Bee Campus USA - Tennessee Technological University

Report on 2024

Pollinator Habitat Creation & Enhancement

Please describe pollinator habitat creation or enhancement projects in your community in 2024, and whether your committee hosted them or not.

o March Towards a Cleaner Tomorrow- The Office of Sustainability hosted and provided cleanup supplies during the month of March to organizations and people to help clean litter from the community before spring bloomed. o Native Plant Rescue- Planned construction of a building adjacent to Tech's native plant garden means the plants need to be relocated. A native plant rescue was held to relocate some plants to nearby locations or have volunteers keep some to plant for themselves. o Pollinator habitats on campus: We promote pollinators by having and maintaining areas with native flowers that attract and provide habitat for pollinators. We also have insect homes next to the native plant garden. o Other trash cleanups that our organization helped with.

How many habitat projects did you help to create or enhance in 2024?

4

How many people (staff, volunteers, students, partners, etc.) helped with those projects?

140

How many projects benefit monarchs, milkweed, or nectar plantings?

2

How many total square feet of habitat were created or enhanced?

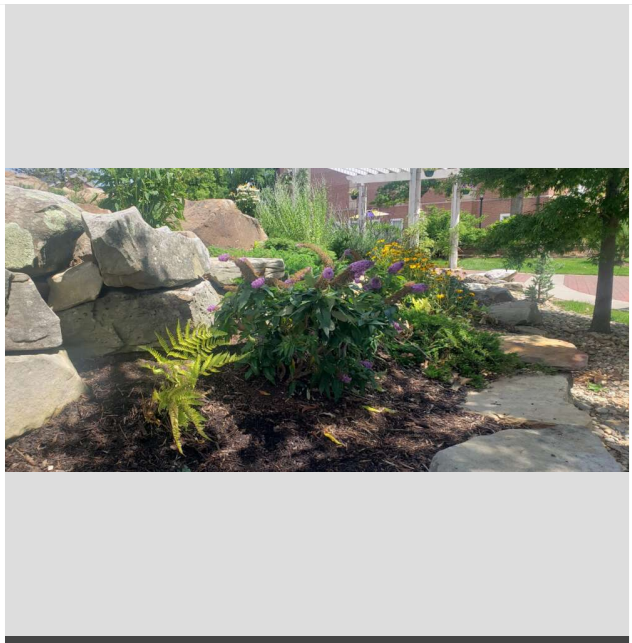
15000

Please check all that describe the habitats your affiliate helped to create or enhance last year with pollinator benefit in mind.

- Flower garden
- Natural area with tree snags and stumps, and bare areas for ground nesting species
- Pollinator-friendly lawn (with flowering clover, dandelions...)
- Native pollinator-friendly tree planting
- Native pollinator-friendly shrub border/hedgerow planting

One of the wooden beneficial insect homes located next to the native plant garden.

Native Plant Rescue- A flyer telling volunteers about the Native Plant Rescue event.



Pollinator Habitat- Flowers like these are planted throughout Tech's campus to help promote pollinators.

Education & Outreach

Please describe pollinator conservation events or outreach activities in your community in 2024, indicating whether your committee hosted them or not.

Office hosted: o Plants Rock!, April 16, 2023 o Earth Day Celebration, April 18th, 2024 o Sustainability Day Celebration, October 10, 2024 Others hosted: o SOAR Sustainability Outreach, Summer 2024 o Freedom School Pollinator Activity, July 9, 2024 o Trash Cleanups- all throughout 2024

How many pollinator-related events or outreach activities did you host or help with in 2024 (in total)?

6

How many people attended those events (in total)?

