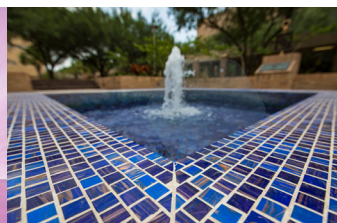
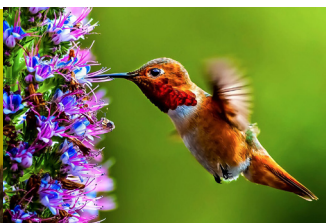
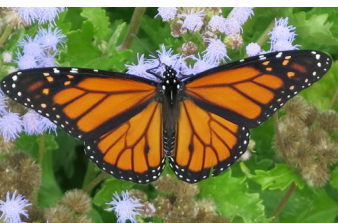




The University of Texas Rio Grande Valley™

Bee Campus USA 2021 Report





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Photo by David Pike, UTRGV

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Introduction

Photo by David Pike, UTRGV

Pollinators serve a pivotal role in the Rio Grande Valley's habitat and environment. As per the National Wildlife Refuge, the Valley serves approximately 1,200 plant species and over 300 butterfly and other pollinator species across Hidalgo, Cameron, Starr, and Willacy counties, respectively. As a testament to preserving wildlife habitat and commitment to sustainability, the University of Texas Rio Grande Valley continues its dedication to a Bee Campus USA designation through pollinator education, engagement, awareness, research, and service-learning. It is estimated that pollinators help generate globally, between \$235 - \$577 billion worth of annual food production. However, pollinator populations in Texas are falling just as they are worldwide, threatened by habitat loss due to development, intensive use of pesticides, and other threats such as Africanized bees and bee parasites, mites, and diseases. With hopes to consolidate and lead efforts in pollinator research and conservation, UTRGV's commitment to sustainability is taking the actionable form of protecting, preserving, and increasing the population of local pollinators.

UTRGV has established a Bee Campus USA Committee, hosting annual events to raise awareness of pollinators, and educating through formal courses as well as workshops and signage across campus. In addition to UTRGV's incorporation of native plants into campus landscaping and exclusion of pesticides that are harmful to pollinators, students, staff, faculty, and the community are contributing to conservation efforts with pollinator gardens, among other efforts.

In 2018, Dr. Lucia Carreon Martinez, UTRGV biology lecturer, spearheaded the establishment of the new pollinator garden on the UTRGV Brownsville Campus (The Pollinator Cantina), teaming up with Dr. Alejandro Fierro Cabo (SEEMS faculty), Dr. Julie Mustard (Biology faculty), Sara Black (Biology faculty), and Dr. Rupesh Kariyat (Biology faculty.)

The Brownsville campus is also the home to Dr. Julie Mustard's bee research lab, where students have the

opportunity to handle bees in a research setting. This research includes areas that involve molecular mechanisms of learning and memory and honey bee behavior. Their hive is thriving due to its proximity to The Pollinator Cantina, and the bees' pollination contributes to the garden growing beautifully.

In an effort to help build on the existing foundation of the aforementioned initiatives, UTRGV's SEEMS, Department of Biology, the Facilities and Operations department, and in collaboration with the Office for Sustainability hosted a total of 6 pollinator-related events offering opportunities for the community to learn about the importance of pollinators and how they contribute to our local ecosystems. As students and community members learn about the plants that bees and butterflies thrive on, they can begin to apply this knowledge in their backyards, workplace, and thus, extending UTRGV's commitment to protect, preserve and increase the pollinator population.

STANDARD 1

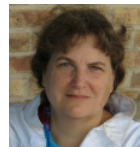
Campus Pollinator Committee

UTRGV has participated in programs similar to Bee Campus USA including the Arbor Day Foundation's Tree Campus USA and has established working procedures for sustainable projects, which are always carried out by order of committees. UTRGV's Bee Campus USA Committee is made up of faculty, students, and the director of Campus Facilities Operations, among other staff. The committee meets quarterly to plan pollinator conservation education efforts and events.

