

Bee Campus USA - University of Texas at Austin

Report on 2023

Pollinator Habitat Creation & Enhancement

Please describe pollinator habitat creation or enhancement projects in your community in 2023, and whether your committee hosted them or not.

The Beevo Beekeeping Society continued work on its own on-campus pollinator garden at T.S. Painter Hall, which was first developed in 2021. The garden was awarded to the Beevo Beekeeping Society by UT's Office of Sustainability Green Fund and has been developed and maintained over the past several years. At the start of the year, Beevo coordinated a large landscaping event where a dozen species of native Central Texas forbs were planted. Several other workdays occurred throughout the year that focused on general maintenance and upkeep of the garden. The garden was watered three times a week by volunteers and Beevo Beekeeping Society members. Beevo renewed and maintained a 4x8 ft community garden plot at the off-campus UT Microfarm. A group of four members worked together to purchase and plant new eight varieties of flowering native Texas plants. These plants include Rock Rose, Autumn Sage, and Henry Duelberg Salvia. The plot was maintained on a volunteer basis, with students watering and weeding the plot two times a week. UT Landscape Services (UTLS) has continued to maintain the UT Orchard and Pollinator Garden that includes a variety of native flowering plants (Flame Acanthus, Blue Mealy Sage, Gregg's Mistflower) and many fruit trees (peach, plum, Texas persimmon, Meyer lemon, pomegranate). A virtual map with information on trees, plants, and pollinators found here is available at <https://storymaps.arcgis.com/stories/a0fe1076937b4b4ab5dad407bdfa21bb>. UTLS manages vegetation along Waller Creek. UT Housing and Dining has continued to enhance their own pollinator garden that was created in 2018, hosting plants such as Echinacea, Gregg's Mistflower, Heartleaf Hibiscus, and American Beautyberry. The Texas Swim Center Pollinator Garden, created in 2017, has native shrubs, perennials, and milkweed designed to attract butterflies, bees, and other pollinators. The Dell Medical District Landscape, created in 2017, involved the removal of invasive species, heritage tree preservation, stream bank stabilization, and re-vegetation with a diverse mix of native species. Little Blue Prairie is a Blackland pocket prairie established by the Campus Environmental Center students. Landscape Services now partners with student leaders to select prairie and pollinator plants. The Brackenridge Field Laboratory property is comprised of areas of rich natural vegetation which include a native bluestem prairie, old pasture land, former quarry, Firefly Meadow, Pecan Bottoms, Colorado River and juniper woodlands. This diversity has produced records of thousands of species including at least 163 species of birds, 20 mammals, 373 species of plants, 68 species of ants, and 1200 species of moths and butterflies, and 200 species of native bees.

How many habitat projects did you help to create or enhance in 2023?

