

## Mobilizing Communities to Protect Pollinators

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Bee City USA and Bee Campus USA Coordinator

# The Xerces Society



# Protecting the life that sustains us

Since 1971, the Xerces Society has worked to protect wildlife through the conservation of invertebrates and their habitat.

Photo: Endangered Fender's blue butterfly (Icaricia icarioides fenderi) by Dana Ross



# Plant Reproduction

85%

of flowering plants require a pollinator to move pollen thus fertilize the flower



Photo: Mace Vaughan

# Plant Reproduction

1 in 3 mouthfuls of food and drink we consume

>\$30
billion
value of crops in
North America



Photo: Pixabay

## Pollinator Declines

Did you know? There are over 3,600 species of native bees in the US!

- Globally: Up to 40% of pollinator species may be at risk of extinction in the coming years.
- North America:
   More than a
   quarter of bumble
   bees species are in
   decline



Photo: USGS Native Bee Inventory and Monitoring Lab



# Bee Campus USA Commitments



Increase the availability of native flowering species



Provide appropriate nesting substrates



Find alternatives to harmful pesticides

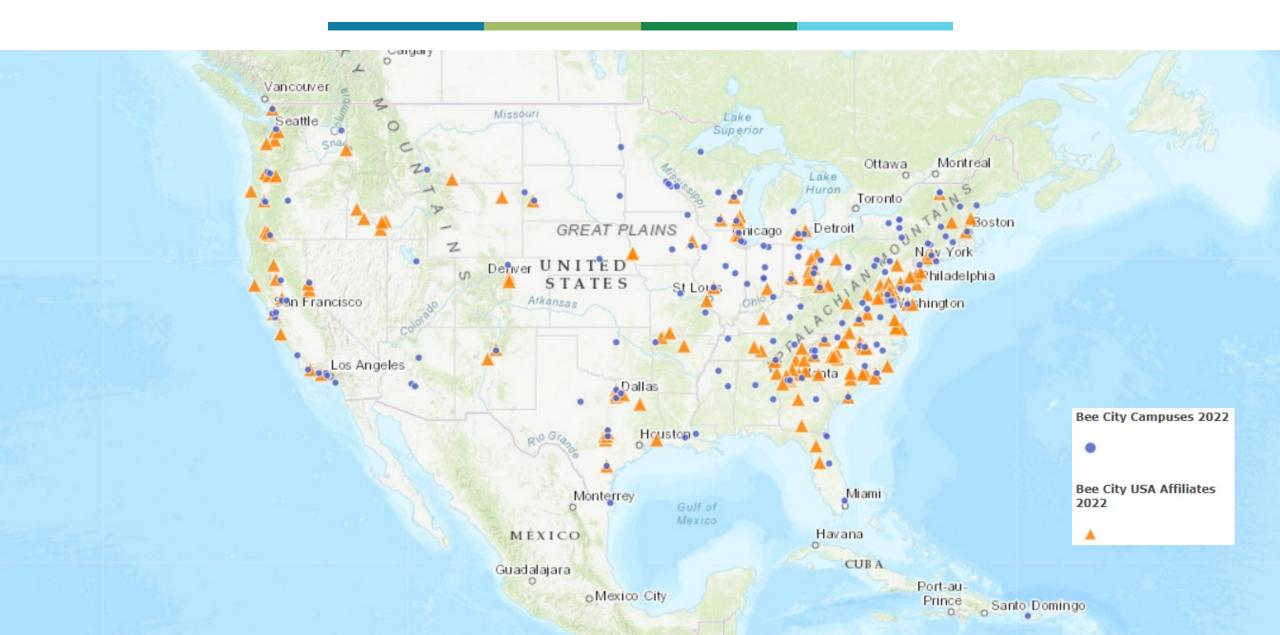


Educate and spread awareness

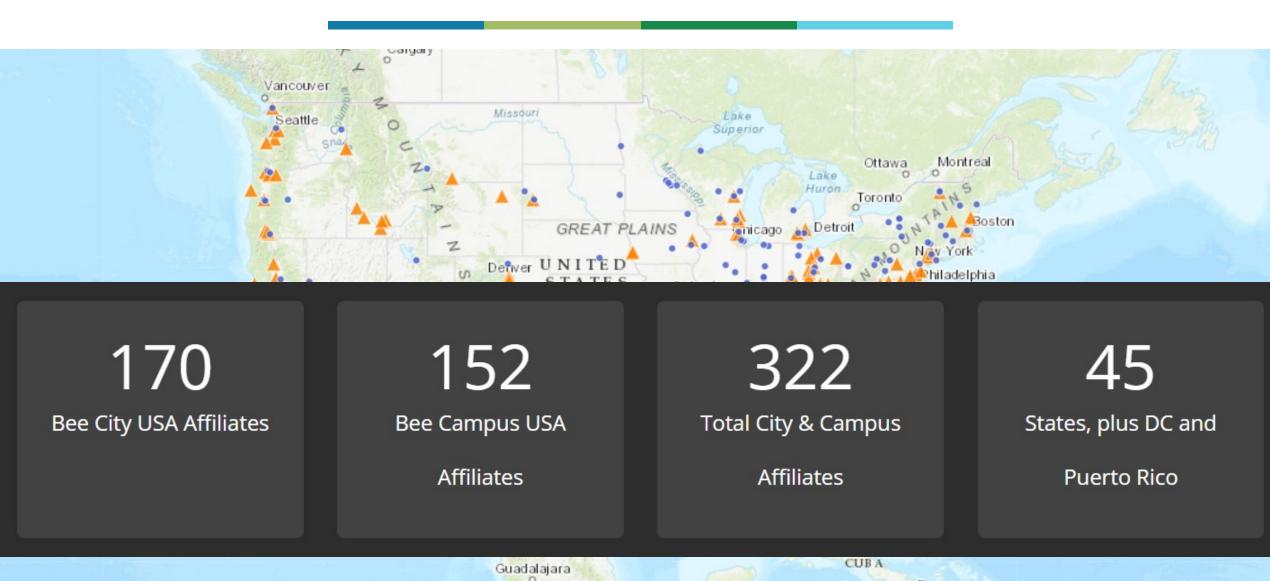
Photos (L to R): Sara Morris, Sara Morris, Jennifer Hopwood, Rachel Dunham