130

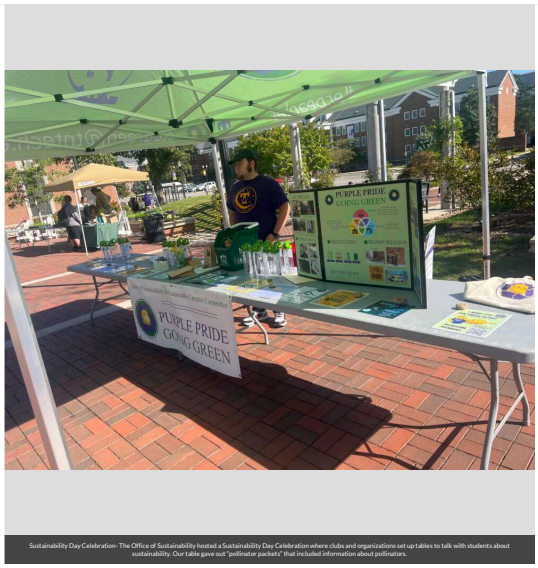
Number of permanent interpretive/educational/Bee Campus USA signs installed to date?

4

Number of temporary interpretive/educational/Bee Campus USA signs installed in 2024?

4

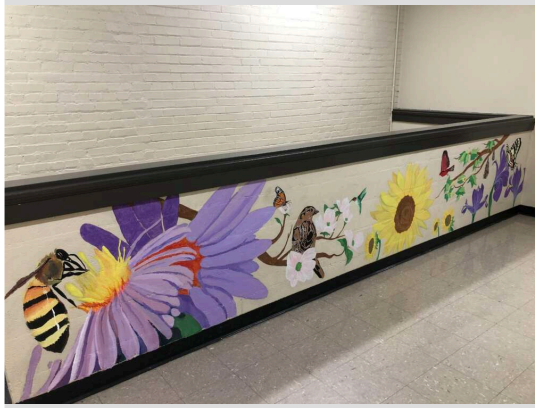
Plants Rock!: Students got to make planters out of recycled bottles to plant a pollinator promoting flower in. They also painted rocks with messages to share with others such as "recycle". (all photo credits to Office of Sustainability)



Sustainability Day Celebration- The Office of Sustainability hosted a Sustainability Day Celebration where clubs and organizations set up tables to talk with students about sustainability. Our table gave out "pollinator packets" that included information about pollinators.

Freedom school books- Office of Sustainability did a project with the Freedom School to teach kids about sustainability including pollinators by reading books such as The Lorax and Flower Talk and providing materials for the kids to make planters for flowers.

Pollinator Packets: Our office made bags with drawings of pollinators to hand out. They include a coloring sheet with information about the importance of pollinators as well as crayons, pollinator stickers, plantable pencils, and seed paper bookmarks.


Native Tennessee Pollinator Mural: This mural is located in the University Services building where our Office of Sustainability is located. It was painted by a student and features Tennessee's native pollinators including a hummingbird, bees, birds, bats, flowers, and butterflies.

Native Plant Garden Wetlands Sign: This sign informs Native Plant Garden visitors on campus about the importance of wetlands to plant diversity and therefore to pollinators.

Curriculum, Continuing Education, & Service Learning

Please describe the curriculum your campus engaged in 2024, indicating whether it was part of a for-credit course or continuing education.

The following courses were a part of for-credit curriculum. 1. AGHT 3030 Integrated Pest Management: Introduction to the aspects of integrated pest management. Identification of plant disease and insect pest problems. Fundamentals of control: biological, cultural, and chemical. Plant disease concepts including etiology, ecology, and physiology. 2. AGHT 3400 Landscape Horticulture: Basic theory and principles of design for landscaping modern homes and businesses. Use of ornamental plants and special features. Installation, maintenance, and discussion of the effect of

