

# Bee Campus USA - Western Dakota Tech

Report on 2022



## Pollinator Habitat Creation & Enhancement

The Bee Campus USA Committee held a Tree Planting Workshop, where 20 trees were planted on Campus. Additionally, several native pollinator-friendly flowers were planted throughout campus. A geothermal greenhouse was constructed on campus, and several indoor and outdoor gardens were installed under the direction of the Environmental Engineering Program and Controlled Environment Agriculture Program.

*How many habitat projects did you help to create or enhance last year?*

2

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

200

*How many volunteers helped with those projects?*

50

*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
- Native pollinator-friendly tree planting
- Native pollinator-friendly shrub border/hedgerow planting

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## Education & Outreach

Western Dakota Technical College along with Black Hills Bee Club sponsored "Buzz in the Black Hills Beekeeping Conference: Beekeeping in the 21st Century in February 2023. There were 85 tickets (including family tickets) sold, with approximately 100 people in attendance. Guest speakers and their topics included: ~Dr. Kelsey Murray: Antimicrobials in Beekeeping ~Bob Rieners SD State Apiarist ~Dr. Thomas D. Seeley: Darwinian Beekeeping ~Tami DesJarlais: Women in

Beekeeping ~Randy Oliver: Research Findings on Pollen Subs, Bee Nutrition & Extended-Release Oxalic Acid ~Dr. Jerry Bromenshenk: Our Future's Much Bigger than our Past Western Dakota Technical College and Black Hills Bee Club also hosted monthly meetings. Highlights of the meetings included "Bees and Brews," a Queen Grafting Workshop, guest speakers from Pennington Co. Farm Service Area, Natural Beekeeping. (Approximately 20 attendees/month) 24 "Bee-giners" Beekeeping, Intermediate Beekeeping, Advanced Beekeeping, and Natural Beekeeping courses were offered through WDTC's Corporate Education Office, with approximately 50 attendees in total. A Tree Planting Project was completed on WDTC's campus, where native trees that promote pollinators were selected under the recommendations from our State Forester. Approximately 20 students, 3 faculty, and 5 staff participated in this event.

*How many pollinator-related events did your affiliate host or help with last year (in total)?*

16

*How many people attended those events (in total)?*

420



## Courses & Continuing Education

Pollinator information has been incorporated into the following courses: Introduction to Environmental Science, Lab Methods, Biology, Horticulture, Aquaculture, Environmental Regulations and HAZMAT Awareness, Air Quality, and Topics in Environmental Engineering. WDTC offered three Corporate Education courses in Beekeeping.

*How many of your for-credit courses included pollinator-related information last year?*

8

*How many students attended those for-credit courses?*

15

*How many of your continuing education courses included pollinator-related information last year?*

3

*How many participants attended those courses?*

50

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## Service-Learning

For the 2022-23 Tree Campus Service Project, a tree planting workshop was planned and implemented on Western Dakota Tech's campus. The purpose of this project was to provide to contribute to soil conservation, to provide wildlife habitat, and to contribute to campus beautification. The Tree Campus Service-Learning Project for Spring 2022 was implemented into the curriculum of the Controlled Environment Agriculture Program's Soils Horticulture course (CEA 205). Students in the Farm and Ranch Management Program aided in the implementation of the project as well. A total of approximately 20 students worked on this project. Around 10-15 trees were planted around the WDT Campus. The tree list along with locations is included. Most were drought tolerant and hardy trees. For this project, students were required to participate in the tree planting workshop led by Joshua Larson, a Community Forester for the State of South Dakota. In this workshop, students were taught how to safely handle equipment and how to properly plant trees. Trees were staked and fenced, and watering "diapers" were used to keep the trees hydrated. After planting, horticulture students performed a variety of assays to analyze the soil type, soil acidity, moisture content, soil nutrients, soil temperature, and light availability. For the 2021 Tree Campus Service Project, a shelter belt was planned and implemented on Western Dakota Tech's campus. The purpose of the shelter belt was to provide a windbreak for our on-campus cattle, to contribute to soil conservation, to provide wildlife habitat, to contribute to local food production, and to contribute to campus beautification. The Tree Campus Service-Learning Project for Spring 2021 was implemented into the curriculum of the Environmental Engineering Program's Soils Testing course (EET 250). Students in the Farm and Ranch Management Program aided in the implementation of the project as well. A total of approximately 20 students worked on this project. The shelter belt location was in the Northwest corner of the cattle pasture on campus, and there were approximately 950 linear feet planted in April 2021. About 200 trees of various species were planted. For this project, early in the semester, students were required to research tree species native to South Dakota and write a report characterizing environmental conditions for healthy tree growth. Ideal soil types, soil acidity, moisture content, and nutrient requirements, among other parameters, were identified. The students then performed a variety of soil assays to determine the type and quality of the soil. The soil was identified as silt loam with a slight acidity. Based on the soil tests, the list of identified tree species was narrowed, and the trees for the shelter belt were chosen. A layout was designed, and was adapted with the help of Joshua Larson, Community Forester with the South Dakota Department of Agriculture, Resource Conservation and Forestry. Tree species selected were as follows: • Black Hills Spruce • Rocky Mountain Juniper • American Plum • Golden Clove

Current • Juneberry Saskatoon Service berry • Nanking Cherry • Silver berry • Silver Buffaloberry • Western Sandcherry • Amur Maple • Box Elder • Hackberry • Bur Oak • Crabapple • Ponderosa Pine Trees were purchased from the Pennington County District of the Natural Resources Conservation Service (NRCS). In April of 2021, students trenched the site, planted the trees, and backfilled the trenches. A soaker hose was placed for one week after planting. Additionally, students planted approximately 40 native flower species around the campus apiary (40 hives) as part of this project. As of December 2021, there is a 70% survival rate of the trees planted.

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

2

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

50

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## Educational Signage

Pollinator Signage was placed in newly developed pollinator habitat.

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

1

*Number of temporary interpretive/educational/Bee Campus USA signs installed last year?*

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## Policies & Practices

An IPM is currently being developed for use at WDTC. A draft is currently being reviewed by the Bee Campus USA Committee for official adoption.

*What actions have you 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)
- 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

- Eliminated use of neonicotinoid insecticides on city or campus grounds

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

WDTC generally does not use pesticides on campus. When the City of Rapid City performs mosquito fogging, efforts to protect pollinators are made (for example, using damp sheets to protect bee hives during the spraying).

*Please describe actions by your affiliate to attend training on ecologically-based Integrated Pest Management and/or to review IPM plans and programs considered of high quality by Bee City USA?*

None at this time.

Integrated Pest Management Plan:

Recommended Native Plant List:

Recommended Native Plant Supplier List:

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