Bee Campus USA - University of South Carolina Upstate

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.

USC Upstate received two grants that provided funding to establish a Food Forest and urban pollinator habitat. Forests are vital to the health of our planet and provide numerous ecological, economic, and social resources. When people think of a forest, they envision a large area of land primarily consisting of trees and undergrowth. USC Upstate recently began planting a food forest, a type of agroforestry system that mimics the structure and function of a natural forest but is designed to produce food from plant species that work together to create a productive environment. This method involves planting a diverse range of edible plants in multiple layers to create a self-sustaining ecosystem, even in a small patch of land like an urban backyard. Food forests offer numerous benefits, making them an attractive option for sustainable gardening. Food forests support biodiversity through a wide range of plant species, which attract various insects, birds, and other wildlife to create a balanced and resilient ecosystem. The USC Upstate Food Forest is approximately 2 acres and has over 450 plants, with over 150 unique varieties. Utilizing multiple layers of vegetation, food forests maximize the use of vertical space, leading to higher yields in a smaller area compared to traditional gardens. The USC Upstate Food Forest has 75 trees across fruit, nut, and canopy species. There are over 80 shrub and bramble plants that will provide an abundance of berries in the years ahead. The herbaceous layer consists of non-woody plants, including herbs, vegetables, and flowers. This layer can be annuals or perennials often used for culinary and medicinal purposes. The largest quantity of plants is found is this layer with more than 130 herbaceous plants at the USC Upstate Food Forest. A sensory garden of various herbs fills 4 raised garden beds. Tomatoes, peppers, loofah, and companion pollinator plants fill another 8 raised garden beds. The vines of the grapes and kiwis are beginning to take shape on the trellis systems. Once established, food forests require minimal maintenance and become self-sustaining. Most of the human labor is spent supporting the ecosystem below the surface, which is the root layer. This includes 12 raised garden beds with vegetables and tubers that grow underground, such as carrots, beets, kohlrabi, potatoes, and garlic that require annual planting. The biodiversity naturally manages pests and diseases, reducing the need for chemical interventions. The continuous cover of plants and organic matter improves soil structure and fertility, reducing the need for fertilizers. The dense, vertical planting in food forests helps retain soil moisture, reducing the need for frequent watering. Starting a food forest has been a rewarding project providing fresh, nutritious produce throughout each season. In addition to the health benefits of fresh produce, our community is spending time in a green, natural environment which has been shown to reduce stress and improve overall well-being. The little seed library, provided by Spartanburg Soil and Water Conservation District, provides free seed packets of vegetables, herbs, and flowers to promote improved soil health and companion planting. USC Upstate is excited to try new plant varieties to learn from our experiences and share insights with our community.

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?

80

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

2

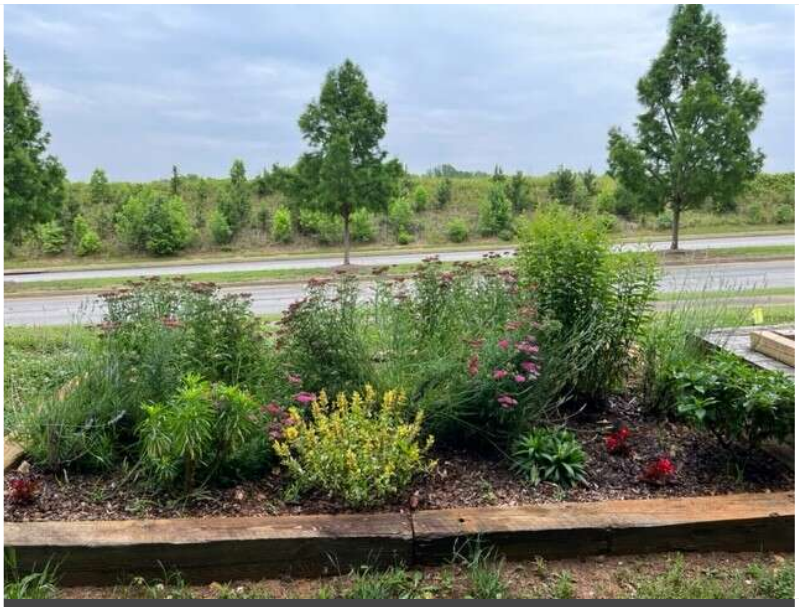
How many total square feet of habitat were created or enhanced?

