

Bee Campus USA - Michigan State University

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.

MSU hosts an event called Spartan Day of Serve every April and October. Members of the MSU Bee Campus USA committee organized service projects at our campus pollinator gardens for the spring and fall. Students and community volunteers helped mulch, weed, divide pollinator plants, and implement invasive plant control at the pollinator gardens. In addition, Beal Garden, the university botanical garden, hosted events throughout the year which included weeding and dividing and planting pollinator material with the help of volunteers along the Red Cedar River. We are continuing to strengthen partnerships with university stakeholders to support pollinator success on campus. Over the course of the year MSU Landscape Services collaborated with a student group, Engineers for a Sustainable World, to build bee boxes and install them at the pollinator gardens along the Red Cedar River. Landscape Services also partnered with Student Life and Engagement to plant flowers along the Red Cedar. Throughout the year, the Landscape Services also worked with the Residential Initiative on the Study of the Environment (RISE) living-learning program to add additional pollinator gardens around the Brody Complex housing area.

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

7

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

165

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

1

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

100100

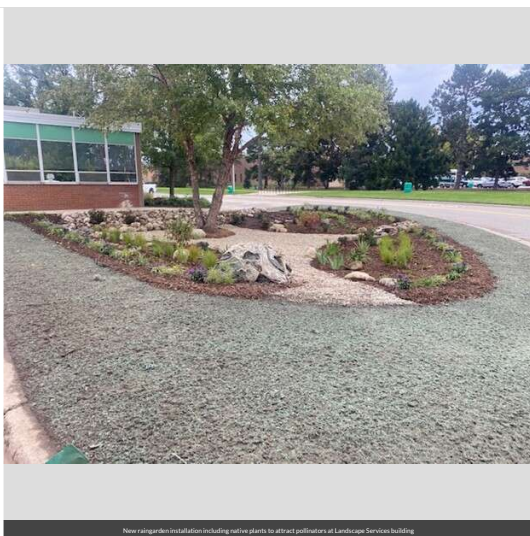
Please check all that describe the habitats your affiliate helped to create or enhance last year with pollinator benefit in mind.

- Flower garden
- Vegetable garden
- Orchard

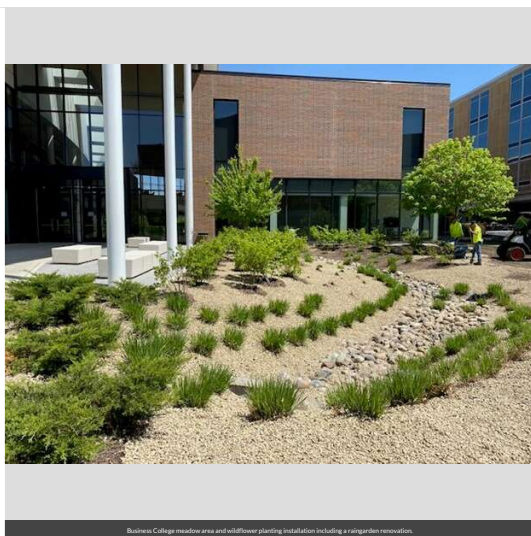
- Natural area with tree snags and stumps, and bare areas for ground nesting species
- Meadow
- Pollinator-friendly lawn (with flowering clover, dandelions...)
- Herb garden
- Native milkweed planting for monarchs and bees (where appropriate)
- Invasive/exotic plant species removal for habitat improvement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



Installing pollinator garden by the Red Cedar River



New rain garden installation including native plants to attract pollinators at Landscape Services building



Business College meadow area and wildflower planting installation including a rain garden renovation

Education & Outreach

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

MSU is home to the Michigan Pollinator Initiative, which seeks to develop a coordinated research, education, extension, and policy driven effort to address priority issues related to pollinators and pollination in Michigan. MSU works with partners around the state in pursuit of research-based solutions for beekeepers, growers, land managers,