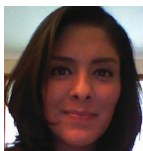
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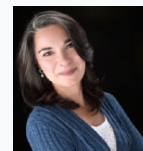
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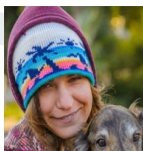
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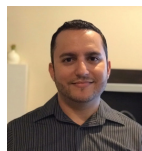
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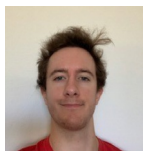
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STANDARD 2

Campus Pollinator Habitat Plan

Photo by Julie Mustard, UTRGV

UTRGV’s Integrated Pest Management Plan includes native and pollinator-friendly plants, which are listed in UTRGV’s annual Bee Campus Report, available on the Office for Sustainability’s website. Some of UTRGV’s staples in landscaping are species preferred by insect and bird pollinators. UTRGV is heavily committed to taking the next step in education by adding regional sources for such plants and detailing a least toxic integrated pest management (IPM) model applicable to other local landscapes.

List of Native Plants in the UTRGV Pollinator Garden

White Plumbago
 Tamaulipan
 Fiddlewood
 Vasey Adelia
 Lantana
 Velvet Lantana
 Desert Lantana
 Crucita
 Scorpions Tail
 Heartleaf Hibiscus
 Shrubby Blue Sage
 Red / Scarlet Sage
 Texas / Purple Sage
 Woolly Bee Brush
 White Brush
 Cortez Croton

Low Croton
 Skeleton Leaf
 Goldeneye Daisy
 Trixis
 Elbowbrush
 Black Brush
 Mexican Oregano
 Mexican Caprara
 Texas Kinewood
 Coral Bean
 Barbados Cherry
 Turk’s Cap
 Carlwrightia
 Runyon’s water willow
 Zizotemilkweed
 (Prairie milkweed)

Betony leaf mistflower
 White mistflower
 Spring mistflower
 Gregg’s mistflower
 Seaside goldenrod
 Hairy widely
 Rio Grande Valley
 butterfly brush
 Texas persimmon
 Coyotillo
 Woolly pyramid bush
 Texas Frog Fruit
 Sea ox-eye daisy
 Spiny aster
 Twisted Acacia
 Marsh Mallow

Mckelvey’s bee blossom
 Pink Gaura
 Shrimp plant
 Coastal germander
 Brush holly
 Lotusbus
 Horse crippler cactus
 Texas stonecrop
 Prickly pear
 Low growing prickly pear
 Candelilla
 Ladyfinger cactus
 Night-blooming Cereus
 Cholla



STANDARD 3

Annual Campus Events

SDM
www.SDMdiving.com

UTRGV commits to raising awareness of the importance of pollinators through events, both in person, and virtual, which consist of guided pollinator garden walks and activities, workshops, presentations, and films. In addition, these events serve as a vital opportunity to acknowledge the institution's sustained certification as a Bee Campus USA institution.

For the fiscal year 2021, UTRGV hosted six virtual/hybrid pollinator events, including Pollinator Day during the annual Earth Fest celebration. With the appropriate COVID-19 system-wide protocols, students, staff, and faculty learned the importance of pollinators throughout the week. In addition, five new grounds and maintenance projects officially launched to enhance habitat throughout UTRGV. The enhanced grounds

include the Veteran Memorial Garden, School of Medicine Garden, Science Lab Circle, New Engineering Building, and the New Science Building/Lab Gardens.

The five-day event was host to a variety of virtual keynote speakers as well as virtual tree-planting ceremonies, which The Facilities and Operations department pre-recorded on both Edinburg and Brownsville campuses days prior. These flowering trees help attract more pollinators into the area bringing light to new research opportunities for students, staff, faculty, and community, promoting further engagement and pollinator-related awareness. Additionally, several film screenings emphasized the U.N's sustainable development goals and educated the community on the importance of these calls to action.

