

Bee Campus USA - Central Community College

Report on 2020

Pollinator Habitat Creation & Enhancement

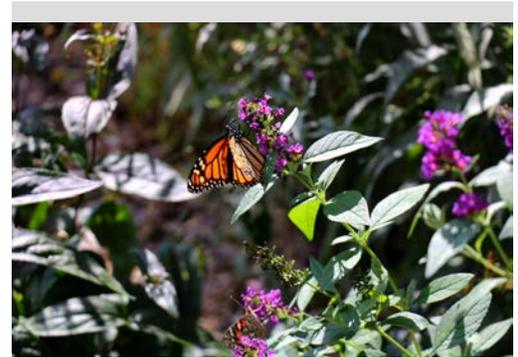
During 2020 Central Community College created 2,050 square feet of native pollinator habitat. The first project was an expansion of an existing pollinator garden at the Ord Center, which enhanced 150 square feet of habitat. Only two volunteers were needed for this project to expand the garden which is home to many native flowering plants. The second project was a new 1900 square foot pollinator garden in Hastings. The garden hosts a mix of native flowering plants and native herbs to be used by the culinary department. A total of 12 volunteers planted swamp milkweed, coneflowers, sedges, and other native plants. Hastings also created habitat by planting trees on campus and documenting them with iTree, a software to track tree oxygen production as well as other benefits of the tree and potential threats to the tree. Showy Milkweed was planted on the Hastings campus in the original pollinator garden for Monarchs and other insects. A portion of the Milkweed was harvested as a food supply for Monarch rearing. In Columbus the first prototype of a Bee MycHotel, a bee hotel grown from a native fungus, was placed in the garden. Within two weeks there were already nesting cavities being utilized. The Bee MycHotel was grown from a fungus closely related to another fungus shown to have health benefits in honeybees, therefore research is being carried out at Central Community College to determine the effects on native solitary pollinating insects. The Bee MycHotel offers nesting habitat to solitary bees inside of the pollinator garden.



Bumblebees on coneflower in Grand Island pollinator garden



Bee in new Ord, NE garden



Monarch and painted lady butterflies in same photo from Hastings pollinator garden.

Education & Outreach

Central Nebraska values its pollinators so there are many pollinator events throughout the year. The UNL Platte County Extension center hosts a variety of events from community outreach classes for middle schoolers and bee hotel building



contests. Central Community College biggest pollinator event is the Pollinator Festival hosted each year. This year it was primarily a virtual event with a large variety of content for all ages such as a solar field/pollinator habitat tour, and webinars about everything from bees and butterflies to their connection with trees and other plants. Children's activities included pollinator stories read in the garden, flower dissection, spore printing, and how to make homemade paint and paintbrushes to make pollinator art. Other pollinator related events include tours of the pollinator gardens, service learning events like tree and pollinator planting days, and Monarch rearing. Students from Project Growing Pathways to STEM (GPS), a National Science Foundation S-STEM grant program, are innovating a fungal bee hotel to improve solitary bee and wasp conservation. The first prototype was deployed in the Columbus pollinator garden in July 2020. Multiple presentations and tours have been centered around the MycHotel including presentations at national and international academic conferences, such as the Nebraska Academy of Science conference, the North American Congress for Conservation Biology conference, and the Association for the Advancement of Sustainability in Higher Education global conference. Beekeeping and advanced beekeeping classes are offered each year through our Extended Learning Services as well. Central Community College has brought awareness about pollinators to the public's attention through media outreach like newspaper articles in the Hastings Tribune and the Grand Island Independent as well as a video interview with Channel 3 News and an interview with Nebraska Statewide Arboretum for their Greener Towns publication. Sustainability Leadership Presentation Series webinars are offered monthly in collaboration with other colleges and universities and often relate to pollinators like Pete Berthelsen's March presentation, "Pollinators: The Glue that Connects Sustainability Issues." Finally, the Environmental Sustainability Office gives presentations to classes of students by the instructor's request. In 2020, more than 105 students were educated about pollinator conservation and other sustainability efforts happening at Central Community College through this outreach.





Three staff volunteers at the Hastings campus tree planting day give the camera a thumbs up.