and policy makers to promote economic vitality and ecological stability. The Michigan Pollinator Initiative is a central place for pollinator-related information, events, and programs; two members of the MSU Bee Campus USA Committee co-manage the Michigan Pollinator Initiative. In addition, MSU Extension also provides extensive resources and programs for the public for covering pollinators and pollination as well as integrated pest management. Example MSU Extension programs include Heroes to Hives, which provides beekeeping education for Veterans, Reservists, Active Duty, or National Guard members of the U.S. Armed Forces and their adult children, spouses, partners and caregivers; Pollinator Champions, a free, self-paced online course that provides a primer on pollinators, pollination, and pollinator protection; and the Integrated Pest Management Academy that provides a comprehensive introduction to IPM. In 2023, we held two signature events focused around pollinators. Members of our Bee Campus USA Committee were involved in the planning of both events. Our largest event was Beepalooza, focused on the importance of native bees and native plants. This annual event returned to the MSU Horticultural Gardens after a hiatus during the pandemic and featured numerous activities including making seed bombs with native Michigan plants, an iNaturalist project to record species of bumblebees in the garden, a bee “petting zoo”, and various handouts for children and adults. Over 240 people were in attendance. Michigan Beekeepers Association in partnership with MSU Extension hosted the Michigan Beekeepers Association Spring Conference on campus. Speakers included members from MSU as well as speakers from all over the state of Michigan. Over 200 people attended this event.

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

20

How many people attended those events (in total)?

1528

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

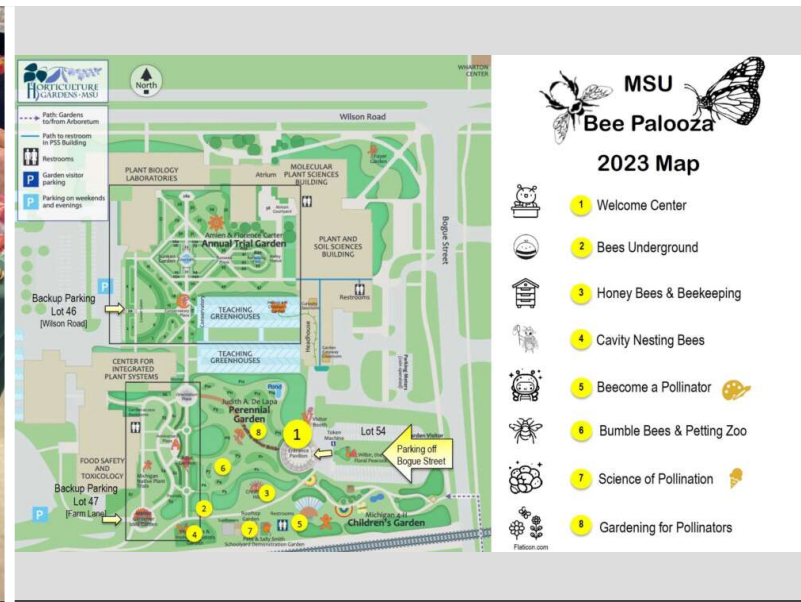
10

Number of temporary interpretive/educational/Bee Campus USA signs installed in 2023?

3



Photo of Michigan State University Extension's table at the Michigan Honey Festival, which included educational materials and handouts to support pollinator health by planting forage and using pesticides judiciously.



Map of outreach tables at Michigan State University's Bee Palooza event for all ages



Bee Campus USA signage on campus



Pollinator signage in Beal Garden



Pollinator signage in Beal Garden

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.

As an agriculture school, MSU offers a diverse range of pollinator educational credit experiences. The Horticulture department provides a deep look into cutting edge crop cultivation in class HRT 242 and HRT 401. These classes give an in depth view of the flowering responses of horticultural crop plants to environmental variables, which play an important part to the stability of pollinators. When pollinator environments have been damaged, the ecological restoration process can be extensive. In FW 443 the principles of ecological restoration of disturbed or damaged ecosystems are explored through design, implementation, and presentation of restoration plans. During the course, students do hands on work on the pollinator habitat restoration which is taking place south of the Communication Arts. Here they learn about assessing habitat for pollinator abundance and diversity. In NSC 192 environmental issues are examined from a variety of perspectives. Two of the sessions are devoted to bees/pollinators and the impact that every day decisions can have on these important tools of nature. Because humans have such an impact on the environment and the loss of environment has such an impact on humans, AFRE 265 looks at the relationship between the economy and the natural environment. Economic and sustainability concepts are applied to natural resources and agriculture to showcase the important that one cannot survive without the other. Pollinator Ecology and Management (ENT812, sect 002) is a graduate seminar class that runs every other fall. Students learn about bee diversity, conservation, factors affecting wild bee and managed bee health, current literature on pollinator declines, and specific crop pollination systems. In LCS 650, honeybee medicine clerkship explores honeybee medicine in the school of veterinary medicine. In this three-week course, fourth year veterinary students learn honeybee biology, diseases and diagnostics, and work with honeybees and beekeeping clients.