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# Affiliates



# Affiliates

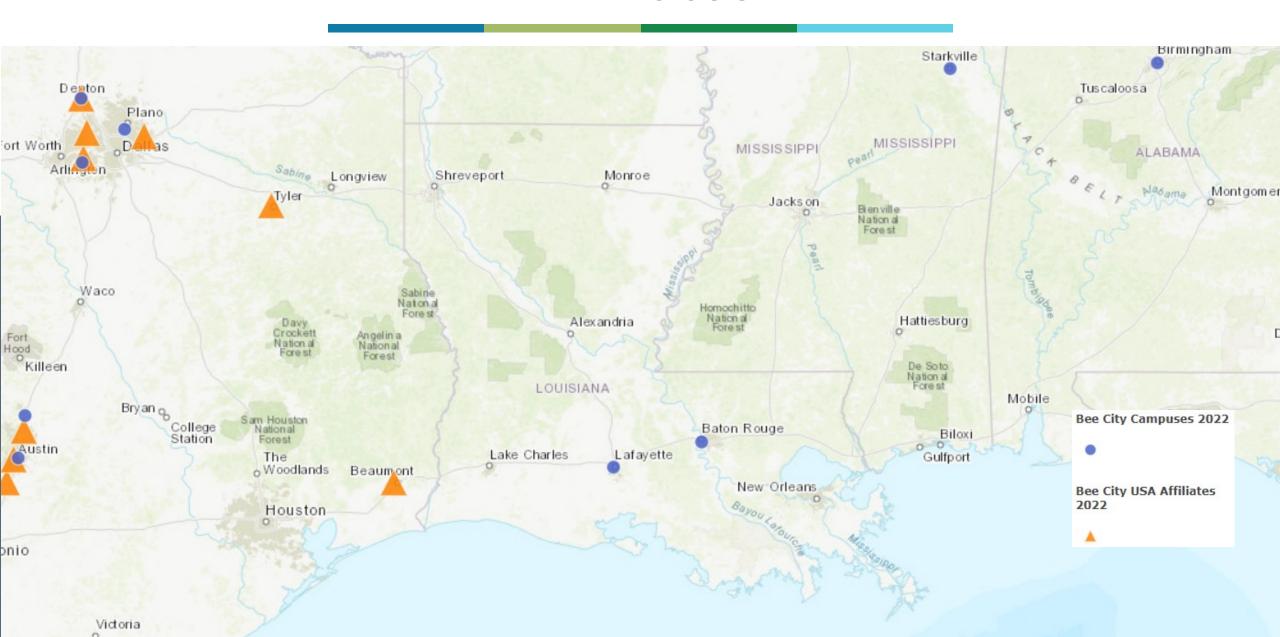


Mexico City

Port-au-

Santo Domingo

# Affiliates





### Direct Benefits to Affiliates

- Mailed welcome package with pollinator conservation resources
- Access to an online affiliate portal
- •Customizable logo and street sign artwork
- Access to training opportunities
- •Promo kits for No Mow May, Earth Week, Leave the Leaves, and more
- •Support from pollinator conservation and pesticide reduction experts
- Opportunities for free promotion





# Greater Benefits of Being a Bee Campus

- Help bees and other pollinators
- Community building
- Improve food production in community gardens and small farms
- Healthier campuses
- Support local businesses
- Become part of national network sharing ideas and support

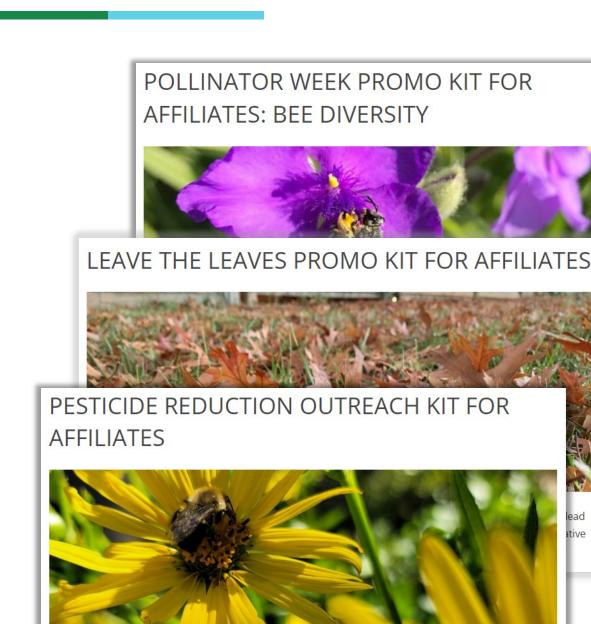


## Promo and Outreach Kits

**Promo Kits:** Talking points, social media content, handouts, documentaries/ webinars, draft letters/op-eds.

- Earth Week
- No Mow May
- Pollinator Week
- Leave the Leaves

**NEW! Pesticide Outreach Kit:** two presentations for affiliates to show, training webinar, how-to on public speaking, handouts.





### 2 AASHE STARS Points

Bee Campus USA affiliation earns two Grounds Certification exemplary practice credit points in the Association for the Advancement of Sustainability in Higher Education (AASHE)'s Sustainability Tracking, Assessment & Rating System<sup>™</sup> (STARS) system.