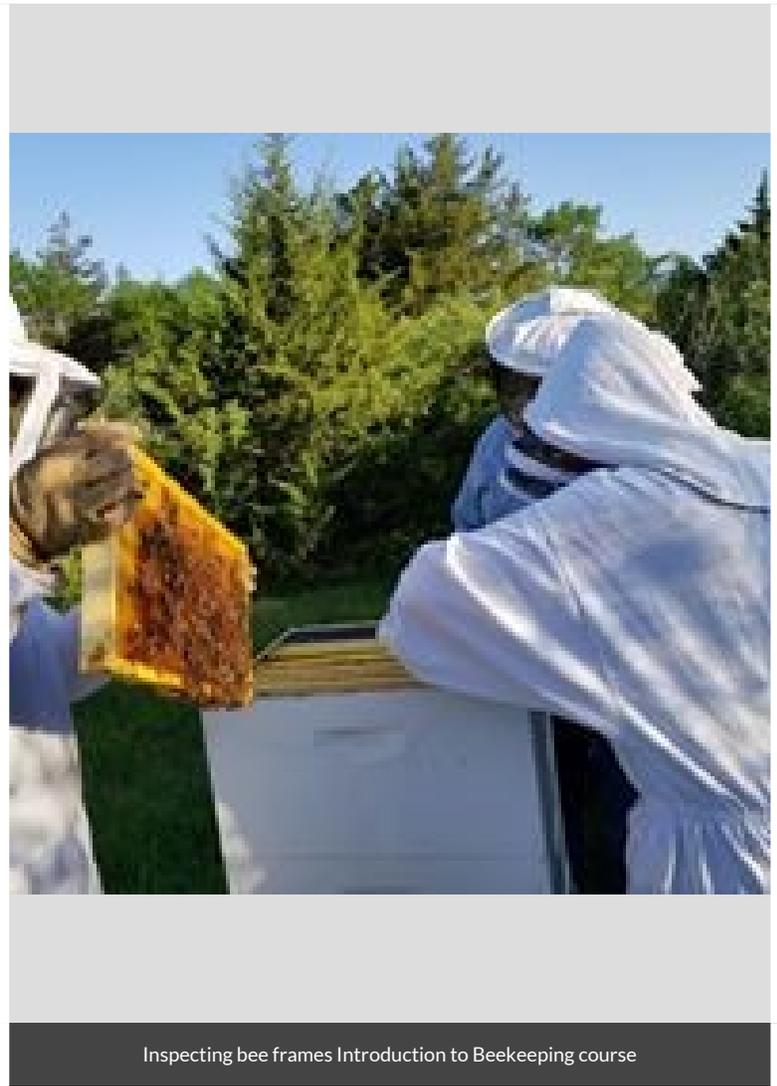
Courses & Continuing Education

The primary pollinator related courses are offered through our Extended Learning Services as Community Education classes. The beekeeping classes offered in Grand Island feature a lecture-portion of the class as well as a hands-on summer session. The beekeeping classes provide best practices for caring for an apiary as marketing and product preparation techniques. The proper methods of documentation are also taught in these courses. We offer intro to beekeeping for the greener beekeepers and those looking to break into the field as well as advanced beekeeping for the more experienced beekeepers. Another pollinator related class offered at CCC is the intro to gardening course. This community education course teaches the ins and outs of home gardening, from the types of plants that thrive in this area to planting and trimming timelines promote pollinator habitat creation and maintenance.





Honey extraction in beekeeping course



Inspecting bee frames Introduction to Beekeeping course

Service-Learning

Central Community College (CCC) had to reduce the number of service learning events in 2020, however there were still smaller service learning activities hosted throughout the year as well as one long term project. None of the service learning projects were for credit. The Bee MycHotel project is the most long-term service learning project ongoing at CCC. The project was funded by a Nebraska Academy of Sciences Public Education and Information mini-grant. 25 students have participated in the process of creating Bee MycHotels. From building molds, to growing the fungus, to creating nesting blocks, the students have pioneered the process to create fungal bee hotels. The three most invested students prepared and submitted the innovation to the Lemelson-MIT Student Prize competition. If the group is chosen as finalists, it will bring national recognition to the Bee MycHotel project and pollinator conservation. The group also gave a tour of the garden with a focus on the bee hotel to other students. Since the pandemic, the primary method of service learning was



through planting days to allow adequate air flow and distance during the pandemic. There was a planting day for the Ord garden expansion, the new Hastings pollinator garden, and tree planting in Hastings.



Socially distanced volunteers plant a new pollinator garden in Hastings after a demonstration by the Nebraska Statewide Arboretum June 22, 2020



A Bee MycHotel is mounted in the Columbus Pollinator garden offering nesting habitat for native cavity dwelling bees and wasps.

Educational Signage

Signs were posted around the perimeter of the new pollinator garden in Hastings to draw people attention until we acquire a permanent sign. The permanent sign is currently in progress.





A small pollinator habitat sign is displayed in the Ord, Nebraska pollinator garden.



Grand Island pollinator garden color coded blooms map sign

Policies & Practices

In our pollinator gardens on the Grand Island, Hastings, and Ord no pesticides are used. Curriculum, multiple layers of administration, bee keepers, community members, faculty, students, and facilities staff provide a diverse committee that provides a broad influence from multiple areas. The main goals and initiatives are shared by the entire institution. We have the native plant supplier list in hard copy and as maps. We have planted living mulch shields in the Grand Island and Columbus pollinator gardens

Integrated Pest Management Plan:

Recommended Native Plant List:

Recommended Native Plant Supplier List:





Living mulch (weed shield) being planted by CCC students in Grand Island pollinator garden.

[Learn More](#)





Environmental Sustainability office living mulch shield demonstration with Rachel Anderson at the Nebraska Statewide Arboretum