“ For bees, the flower is the fountain of life. For flowers, the bee is the messenger of love.”

-Kahill Gabran



STANDARD 4

Service Learning Project

Photo by Dr. Julie Mustard

In an effort to help enhance pollinator habitat on and off-campus, a significant number of upgrades and expansions emerged throughout several UTRGV gardens expanding a total of 3554 total square feet for new pollinator habitat.

Over 200 students participated in this expansion project under the supervision of Dr. Julie Mustard as part of the university's requirements to designate service-learning courses that meet defined criteria in course design.

The various garden expansion and improvements included:

- Pollinator Cantina Garden Expansion
- Veteran Memorial Garden
- School of Medicine Garden
- Science Lab Circle
- New Engineering Building Garden
- New Science Building/Lab Garden

These expansions helped improve the university's flower gardens, vegetable gardens, rain gardens, bioswale, and community gardens. UTRGV's pollinator-friendly lawns helped flowering dandelions, flowering clovers, and native milkweed plantings (where applicable) benefit and increased monarchs and traveling bees.



Photo by Dr. Julie Mustard



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Photo by Silver Salas, UTRGV



Photo by Dr. Julie Mustard



Photo by David Pike



Photo by Dr. Julie Mustard



Photo by David Pike

UTRGV significantly expanded the existing Pollinator Cantina Garden with 18 new beds providing 2234 ft² of new, high-quality Pollinator Habitat. These new beds contain over 30 native plant species, 13 native shrubs, and several small trees.

In addition, stumps of various lengths (1 - 3 ft) were installed with 4-6" deep holes of varying diameters in order to make a habitat for tunnel nesting native bees. A ground-nesting plot was given the green light, which was coated with cardboard for several months in order to effectively prevent grass regrowth.



Photo by Dr. Julie Mustard



Photo by David Pike



STANDARD 5

Pollinator Education

Photo by Dr. Julie Mustard

UTRGV is committed to incorporating pollinator protection education into the already existing selection of professional development training offered to faculty and staff.

Pollinator-related courses offered at UTRGV campuses include Plant-Animal Interactions, Animal Behavior, Conservation Biology, Plant-Animal Interactions, Restoration Ecology, General Biology, Cell, and Molecular Biology, Sustainable Agriculture, and Apiculture Research, where one section.

The planning and expansion of the pollinator cantina also included collaboration and input from community partners; Silvia Barr (Quinta Mazatlan), Matt Kauffman (Valley Nature Center), Cruz Salinas (drip irrigation expert), and Max Munoz (National Butterfly Center).



Photo by David Pike

STANDARD 6

Educational Signage Regarding Pollinators

UTRGV commits to educating the campus and helping broaden community awareness regarding pollinator-friendly landscaping principles by labeling the plants in campus pollinator gardens and posting signage across campus. This signage promotes how insects provide a natural process for pest management and pollination.

As of 2021, a total of 46 signs have been installed on both, the Edinburg and Brownsville campuses respectively. Signage on the Brownsville campus includes a large welcome sign with changing pollinator information and 24 small permanent signs with specific information on plant species and its most frequent pollinator or larval guest. 15 Bee Campus USA Pollinator-Friendly Garden signs are installed between both the Edinburg and Brownsville campus gardens.