# The Campus Application Process

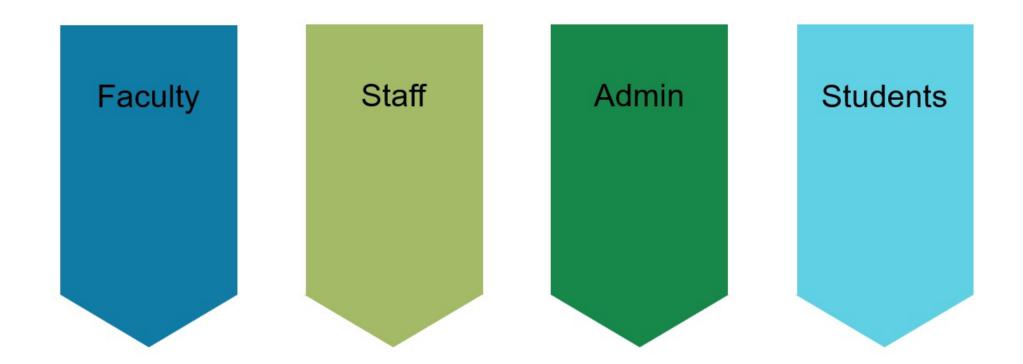
Application includes approval by highest official and committee to manage activities and an application fee

Commitments include habitat project and outreach event every year, IPM plan for campus

Pollinator education: In curriculum and/or continuing education and through service-learning

Complete annual renewal report and pay fee after first full calendar year is complete

## Bee Campus Committee



# Bee Campus USA Commitments

Pay initial application and annual renewal fees.

### Fee Based on Enrollment

- <3000 (\$100)</li>
- 3,000 5,000 (\$200)
- 5,001 10,000 (\$300)
- 10,001 20,000 (\$400)
- >20,000 (\$500)

# Bee Campus USA Commitments: Habitat

Create and enhance pollinator habitat on public and private land.







# Bee Campus USA Commitments: Reduce Pesticide Use

Campuses are required to adopt an IPM plan for grounds/landscaping. Schools conduct outreach and education campaigns.







# Education

Affiliates are amazingly creative: trivia nights, music, tabling, art, parades, social media, videos, apps, native plant giveaways, garden tours . . .







# Bee Campus US Commitments: Integrated Pest Management (IPM) Plan

### The 3 Legged Stool: Prevention, Monitoring, Minimizing Pesticide Harm



Towns and cities are home to numerous pollinators, including the gulf fritillary (left) and the endangered rusty patched bumble bee (middle). By creating healthy, diverse, pesticide-free habitat in your yard, not only are you enriching your own life, but you are helping prevent insect declines—and potentially, extinction, (Photos: (I) Dennis Krussc; (m) Kerezo Society / Sarina Jespen; (r) Matthew Shepherd).

#### Making Your Yard a Safe Place for Pollinators

Making your home pollinator-friendly is easy and rewarding. Most of North America's native bee species only forage over a distance of a few hundred yards, so with a little planning, your yard can provide a safe space for bees and other pollinators to thrive. All you need to give them are flowering plants throughout the growing season, undisturbed places to nest, and protection from pesticides. This guide will help you with the last item, managing yard pests in a pollinator-friendly way.

#### Urban Settings Provide Key Habitat for At-Risk Pollinators

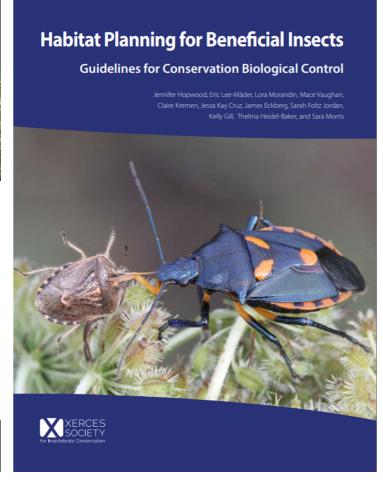
Around the world, bee and butterfly populations are experiencing declines. Twenty-eight percent of North American bumble bees and 19 percent of butterfly species in the United States are at risk of extinction. Residential areas provide important food and shelter for many of our threatened and endangered pollinators. By establishing pollinator habitat in your yard, you will be an active part of restoring species on the brink.

