



# Bee City USA Annual Report for 2018 Pollinator Conservation & Education



## RALEIGH, NORTH CAROLINA

### EDUCATION & OUTREACH



*Bee Better Teaching Garden Tour*

Known as the City of Oaks, the City of Raleigh has a long history of valuing and supporting pollinators, recognizing them as partners in the food supply, and enjoying the significant environmental benefits they provide. For decades, the City of Raleigh has managed urban landscapes and public lands that include many municipal parks, greenways and nature preserves. The City of Raleigh and the community-at-large, are committed to raising awareness of the essential roll bees and other pollinators play in the complex food web and our natural environment.

In this reporting period, the City of Raleigh and its partners have provided over 90 presentations, workshops and awareness events, with nearly 200,000 participants, readers and followers.

With so many of the habitat projects accessible and visible to the public, these areas have also become education and outreach opportunities, creating overlaps between habitat enhancement and education efforts. Becoming a Bee City USA certified affiliate in June 2017, gave the City and its community partners an opportunity to communicate across City departments and the community to discover the many ways Raleigh is supporting pollinators and educating the public.

#### **CITY OF RALEIGH MUNICIPALITY**

At the City of Raleigh Neuse River Resource and Recovery Facility, the Public Utilities Department plants more than 75 acres of sunflowers annually along the greenway and an additional 264 acres of fields are planted with species that support pollinator and wildlife habitat. The fields were not suitable for visitors but attracted so many people in 2017 that they became an opportunity for outreach, and five Bee City USA signs were erected around the area to educate onlookers and visitors as to the nature of the fields.



*Mayor Nancy McFarlane on right*

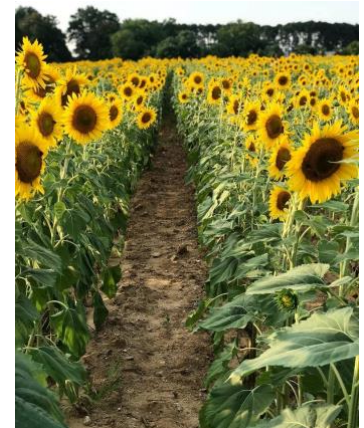
The Public Utilities Department partnered with Dorothea Dix Park in 2018 to plant 150,000 sunflowers over 5 acres, creating fields suitable for public visitors to walk through taking photos and making memories. The first Sunfest was born and held July 14, 2018 and this is expected to become an annual event. It was expected to host about 5,000 participants. In addition to the hundreds of visitors to the fields throughout the month, Sunfest welcomed over 15,000 people from across the state to learn about pollinators and enjoy the flowers! Information regarding the many benefits of sunflowers to pollinators and our society was shared throughout the event. The City of Raleigh Office of Sustainability stayed busy providing children and adults a chance to plant and take home an additional 200 sunflowers.

The sunflower fields and Sunfest created a social media storm that was reflected in #hashtag impressions across all forms of social media. One person commented in their post that they used to be afraid of bees until they were able to visit the fields.

Another element of this outreach project was to educate the public about the creation and use of biofuels. After the field and flowers were shared with the public, the sunflowers were harvested and used to create biofuel. The mobile biofuels processing trailer was on sight to demonstrate the process.

The City of Raleigh Parks, Recreation and Cultural Resources hosted the International Perennial Plant Society on a tour for 50 people of the Raleigh Convention Center, Sassafras All Children's Playground at Laurel Hills Park, and Fred Fletcher Park during a 2-day conference held in Raleigh in August.

The City of Raleigh Transportation Department enjoys being involved with pollinators, as well. At the recently opened Raleigh Union Station, employees provide tours that are sure to point out the pollinator garden constructed there.



Each year, Pollinator projects are encouraged to apply to the Environmental Advisory Board for recognition at the annual Environmental Awards, which recognizes individuals and organizations that are good stewards of the environment.

## **COMMUNITY**

We are fortunate to have a number of pollinator supporters and educators, from private businesses to non-profit organizations, in our area that promote pollinators through a variety of outreach mechanisms including a special beer production, to educate and encourage public support.

Raleigh City Farm, a nonprofit urban farm in downtown Raleigh, is a strong supporter of habitat in the downtown Raleigh vicinity. They have offered more than 20 pollinator related workshops, presentations or events that attracted 435 people. The farm is a partner of the Piedmont Picnic Project, which educates people to protect pollinators by what you put in a garden.