management on plant growth and health. Topics include pruning, fertilizer application, pest control, etc. 3. AGHT 3410 Plant Propagation: Asexual and sexual propagation of plants by cuttings, layers, division, special structures, grafting, budding, seeds, and tissue culture. 4. AGHT 3440 Floral Arrangement: Fundamentals and theory of floral design with emphasis on arrangements for the home and special occasions. 5. AGHT 3450 Dendrology: The study of trees and the identification of native species commonly found in the mid-South. Adaptability of the species to various ecological conditions of forest ecosystems and importance to wildlife will be discussed. 6. AGHT 4420 Greenhouse Management and Crop Production: Principles of greenhouse management and environmental controls; production, timing, harvesting, and marketing of commercial floricultural crops; pest control strategies; and nutrient film technique. Development of commercial production schedule required. 7. AGHT 4940 Horticulture Topics: Special study in an approved area of horticulture under the supervision of a member of the School of Agriculture faculty. 8. AGRN 1100 Plant Science: Introduction to the fundamentals of plant science as related to the ecological principles of agronomic and horticultural crops. 9. AGRN 1110 Plant Science Laboratory: Further the discussion of plant science in the laboratory setting. 10. AGRN 2000 Soil and the Environment: An introduction to soil physical and biological properties and their relationship to plant growth, land use, and environmental quality. 11. AGRN 3000 Soils: An introduction to soil physical and biological properties and their relationship to plant grown, land use, and environmental quality. 12. Soil and Water Conservation: Examination of soil health and water quality as impacted by natural and human influences. Emphasis on soil productivity conservation. 13. AGRN Weed Science: Plant and seed identification, and growth habits and dissemination of weeds. Biological, cultural, and chemical methods of control in the integrated pest management (IPM) concept. 14. AGRN 4210 Soil Fertility and Fertilizers: Properties of soils in relation to plant nutrition, and fertilizer materials and their relationship to soil fertility. 15. AGRN 4940 Agronomy Topics: Special study in an approved area of agronomy under the supervision of a member of the School of Agriculture faculty. 16. AGRN 4110 Forage Crops Production and Management: Botany and classification, soil and climatic requirements, species adaptation, establishment and management of grasses and legumes for silage, hay, and temporary, permanent, and rotational pastures for ruminants, swine, and horses. 17. ANS 4960 Animal Science Topics in Bee Production: Special study in an approved area of animal science under the supervision of a member of the School of Agriculture faculty 18. BIOL 2310 General Botany: Introduction to principles of botany. 19. BIOL 3240 Field Botany: Survey of regional flora (herbs, shrubs, & trees) focusing on gymnosperms and angiosperms. Emphasis on nomenclature, structural characteristics, identification of species using a dichotomous key, and characteristics of plant families. 20. BIOL 3330 Entomology: Common harmful and beneficial insects of this region and their control 21. BIOL 4330 Plant Ecology: Biotic and abiotic factors affecting the distribution and abundance of plant species and the role of plants in ecosystem structure and function.

How many of your for-credit courses included pollinator-related information in 2024?
21

How many students attended those for-credit courses?
1450

Please describe the service-learning projects your students were engaged in 2024, indicating which, if any, were associated with a course.

o March Towards a Cleaner Tomorrow- The Office of Sustainability hosted and provided cleanup supplies during the month of March to organizations and people to help clean litter from the community before spring bloomed. o Native Plant Rescue- Planned construction of a building adjacent to Tech's native plant garden means the plants need to be relocated. A native plant rescue was held to relocate some plants to nearby locations or have volunteers keep some to plant for themselves. o Trash force cleanups- The trash force participated in multiple cleanups throughout the year including on campus and at Cummins Falls. o Bike trail cleanup- A cleanup of the Bike Trail that runs through campus o Pick Up Putnam 2024- Volunteers throughout the community get involved in a county wide clean up hosted by the Keep Putnam County Beautiful Clean Commission. o Other cleanups- The Office of Sustainability provides supplies for cleanups hosted by organizations such as the TN Tech Evergreen Society

How many service-learning projects did your campus host and/or support to enhance pollinator habitat on- and off- campus?

6

How many students participated in service-learning projects in 2024 to enhance pollinator habitat on or off-campus?