100000

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

- Flower garden
- Vegetable garden
- Orchard
- Natural area with tree snags and stumps, and bare areas for ground nesting species
- Meadow
- Pollinator-friendly lawn (with flowering clover, dandelions...)
- Herb garden
- Native milkweed planting for monarchs and bees (where appropriate)
- Invasive/exotic plant species removal for habitat improvement
- Native pollinator-friendly tree planting
- Native pollinator-friendly shrub border/hedgerow planting
- Rain garden/bioswale
- Roadside/rights of way planting
- School garden

Creating a Sensory Garden at Site 4



Pollinator Habitat Site 1

Education & Outreach

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

USC Upstate participated in the Great Southeast Pollinator Census in Fall 2024 and the Bumble Bee Watch/Bumble Bee Atlas in Spring 2024. USC Upstate held Earth Day activities in the arboretum for campus and the community. Information on pollinator habitats was distributed and community members were encouraged to certify their pollinator spaces. Additional information available: https://arcg.is/1qzrCT2. USC Upstate participated in the Spartanburg Area Conservancy (SPACE) inaugural Earth Fest in April 2024. Members of the Sustainability Council hosted a Trading Post and provided information on southeast pollinator plants. USC Upstate presented a Garden Goodness workshop for the community related to pollinator-friendly practices in April 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)?