#### Provide for All the Needs of Pollinators

To ensure you can support the entire life cycle of bees and butterflies, consider the following ideas for your yard:

- Select a range of native and regionally adapted plants with bloom times that overlap throughout the growing season to provide food for pollinators. Be sure to include plants that bloom early and late in the season.
- Include butterfly larval host species for caterpillars to feed on. Consult Xerces' regional plant lists (available from <a href="mailto:xecs.org"><u>xerces.org</u></a>) to find recommendations for your area. For more detailed information, see Gardening for Butterflies (Timber Press, 2016).
- 3. Limit planting cultivated plant varieties, especially those bred for showy blooms. While often selected for









### Integrated Pest Management Policy

Ashland Parks and Recreation Commission (APRC)

Adopted by APRC on: May 24, 2010 Revised on:

February 28, 2011 June 27, 2011 February 27, 2012 April 22, 2013 April 28, 2014 May 22, 2017

Integrated Pest Management Policy
Ashland Parks & Recreation Commission (APRC)

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### Bee Campus USA Commitments: Recommended Native Plant List & Vendor List



The Southeast Region encompasses Alabama, Georgia, Kentucky, Louisiana, Mississippi, South Carolina, and Tennessee. Variation in topography, soils, and climate creates tremendous ecological diversity in the region. Wonderfully rich coastal marshes, longleaf pine communities, blackland prairie, mixed pine and deciduous forests, and riparian corridors provide diverse habitats from the Gulf and Atlantic Coasts to the Smokey, Blue Ridge, and Appalachian Mountains.

These habitats support a striking diversity of pollinators including specialist bees like the southeastern blueberry bee, squash bees, and hibiscus (or okra) bee; 18 bumble bee species; and thousands of other native bees, butterflies, flower flies, beetles, wasps, and moths. As a group, these pollinators maintain healthy, productive plant communities, provide food that sustains other wildlife, and play an essential role in crop production. Yet, ongoing declines in native plant communities threaten many pollinators in the region, including the Diana fritillary butterfly, Hesper's skipper, and Hessel's hairstreak.

Providing wildflower-rich habitat is the most significant action you can take to support pollinators. Adult bees, butterflies, and other pollinators require nectar and/ or pollen as their primary food source. Female bees also collect pollen and nectar as food for their offspring. Native plants, which are adapted to local soils and climates, are usually the best sources of nectar and pollen for native pollinators. Incorporating native wildflowers, shrubs, and trees into any landscape promotes local biological diversity by providing shelter and

food for wildlife. Native plants are better adapted to regional climate cycles, do not need fertilizers, and are less likely to

This guide features native plants that are highly attractive to pollinators and are well suited for small-scale plantings in gardens, on business and school campuses, in urban greenspaces, and in farm field borders. In addition to supporting native bees and honey bees, many of these plants attract nectar-seeking butterflies, moths, and hummingbirds, and some are host plants for butterfly and moth caterpillars. With few exceptions, these species occur broadly across the region and can be purchased as seed or transplants. Please consult regional Floras, the Biota of North Amerca's North American Plant Atlas (http://bonap.net/napa), or the USDA's PLANTS database (http://plants.usda.gov) for details on species's distributions in your area.

- Our Bring Back the Pollinators campaign is based on four principles:
- 1. Grow a variety of pollinator-friendly flowers:
- 2. Protect and provide bee nest sites and caterpillar host plants;
- 3. Avoid using pesticides, especially insecticides: and

registering your habitat on our nationwide map at:



