approximately 45% of the landscape actively managed by Auburn University's Facilities Management.

Integrated Pest Management Plan: [AU IPM Plan.docx](#)

Recommended Native Plant List:

aub.ie/BeeCampus

Recommended Native Plant Supplier List:

aub.ie/BeeCampus

THE TWENTY-FIRST CENTURY LANDSCAPE VISION

The Vision for the Auburn University landscape is to provide a structure that will shape a beautiful, memorable and enduring pedestrian-oriented campus while reintegrating cultural and natural systems through constructed urban ecologies and restored and revitalized ecosystems.

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Auburn University Landscape Master Plan, Comprehensive Campus Master Plan Update

The university's Landscape Master Plan outlines the vision for the campus landscape.

Learn More