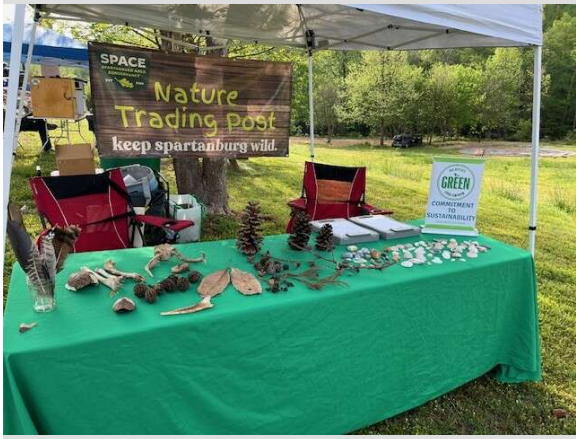
160

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

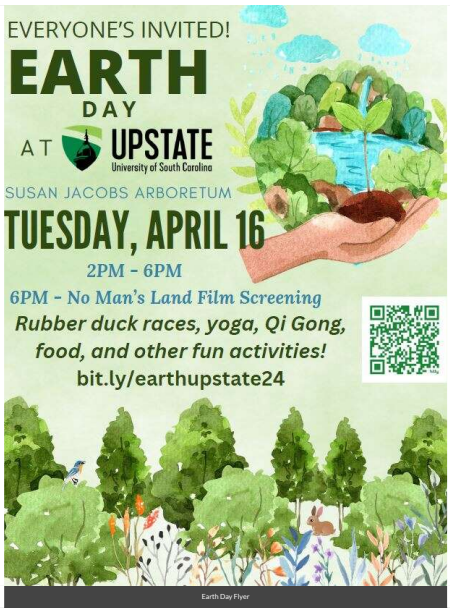
9

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

15

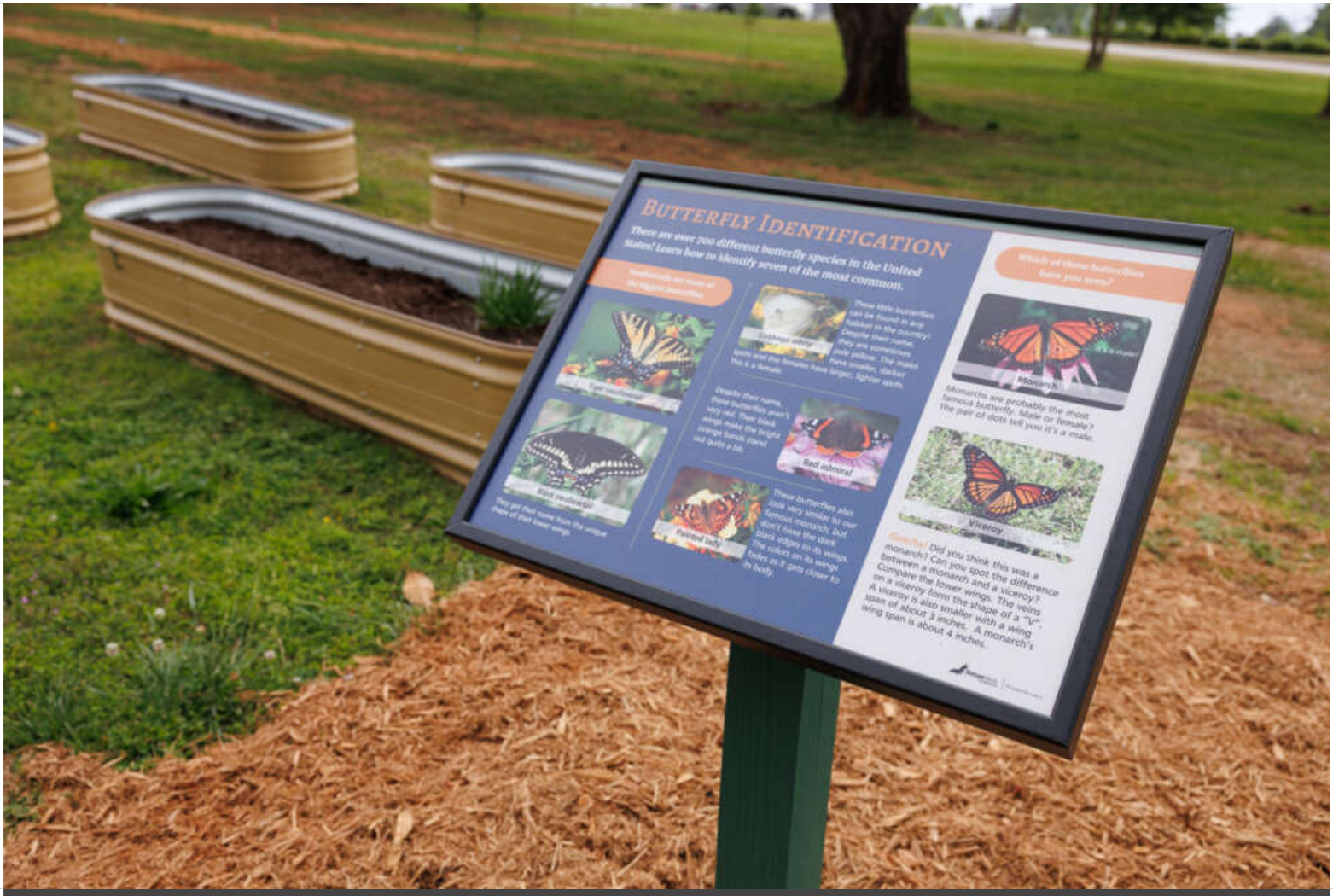


SPACE Nature Trading Post



Earth Day Flyer

Certified Pollinator Habitat Yard Sign



Pollinator Identification

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.

A bootcamp for faculty interested in incorporating environmental service learning projects was offered in July 2024 with an overview of UN Sustainable Development Goals, invasive species, and pollinator habitats. Similiar curriculum was provided for a lifelong learning course. For credit courses included environmental stewardship practices and projects related to educational awareness/outreach development for peers.