120

A new greenhouse was built next to Oakley Hall on campus where the School of Agriculture is.

A sunflower with bees in front of the greenhouse at Shipley Farms where students go for certain courses for hands on learning.

Field botany students with their collected specimens.

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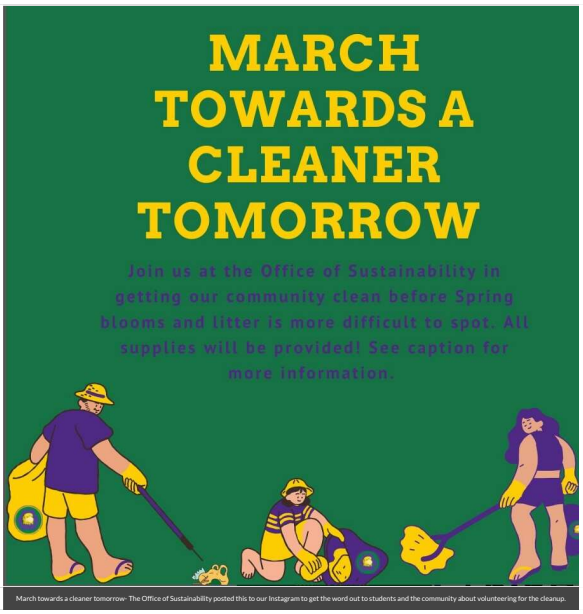
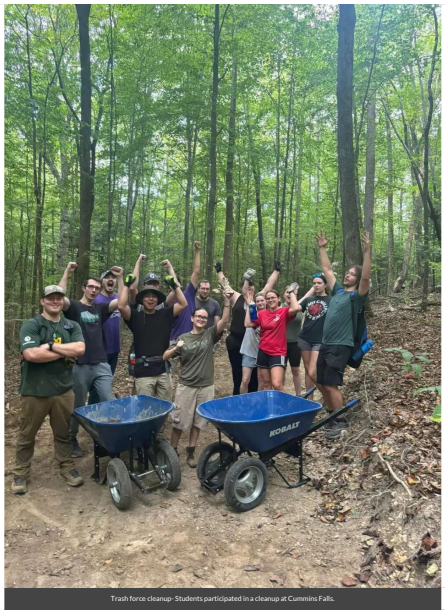
XERCES SOCIETY
for Invertebrate Conservation



March towards a cleaner tomorrow- The Office of Sustainability posted this to our Instagram to get the word out to students and the community about volunteering for the cleanup.


Bike trail cleanup- students picking up trash next to the trail.


Trash force cleanup- Students participated in a cleanup at Cummins Falls.

Policies & Practices

Please describe actions taken to make pest management more pollinator-friendly.

• Use of least toxic chemical pesticides • Minimize use of chemicals • Use of chemicals and pesticides only in targeted locations and for targeted species • Routine inspection and monitoring • Proactive communication

In your city or campus, are any policy initiatives underway to further protect pollinators, people or waterways from pesticides?

Putnam Pollinator Pathway Initiative of Cornell Cooperative Extension of Putnam County

Did your committee participate in any continuing education on ecologically-based Integrated Pest Management planning?

N/A

Please check actions you have taken to make pest management practices more pollinator-friendly.

- Implemented or maintained a written IPM plan
- Distributed educational materials to residents or students to encourage the reduction or elimination of pesticide use

Committee Photo

Learn More

Integrated Pest Management Plan: Tennessee-Tech-IPM-Plan-2019.pdf
https://www.tntech.edu/sustainability/pdf/Tennessee-Tech-IPM-Plan-2019.pdf
Recommended Native Plant List:

Recommended Native Plant Supplier List:

https://www.tntech.edu/sustainability/index.php
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https://instagram.com/@tntechecoeagles
https://facebook.com/TTU%20Sustainable%20Campus%20Committee

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