3

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

50

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

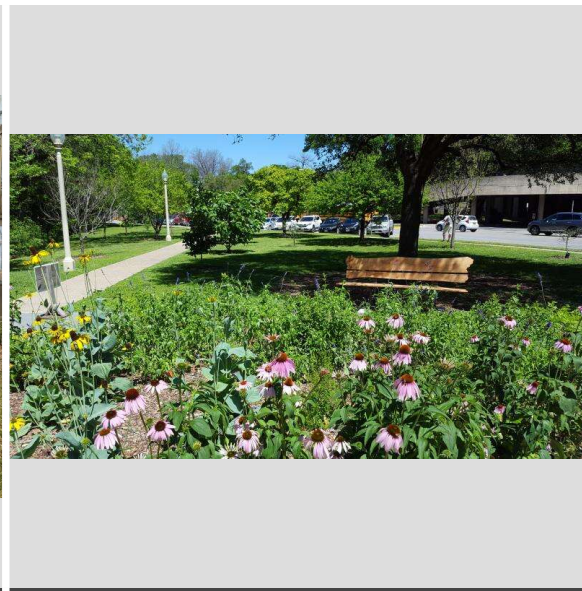
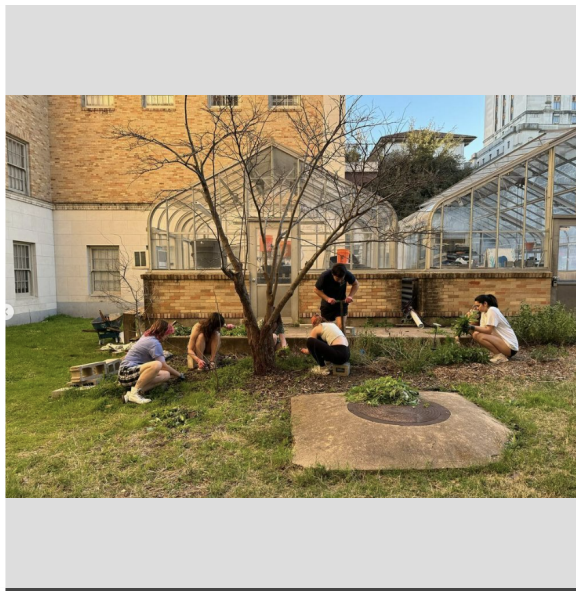
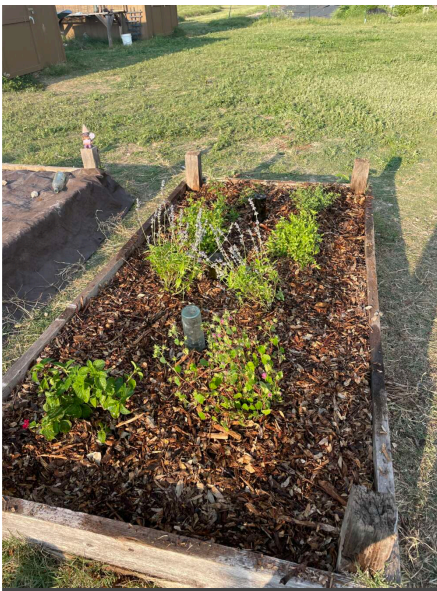
2

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

2200

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

- Flower garden
- Orchard
- Natural area with tree snags and stumps, and bare areas for ground nesting species
- 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



Education & Outreach

Please describe pollinator conservation events or outreach activities in your community in 2023, indicating whether your committee hosted them or not.

Beevo Beekeeping Society at the University of Texas at Austin introduced a new education committee into the organization, which focuses on teaching the UT community about bees, pollination, conservation, and sustainability. An array of events were hosted by the education committee, such as 3 guest speaker events, 2 presentations at local elementary schools, and 1 documentary nights. The education committee also created education reports and handouts about bees and pollination that were distributed at UT Farmstand events. Sustainability initiatives like “Leave the Leaves” were highlighted on the Beevo Beekeeping Instagram page. An educational “Bee Jeopardy” night was hosted at the start of the Fall 2023 semester. A talk about bees was hosted by the Campus Environmental Center in the Fall 2023 semester. A Beevo Seed Bomb Workshop was hosted in Spring 2023 as an outdoor event where members of the UT community were invited to learn how to make and effectively distribute seed bombs. The seed bombs were constructed with native Texas wildflower seeds. Upon the reopening of the Texas Memorial Museum for Science and Natural History, a new pollinator garden was established. The staff within the Texas Memorial Museum for Science and Natural History were awarded a UT Greenfund grant to install a pollinator garden on the grounds of the museum in collaboration with UT Landscape Services and the Lady Bird Wildflower Center. Multiple websites were created or updated, including the UT Austin Pollinator Program Website, the UT Austin Biodiversity Center Pollinator Information page, and the UT Austin Bee Campus page. Links are provided below.

[https://facilitieservices.utexas.edu/programs/pollinator-program#:~:text=UTLandscapeServicesseeksto,sitesandred](https://facilitieservices.utexas.edu/programs/pollinator-program#:~:text=UTLandscapeServicesseeksto,sitesandreducedpesticideuse)

<https://biodiversity.utexas.edu/resources/pollinator-information>
<https://biodiversity.utexas.edu/resources/bee-campus>

How many pollinator-related events or outreach activities did you host or help with in 2023 (in total)?

17

How many people attended those events (in total)?

450

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

1



Beevo Beekeeping members at Cass Elementary School teaching the students about beekeeping and native bees. (Provided by Shannon Henry)



Members of Beevo at an on-campus table event to teach students about beekeeping and native bees. (Provided by Cindy Melton)



Some members of Beevo at Galindo Elementary School to teach the students about beekeeping and native bees. (Provided by Mia Huo)

Little Blue Prairie

This prairie was funded by Green Fund and designed by partnership with Landscape Services and the Campus Environmental Center. Prairies are dynamic and diverse ecosystems that change year-round.