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

3

How many students attended those for-credit courses?
69

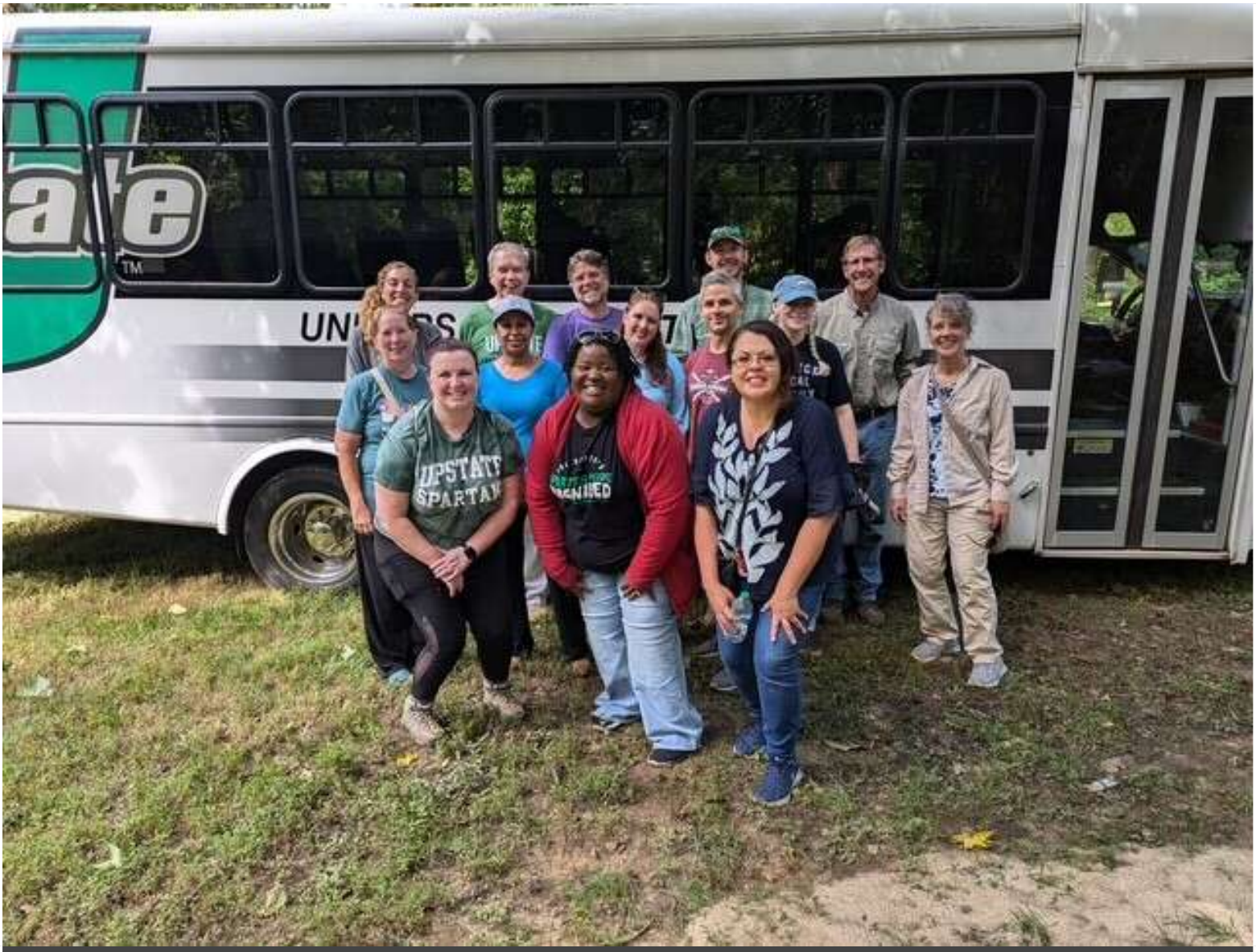
How many of your continuing education courses included pollinator-related information in 2024?
1

How many participants attended those continuing education courses?
12

Please describe the service-learning projects your students were engaged in 2024, indicating which, if any, were associated with a course.
The Engage Green service-learning and community engagement program began with an instructor-focused boot camp that encouraged instructors across the general education curriculum and UNIV U101 sections to work towards a shared project in collaboration with the Spartanburg Area Conservancy. Removing invasive plant species on the greenway across from campus transformed how we integrate career competencies in the curriculum. The multi-year revitalization project of the Upper Chinquapin Greenway, located only a mile from campus, is managed by the Spartanburg Area Conservancy with over 100 acres of protected urban forest and nearly 2 miles of nature trails. Removing invasive species and promoting native plants for pollinators were key themes in this project. 16 sections, with 11 Instructors across 6 General Education courses and 4 UNIV U101

How many service-learning projects did your campus host and/or support to enhance pollinator habitat on- and off- campus?
21

How many students participated in service-learning projects in 2024 to enhance pollinator habitat on or off-campus?
250



Instructors participating in Engage Green Bootcamp (preparing curriculum)