oom Period	Common Name	Scientific Name	Flower Color	Max. Height*	Water Needs	Notes  This list of pollinator plants for the Southeast Region was produced by the Xerces* Society.  XXERC  For more information about pollinator conservation, please visit www.xerces.org.  This list of pollinator plants for the Southeast Region was produced by the Xerces* Society.
Early 2	Forbs				L: low; M: medium; H: high	
	Golden Alexanders	Zizia aurea	yellow	3	Н	Host plant for black swallowtail butterfly and grass miner moth; also attracts small beneficial wasps, bees, and flies.
	White wild indigo	Baptisia alba	white	4	L	Legume; very attractive to bees; host for hoary edge and frosted elfin butterflies, and the black-spotted prominent moth
Early-Mid 5	Butterfly milkweed	Asclepias tuberosa	orange	3	L	Host plant for monarch and queen butterflies, and the unexpected cycnia tiger moth; fantastic nectar source for many insects
	Clasping coneflower	Dracopis amplexicaulis	yellow/ red	3	М-Н	This showy annual coneflower is relatively low cost and establishes easily from seed; excellent for mass plantings
	Eastern smooth penstemon	Penstemon laevigatus	lavender	3	M	$Attracts\ bumble\ bees\ and\ mason\ bees,\ who\ squeeze\ into\ its\ beautiful\ tubular\ flowers.\ P.\ digital is\ and\ P.\ smallii\ are\ also\ excellent$
	Lanceleaf coreopsis	Coreopsis lanceolata	yellow	2	L	Extended bloom period makes coreopsis a valuable addition to pollinator gardens; host plant for the common tan wave moth
7 <b>Mid</b> 8 9	Black-eyed Susan	Rudbeckia hirta	yellow	3	L	Supports bees and birds with nectar and seed; host for the gorgone checkerspot and bordered patch butterfly; easy to grow
	Rattlesnake master	Eryngium yuccifolium	white	6	M	Supports a huge diversity of bees, butterflies, wasps, and more; host plant for the twirler moth. E. aquaticum good for wet sites
	Wild bergamot	Monarda fistulosa	purple	4	M	Along with dotted mint (M. punctata), is excellent for bees, butterflies, moths, and hummingbirds
Mid-Late 13	Eastern rosemallow	Hibiscus moscheutos	white/ pink/ red	8	Н	Showy flowers offer nectar to many insects; a host for the specialist hibiscus bee, gray hairstreak, and Io and other moths
	Joe Pye weed	Eutrochium fistulosum	pink	7	Н	Excellent late-season nectar source for bees, hummingbird moths, and other insects; host for common pug and arctiid moths
	Marsh blazing star	Liatris spicata	purple	4	M	A butterfly magnet that is also wonderful for bees late in the season. L. squarrosa is good for drier sites
	Narrowleaf mountain mint	Pycnanthemum tenuifolium	white	2.5	M	Mountain mints (Pycnanthemum spp.) have fragrant foliage and are visited by blue and copper butterflies, bees, wasps, and flies
	New York ironweed	Vernonia noveboracensis	purple	7	Н	Attracts many butterflies and bees, including Melissodes denticulata, a specialist longhorn bee. V. gigantea is also recommended
	Wingstem	Verbesina alternifolia	yellow	6	M	Supports a great diversity of bees and wasps; host plant for the silvery checkerspot, the summer azure, and the gold moth
Late	Narrowleaf sunflower	Helianthus angustifolius	yellow	6	М-Н	Supports many longhorned bees that are sunflower specialists; host plant for numerous butterflies and moths
	Wrinkleleaf goldenrod	Solidago rugosa	yellow	6	М-Н	Goldenrods support a huge diversity of bees, butterflies, moths, wasps, and flies; vital resource for fall-migrating monarchs
	Shrubs and Trees					
Early 19	Cockspur hawthorn	Crataegus crus-galli	white	35	L	An important early spring nectar source for bees; supports a large number of moths, butterflies and other insects
	Eastern redbud	Cercis canadensis	pink	30	L	An important spring nectar source for bees; host plant for many butterflies and moths; leafcutter bees use leaves for nesting
Early-Mid 21 22	Highbush blueberry	Vaccinium corymbosum	white/ pink	12	M	Supports the southeastern blueberry bee, mining bees, and bumble bees, plus many butterflies and moths; brilliant fall color
	New Jersey tea	Ceanothus americanus	white	3	L-M	An excellent early spring pollen and nectar source for bees; host plant for many butterflies and moths
	Pasture rose	Rosa carolina	pink	3	L	Provides nectar and pollen for bees and is a host for a wide diversity of butterflies and moths; edible petals and rosehips
Mid-Late	Buttonbush	Cephalanthus occidentalis	white	12	Н	Blooms are butterfly magnets, vital in mid-season when little else is in flower; hosts many butterflies and moths
	Purple passionflower, maypop	Passiflora incarnata	purple	vine	L-M	Attracts bees and hosts gulf and variegated fritillaries, the Plebeian sphinx moth, and the zebra longwing; fruits are edible