This student-led project hosts more than fifty different types of grasses and forbs (broadleaf, non-woody plants). To mimic the conditions under which prairies thrive, this plot is regularly subject to controlled burns that maintain cycles of growth.

To learn more about this student led project visit: <https://utenvironment.org/projects/little-blue-prairie/>

Signage for the Little Blue Prairie that is located on campus and mimics native habitats to support a variety of ecosystems year-round. (Provided by UT Facilities Services)

UT Orchard & Pollinator Garden

This urban orchard, managed by UT Landscape Services, showcases native and adapted fruiting trees & shrubs for Central Texas' challenging soils and climate.

The pollinator garden contains plants that provide food and habitat to attract and sustain beneficial insects and pollinators.

For a virtual map and more information, scan the QR code below

Signage for the on-campus UT Orchard and Pollinator Garden that contains native plants to boost pollinator populations. (Provided by UT Facilities Services)



Signage for the Butterfly Garden which contains a variety of native and adapted plants to attract pollinators on campus. (Provided by UT Facilities Services)

Curriculum, Continuing Education, & Service Learning

Please describe the curriculum your campus engaged in 2023, indicating whether it was part of a for-credit course or continuing education.

Native Bees of Texas – Outreach Science Course (Continuing Education) Report provided by UT Bee Campus members Laurel Treviño Murphy and Liliana Benitez, 2-16-2024. The course objective is to provide the public with a basic understanding of native bee ecosystem functions and motivate participants to conserve pollinator habitat at local scales. It's taught in nature-based learning environments where ecological knowledge is relayed through slide-based presentations, and participants' basic ID skills are reinforced in practicums. On Sunday May 7, 2023, the Austin Nature and Science Center hosted 20Central Texas residents who participated in the course taught by Laurel Treviño with assistance from Liliana Benitez. During the 5.5-hour course, the instructor taught native bee diversity, taxonomy, and

identification; life history, nesting, and diet; bee ecosystem functions; and pollinator conservation practices. Participants asked questions and engaged in discussion; viewed insect specimens and displays on diversity, life history, and forage plants; and walked through the gardens to observe native bees led by ANSC hosts, director Jessica Gilzow and staff Gary St. Clair. A team effort improved on previous courses. Thanks to an experienced instructor, good assistants, and a nature-based learning environment, this logistically complicated course was well implemented. Jessica recruited and hosted participants and provided classrooms and lunch. Members of Prof. Shalene Jha's lab (Integrative Biology) participated. Liliana helped implement labs to view flower-visiting wasps and flies and native bees in six families. Prof. Carlos Torres-Verdin (Engineering) provided insect labels, folders, copies, photos, equipment transportation, and general aid. Several course aspects helped engage learners. The tables were arranged in a semicircle with the instructor facing participants, which facilitated discussion, allowed good acoustics, and screen views. Participants engaged in conversation, encouraged by the instructor who asked critical thinking questions. Labs ran well with the help of two assistants and our host. In feedback forms, participants praised the course for providing hands-on lab/field experience, citing that observing insects in labs and natural habitat were the best aspects of the course and enhanced their knowledge. Respondents stated the best parts of attending this event were, "learning about native bee nesting/habitat/native plants that support bees," the instructor was "knowledgeable, kind, passionate, and amazing," "engaging Q&A discussions during lecture was great," and "I had a great time." Hands-on learning: observing bee specimens with scopes and seeing digger bee nests in a bluff, were course highlights that solidified lecture information. They also liked bee photos/videos, print-outs with plant lists, bee ID guides, and instructions. Applicability – most participants reported they planned to incorporate their knowledge/skills to improve their gardens and educate others about native bee habitats. Several intended to establish native bee habitat with native plants (but no insecticides) in Austin gardens. Some intended to educate neighbors and children about native bees. One participant would apply new skills to an iNaturalist project while another stated the course furthered her understanding of native bees and their habitat and will improve her participation in the Austin Bee City initiative. To improve the course, participants suggested more hands-on activities outdoors and in labs, and more time to ask questions and discuss topics. To gauge course impact, we evaluated course and instructor efficacy, participants' learning outcomes, and course experience. Results indicate that participants learned and felt confident about their acquired knowledge & skills. On 5-point scales, they rated all course aspects above 4.0, indicating we met our learning objectives and motivational goals. Average quiz scores of respondents improved from 69% pre-course to 89% post-course with gains in most topics. Respondents rated their perceived knowledge as fairly-good pre-course compared to good-to-very good post-course. Mean course ratings were 4.83 out of 5. All respondents rated it as highly informative (5), while most rated it as useful and engaging (4.75). Respondents rated six learning objectives with a 4.70, indicating they gained knowledge and skills that enhanced their understanding of native bee ecosystems functions and best management practices for bee habitat.