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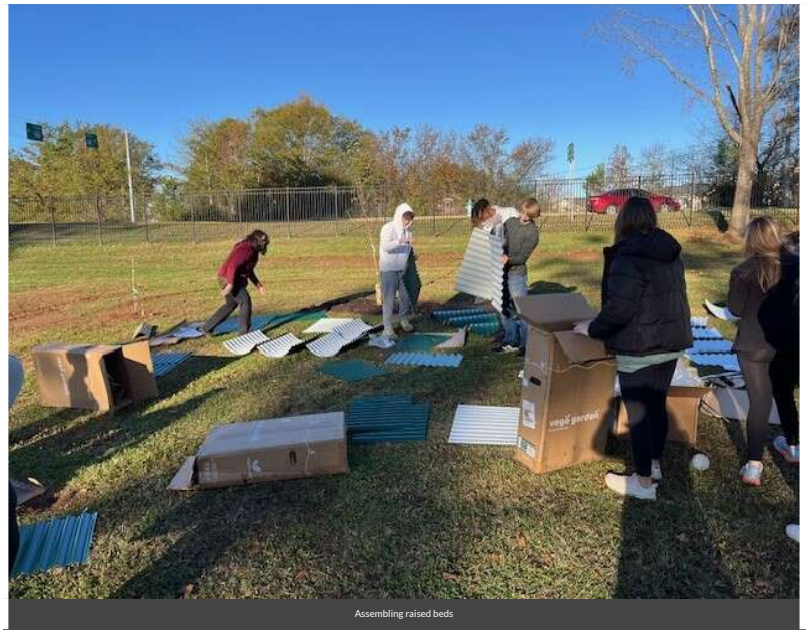
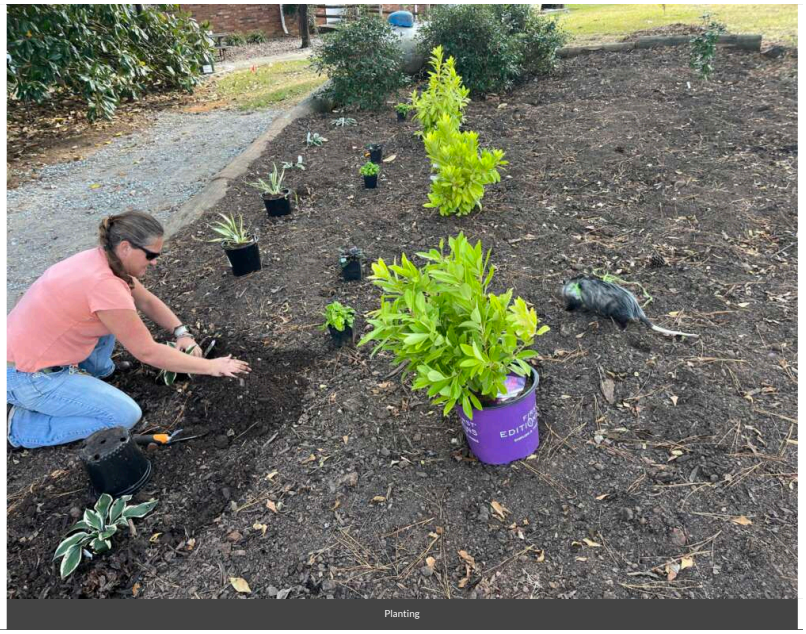


Assembling raised beds



Planting

Policies & Practices

Please describe actions taken to make pest management more pollinator-friendly.
IPPM Plan reviewed and updated