# Bee Campus USA Commitments: Public Acknowledgment

Publicly acknowledge Bee Campus USA affiliation with signs and an online





# Renewal Fee

### Annually apply for renewal and report on last year's activities.

#### Bee City USA - Tualatin

Report on 2021

#### Pollinator Habitat Creation & Enhancement

16 events were held in Tualatin in 2021 that enhanced pollinator habitat. 9 of those events were planting events where native trees shrubs and flowering herbaceous plants were installed. The remaining 7 events were site preparation for future plantings (invasive species removal) and restoration site follow up care (watering / invasive removal).





Put Down-Roots in Tualatie

#### Education & Outreach

Through the Put Down Roots in Tualatin program, the City prepared half-acre site for restoration at Jurgens Park. In October and November two planting events were held where 105 volunteers planted and mulched 900 native trees and pollinator friendly shrubs. Additionally Jurgens Park Community garden was planted and maintained by volunteers from June through September. In this garden herbs, flowers and vegetables were planted to create a pollinator friendly demonstration garden.

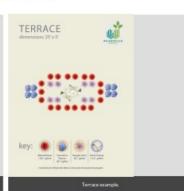
### Bee City USA - Wilsonville OR

Report on 2021

#### Pollinator Habitat Creation & Enhancement

In spring of 2021, a pollinator garden was installed in Memorial Park. The garden features four distinct gardens (i.e., patio, front porch, terrace, courtyard) of varying sizes. The gardens are intended to be examples of a pollinator-friendly garden which can be replicated throughout the community.







#### Education & Outreach

The City of Wilsonville offered four pollinator events in 2021, which included: 1. Trillium drive-thru (April 8, 2021) – free trillium plants provided to the public at this drive-thru event. 2. "Kiss the Ground" moving screening (April 15, 2021) – documentary about "regenerative agriculture," which advocates for reducing toxic pesticides and fertilizers. 3. Learn to Make a Bee Hotel (April 18, 2021) – virtual workshop on building bee hotels. 4. Wildlife Garden Making Class (November 6, 2021) – participants learned about creating wildlife and pollinator gardens. None of the events were hosted by the

# University of Georgia



# University of Georgia







# Signage





# Signage

This area has been designated as a GROW ZONE





# Signage

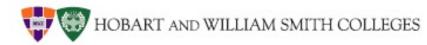


# **GROW ZONE**

### WHY IS THE GRASS TALLER HERE?

By allowing the grass to grow naturally we are:

- · Increasing habitat
- Promoting sustainable landscaping
- · Reducing emissions
- Improving storm water run off
- Providing area for observation and learning







### Free Resources

xerces.org/pollinator-resource-center (with regionally-specific resources)

beecityusa.org/apply-to-bee-campus-usa/

## Pollinator Conservation Resources: Southeast Region



(Photo: Xerces Society / Ray Moranz)

Welcome to our Pollinator Conservation Resources for the Southeast Region! Here you'll find region-specific collections of publications, native seed vendors, and other resources to aid in planning, establishing, restoring, and maintaining pollinator habitat—as well as materials to help you learn about the species of invertebrates and native plants you might encounter. For more resources, see our <u>Publications Library</u> or learn about our <u>Pollinator</u>

APPLICATION RESOURCES Pollinator-

### Bee Campus USA Pu

- **⊘** Brochure
- ❷ Bookmark

## **Application Preview**

This is meant to give you a preview application please scroll down and online portal.

- Ø PDF

Bee Campus LISA D

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## Questions?

# BeeCityUSA.org laura.rost@xerces.org



Photo: Jackie Morgan, Norcross Bee City Committee