How many of your for-credit courses included pollinator-related information in 2023?

16

How many students attended those for-credit courses?

900

How many of your continuing education courses included pollinator-related information in 2023?

2

How many participants attended those courses?

30

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

19

How many students participated in service-learning projects in 2023 to enhance pollinator habitat on or off-campus?

150

Please describe the service-learning projects your students were engaged in 2023, indicating which, if any, were associated with a course.

The Beekeeping Society held 14 hive checks in 2023 as a means to care for the honey bee hives managed on UT campus. These events included Beekeeping members and UT students. Volunteers conducted routine hive inspections to carry out necessary maintenance and feeding of the hives. In April and October of 2023, the Beekeeping Society coordinated two volunteer workdays for the Painter Hall Pollinator Garden located on UT campus. The group of volunteers helped in the maintenance and upkeep of the pollinator plot, including the removal of dead and invasive plants, soil tilling, the planting of new, native plants, and watering. Additionally, in April of 2023, the Beekeeping Society coordinated a volunteer clean-up of Waller Creek that runs through UT campus. Volunteers collected landfill trash and recyclables from the water and surrounding bank to be disposed of properly. That same month the Beekeeping Society and its members volunteered for the Austin Parks Foundation "It's My Park Day" by participating in a water cleanup of Lady Bird Lake. Volunteers were put into pairs and traversed the lake and its shoreline via kayak to collect waste in the water. In March of 2023, the Beekeeping Society members volunteered at the Austin Nature and Science Center to assist in the landscaping and prepping for Spring blooms. Volunteers helped with removal of dead and invasive plants, soil tilling, and placement of pavers.



Attendees of the Native Bees of Texas Course run by Laurel Treviño and Liliana Benitez. (Provided by Laurel Treviño)



Lab portion of the Native Bees of Texas Course run by Laurel Treviño and Liliana Benitez. (Provided by Laurel Treviño)



Outside applicability activity from the Native Bees of Texas Course run by Laurel Treviño and Liliana Benitez. (Provided by Laurel Treviño)



Beevo members cleaning up planters at the Austin Nature & Science Center to rejuvenate the pollinator garden. (Provided by Rachel Kusumo)



One of the weekly hive checks in the top bar hive conducted by Beevo members. Some hive checks are open to all UT students to generate excitement about bees and encourage pollinator awareness. (Provided by Green Testa)



Beevo members hosted a seed bomb making workshop with native plant seeds open to the UT public. (Provided by Bryan Havens)

Policies & Practices

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

The University of Texas at Austin has successfully maintained our integrated pest management (IPM) plan, drafted and proposed in 2020. This plan features actions such as selecting appropriate turf species for certain areas, providing good drainage, inspecting land for pests and diseases, testing soil, and striving for a diversity of plant species. Our campus has upheld standards set by the IPM, including avoiding 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), implementing non-chemical pest prevention and management methods on city or campus grounds, eliminating pesticides that are solely used to maintain aesthetics on city or campus grounds, reducing the total area of city or campus-managed lands where pesticides are applied, restricting pesticide use to organic pesticides on city or campus grounds, eliminating use of neonicotinoid insecticides on city or campus grounds, dropping pesticide use altogether on city or campus grounds, distributing educational materials to residents or students to encourage the reduction or elimination of pesticide use, sourcing 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>), sourcing plants for city or campus grounds that were not treated with neonicotinoids, encouraging 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>), and encouraging developers and private landscapers to source plants that were not treated with neonicotinoids.