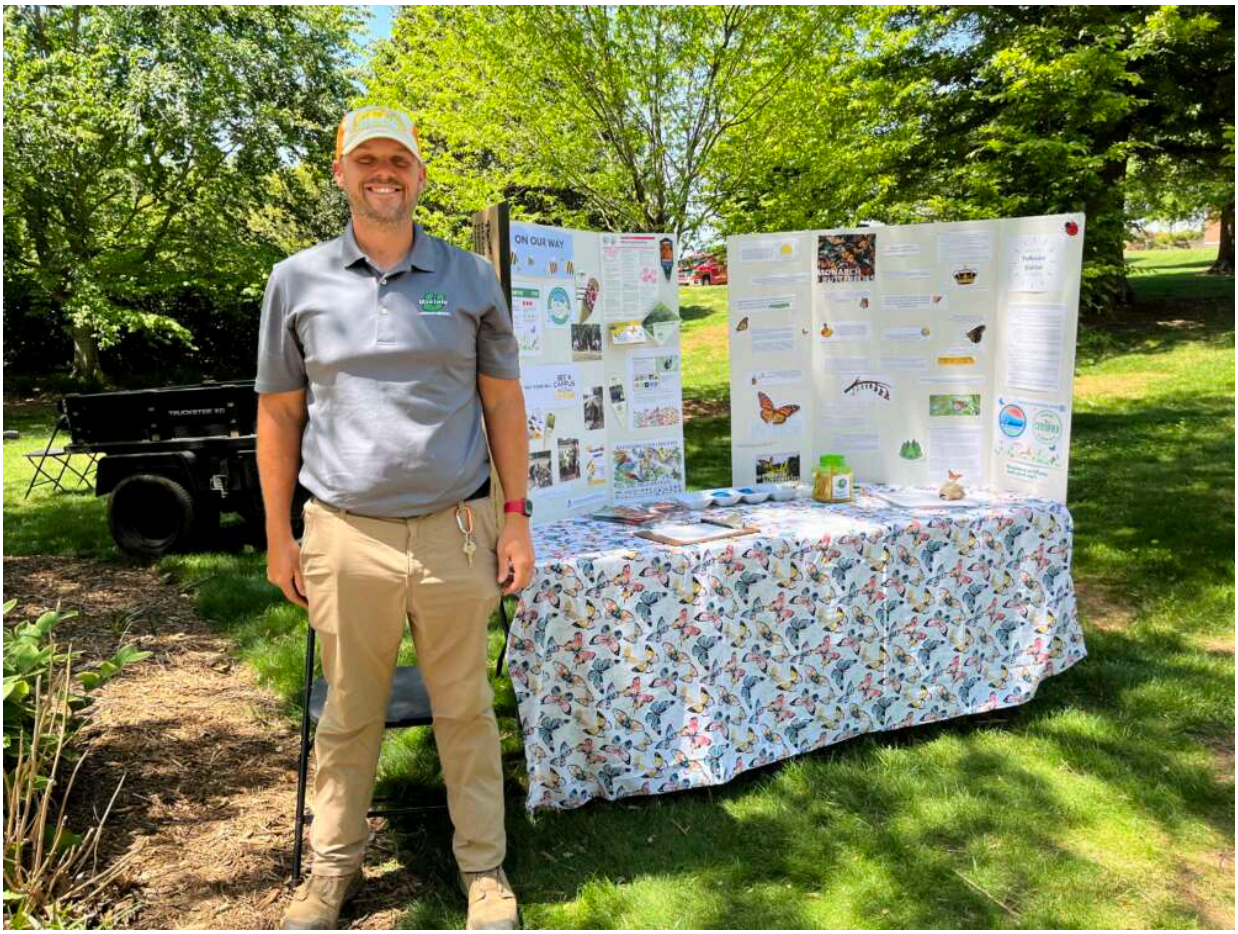
In your city or campus, are any policy initiatives underway to further protect pollinators, people or waterways from pesticides?
Exploring opportunities for additional signage to explain pollinator areas that appear "unkept" or messy to avoid pesticide applications.

Did your committee participate in any continuing education on ecologically-based Integrated Pest Management planning?
Webinars provided by Xerces and Bee City USA

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

- Implemented or maintained a written IPM plan
- Only use pesticides as a last resort within the IPM plan
- Avoided use of pesticides in public sites containing designated pollinator habitat or other sensitive features (except when targeted use is deemed the best option for invasive or noxious weed, insect or disease management)
- Implemented non-chemical pest prevention and management methods on city or campus grounds

- Reduced the total area of city or campus-managed lands to which pesticides are applied
- Distributed educational materials to residents or students to encourage the reduction or elimination of pesticide use
- Sourced plants for city or campus grounds using “Buying Bee-Safe Plants” methods recommended by Xerces Society. (See https://xerces.org/publications/fact-sheets/buying-bee-safe-plants)
- Sourced plants for city or campus grounds that were not treated with neonicotinoids
- Encouraged developers and private landscapers to source plants using “Buying Bee-Safe Plants” methods recommended by Xerces Society. (See https://xerces.org/publications/fact-sheets/buying-bee-safe-plants)
- Encouraged developers and private landscapers to source plants that were not treated with neonicotinoids