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

8

How many students attended those for-credit courses?

312

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

4

How many participants attended those courses?

630

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

3

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

55

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

course.

In the last year, MSU's service-learning projects have been co-curricular experiences for our students. MSU hosts an event called Spartan Day of Service every April and October. On these days, students engage with campus partners in service projects in our campus pollinator gardens. They volunteered to help mulch, weed, divide pollinator plants, and implement invasive plant control at the pollinator gardens. Carolyn Miller, the campus plant recorder and member of MSU's Bee Campus USA committee, provides educational guidance to further enhance the educational experience. Over the course of the year MSU Landscape Services collaborated with a student group, Engineers for a Sustainable World, to build bee boxes and install them at the pollinator gardens along the Red Cedar River. The student presented this idea to both the MSU Bee Campus USA Committee and the Campus Landscape Stewardship Committee. With approval, the student group worked along side Landscape Services to get feedback for the design and suggestions for the appropriate placement for maximum success.



Beebox installed in Beal Garden. A student project orchestrated by the student group Engineers for a Sustainable World.



Student collecting black swallow-wort. Removing this invasive species was part of Spartan Day of Service.



Weeding and dividing pollinator plants during fall Spartan Day of Service in the pollinator gardens.

Policies & Practices

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

MSU's Landscape Services unit utilized principles of integrated pest management for grounds work on campus. MSU practices continued maintenance of healthy soil beds and healthy plant materials to reduce pesticide usage. Staff are trained to identify problems and to evaluate the threshold when corrective actions need to be taken. In the last year, Landscape Services has transitioned upwards of 50 acres to more naturally-managed, pollinator-friendly land; they have ceased using pesticides on these areas and planted additional pollinator-friendly flower at these locations. They have also switched to tree injection instead of aerial spraying to reduce the amount of pesticide use on campus. Members of the MSU Bee Campus USA Committee also sit on the MSU Campus Landscape Stewardship Committee,

where decisions are made related to new landscape projects on campus. Campus partners are working together to select disease and insect resistant plant materials to be used in the campus landscape, as well as increasing the number of native and pollinator-friendly species used in campus projects. In the last year, the hardiness zone for MSU changed from a 5b to 6a, and members of the Bee Campus USA Committee are preparing a revised list of trees, shrubs and other plants that are compatible with this new zone and also support pollinators.

In your city or campus, are any policy initiatives underway to further protect pollinators, people or waterways from pesticides?
MSU released its Vision 2050: Facilities and Land Use Plan in December 2023. The plan establishes a framework promoting interconnected natural areas, biodiversity protection, and enhanced stormwater management. The plan identifies three supporting landscape strategies, one of which focuses on expanding the number and type of open spaces on campus, with a specific recommendation to increase the number of pollinator gardens on campus. As the plan moves into implementation, conversations are underway about building out a pollinator corridor along the banks of the Red Cedar River.

Did your committee participate in any continuing education on ecologically-based Integrated Pest Management planning?
Two members of the MSU Bee Campus USA Committee, Ana Heck and Meghan Milbraith, have appointments with MSU Extension. They are pollinator experts and offer continuing education programs throughout the year. In addition, MSU Landscape Services staff, who actively manage the campus grounds, are required to complete 40 hours of continued education annually. This includes 16 hours of pesticide application renewal credit hours.

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

- Implemented or maintained a written 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
- Eliminated use of neonicotinoid insecticides on city or campus grounds
- Distributed educational materials to residents or students to encourage the reduction or elimination of pesticide use

Any lessons learned you would like to share?

This is our first year as an affiliate of Bee Campus USA. We had a lot of programs and initiatives already underway that support pollinators prior to becoming an affiliate, and we are finding that the Bee Campus USA program is helping

strengthen partnerships across the institution and identify opportunities to better align our activities. This past year has been extremely helpful in bringing different stakeholders together, learning about each other's existing pollinator efforts, and establishing a foundation upon which we can develop and implement better programs and enhance our on-campus stewardship efforts in support of pollinators.

Learn More

Integrated Pest Management Plan: [Landscape Services Invasive Species Policy.pdf](#)

Recommended Native Plant List:

https://www.canr.msu.edu/nativeplants/plant_facts/

Recommended Native Plant Supplier List: [Sources for Native Michigan Plants.pdf](#)

<https://sustainability.msu.edu/get-involved/Pollinator-Information.html>
msugreen@msu.edu

<https://www.facebook.com/msusustainability>