In your city or campus, are any policy initiatives underway to further protect pollinators, people or waterways from pesticides?
In 2022, Austin officially became a Bee City. Members of our committee spoke at a council meeting advocating for becoming a Bee City. In 2016 the university launched a project to transform sections of Waller Creek that travel through Main Campus. Landscape Services performed an extensive amount of work to remove invasive, non-native plant and tree species and prune overgrown vegetation. These efforts were directed at immediately improving safety and visibility with a long-term goal of making positive habitat improvements in this heavily urbanized riparian ecosystem. Ongoing efforts include vegetation maintenance, invasive species removal, and creek planting events to help build species diversity and reduce erosion. The Dell Medical School (DMS) landscape team manages a diverse site that includes stormwater bioswales (designed to remove debris and pollution from surface runoff water), green roofs, Waller Creek, and wildflower meadows. The DMS landscape team operates an electric fleet of mowers and power equipment and uses only organic approaches to soil health, plant health care, and weed control. The DMS landscape team also collaborated with DMS to win a SITES Gold Award for sustainable landscape design. Below is a list of some policy initiatives underway in our city: Austin becoming BeeCity PollinATX Imagine austin comprehensive plan (<https://www.austintexas.gov/edims/document.cfm?id=376827>) Austin Invasive Plants Management Austin Watershed Master plan in effect

Did your committee participate in any continuing education on ecologically-based Integrated Pest Management planning?
UT’s Landscaping Services, including Bee Campus committee member and Urban Forestry Supervisor, Jen Hrobar, led continuous education for landscaping staff on how to manage landscape in a way that protects pollinators. This includes reducing plant cut backs until late winter to leave more habitat for overwintering pollinators and training maintenance staff on proper cultural practices for planting, pruning, mulching, and soil health to promote healthy plants that can better defend themselves against pests and pathogens. The IPM plan that UT implements was designed in collaboration with Bee Campus USA committee members in the Integrative Biology Department. Landscaping services also integrates the Texas Parks and Wildlife Texas Monarch and Native Pollinator Plan established in 2016

and partners with the Lady Bird Johnson Wildflower Center. Additionally, the Beevo Beekeeping Society hosts educational events and pollinator garden workdays open to the UT public that educates people about sustainable gardening and landscaping practices. The club also spreads information about and encourages attendance to non-UT Austin events that discuss landscaping for pollinators and how to care for native plants and ecosystems. In February, a prescribed burn was successfully conducted at UT's Little Blue Prairie. This is a pocket prairie that demonstrates the landscape of what is now Texas before colonization. Using controlled burns, as have been used for centuries, to maintain the prairie means continuing to use sustainable practices that the plants are evolutionarily adapted to. The prescribed burn involved both UT students and members of landscaping services to ensure that members from the broader UT community would be educated in this process. Our committee helped promote the "Leave the Leaves" campaign in which we educated the community about the importance of leaving leaves in order to protect pollinators. We had members of the Beekeeping Society document pictures of themselves with unremoved leaves to share on the club's social media in order to inspire others to do the same.

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
- Eliminated pesticide uses that are solely to maintain aesthetics on city or campus grounds
- Reduced the total area of city or campus-managed lands to which pesticides are applied
- Restricted pesticides used to organic pesticides on city or campus grounds
- Eliminated use of neonicotinoid insecticides on city or campus grounds
- Dropped pesticide use altogether on city or campus grounds
- 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

Any lessons learned you would like to share?

We have learned how to implement fun and engaging ways to teach our community about pollinators and get people beyond our committee involved. These include jeopardy nights, arts and crafts, and garden workday socials. We are continuing to find innovative and fun ways to incorporate all members of UT within the process of being a Bee Campus.



Conducting a controlled burn at the Little Blue Prairie. (Provided by UT Sustainability)



Members of our Bee Campus committee meeting to discuss pollinator initiatives on campus. (Provided by Mia Huo)

Learn More

Integrated Pest Management Plan: [IPM Plan Jim Carse.pdf](#)

<https://utexas.app.box.com/s/zud883x94gyr8g9fhi2568ls9ayn847h>

Recommended Native Plant List:

<https://utexas.app.box.com/s/6qlr5p6david6591slblgh717on501eqm>

Recommended Native Plant Supplier List: [Native Plant Supplier List.xlsx](#)

<https://utexas.app.box.com/s/6qlr5p6david6591slblgh717on501eqm>