Sharing information on IPPM

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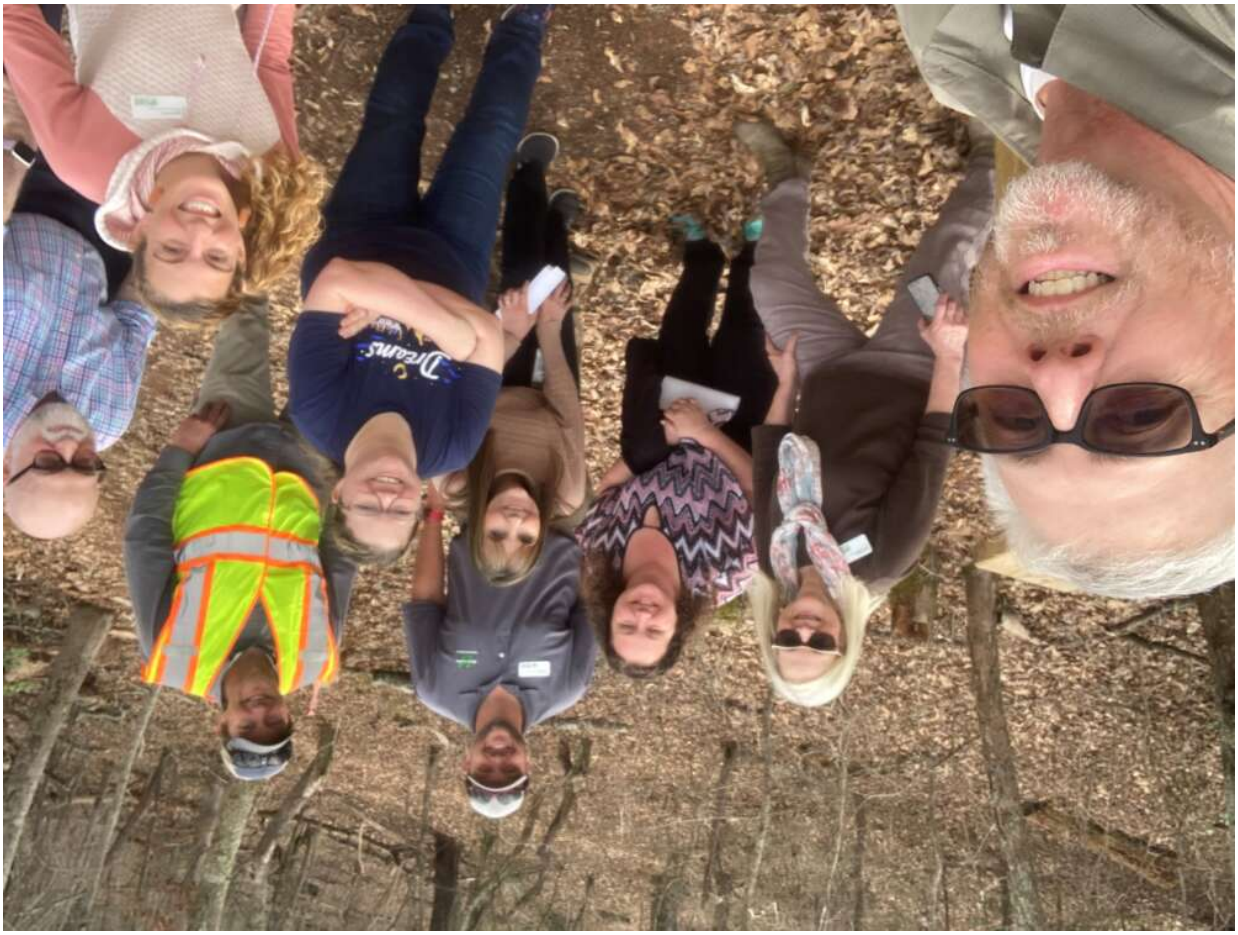
Any lessons learned you would like to share?

No

Committee Photo



Learn More

Integrated Pest Management Plan: USCUPSTATE_IPPM_Plan.docx

Recommended Native Plant List: Master Planting Species List_USC Upstate_Fall 2022.pdf
https://arcg.is/0bz00i0
Recommended Native Plant Supplier List:
https://lichtenfelts.com/

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https://uscupstate.edu/about/community/bee-campus-usa/
sustainability@uscupstate.edu

https://www.instagram.com/uscupstate_green
https://www.facebook.com/USCUpstateSustainability

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