STANDARD 7

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Pollinator Cantina

URL: <https://www.utrgv.edu/pollinatorcantina/en-us>

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Bee Campus USA

URL: <https://www.utrgv.edu/sustainability/programs/bee-campus-usa>

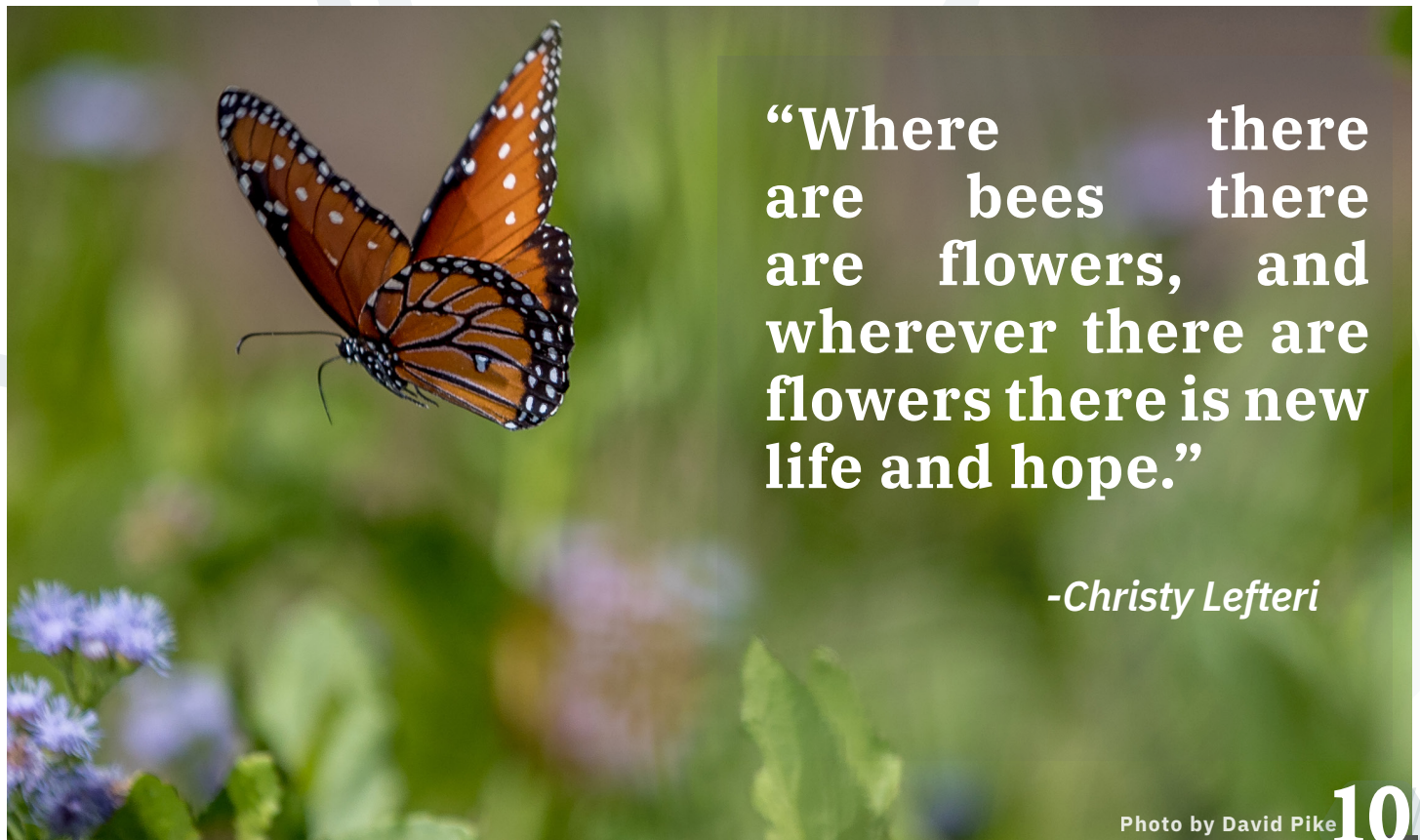
Bee City USA

Affiliate Spotlight: University of Texas Rio Grande Valley, Texas

URL: <https://beecityusa.org/affiliate-spotlight-university-of-texas-rio-grande-valley-texas>



Photo by David Pike



“Where there are bees there are flowers, and wherever there are flowers there is new life and hope.”

-Christy Lefteri

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