Glenwood Citizen's Advisory Council (CAC) hosted a Pollination Celebration. In February, the group held their monthly meeting at Glen Eden Pilot Park and hosted a Plan-and-Plant-a-Thon to plan for the Pollination Celebration to be held in April. At this meeting, 7 CAC members and Raleigh staff planted seeds for hundreds of pollinator plants to be given away at the celebration.



*Plan-and-Plant-a-Thon Seed Starter Kits*



*Alice Hinman of Apiopolis*

The Pollination Celebration was held by the Glenwood CAC at Glen Eden Pilot Park on Saturday, April 26, where attendees could hear from experts about toxic free pest management and natural alternatives to insecticides, the diversity and ecology of North Carolina's native bees, and from Alice Hinman of Apiopolis about natural beekeeping practices. There were activities and information offered by Highland United Methodist Church Community Victory Garden, North Carolina Native Plant Society, master gardeners, and a plant and seed swap.

Each year the North Carolina Natural Sciences Museum hosts BugFest and over 35,000 visitors come to experience more than 100 exhibits, crafts, games and activities, including beekeeping. In 2018, visitors were able to register for a beekeeping class. In addition to a number of bug presentations, there were 2 presentations specific to native bees and NC bumblebees.

Prairie Ridge Ecostation furthers the Natural Sciences Museum of enhancing public understanding and appreciation of the natural environment by providing an outdoor learning space in a wildlife-friendly landscape. In addition to a number of wildlife programs offered to the public, in June and July the ecostation held 3 events about pollinators: Buzz Through the Garden, Plants and Pollinators, Introduction to Butterflies, and Moths at Night.

The North Carolina Gregg Museum of Art & Design at North Carolina State University hosted an educational walk-through talk in September 2017 entitled "The Bees' Needs", during which NCSU Professor Anne Spafford discussed the importance of varying aesthetic and functional elements of pollinator gardens, specifically for native bee species.

Apiopolis is a local non-profit based in Raleigh that has installed hives all over the city on rooftops, at local farms, community gardens, the art museum, and in the backyard of a brewery, which used the honey to brew a special beer to serve the night Alice gave a talk there. They have partnered with many local community gardens and other non-profits to develop programming and projects across the city and enhance habitat. Apiopolis and Alice Hinman, Founder and President are very active in the community using events of all sizes to educate and raise awareness and is a former City of Raleigh Environmental Award recipient.

Bee Better, Inc, a nonprofit based in Raleigh, is on a mission to educate homeowners, community leaders, and developers of the importance of sustainable, organic, and water-wise garden design to support pollinators and other wildlife. Helen Yoest, Founder and Director speaks in communities, manages a blog and website, offers workshops held at the JC Raulston Arboretum, and provides garden tours. Helen has spent a lifetime caring for the environment through gardening and is also a former City of Raleigh Environmental Award recipient.

Bee Downtown is a Raleigh based business that grew out of Leigh-Kathryn Bonner's love for bees and her lineage of rural beekeepers. This company is currently serving over 40 businesses. In addition to installing and maintaining beehives, they have created a turn-key environmental program for business that includes hands-

on beekeeping classes for employees and honey from the hives.

Bee Downtown Foundation is a nonprofit leg of Bee Downtown and provides pollinator education to organizations, schools, and by hosting open events for the community. They provide resources for educators to use in the classroom and strive to excite communities and inspire change.

Wake County Beekeepers Association was formed to provide a forum for hobbyists and professionals to meet and share one another's experience and expertise with beekeeping. The guiding goal is to advance the practice of modern beekeeping in the local area. They hold regular monthly meetings, workshops from beekeeping to building hives, and even host a garage sale where you can sell used beekeeping equipment. They offer resources, support, and swarm removal with coordinators working 5 different response zones across the county. They also offer community outreach and education.

## POLLINATOR HEALTH & HABITAT



*Bee Better Teaching Garden where monthly meetings are held with members*

Becoming a Bee City USA certified affiliate in June 2017, gave the City and its community partners an opportunity to open discussions and inventory how City departments, organizations, businesses and individuals across the community support pollinator habitat. We were only able to scratch the surface because this is a cause that is embraced by the community.

The City has taken a number of steps to ensure continued support for pollinators. In 2017 the 2030 Comprehensive Plan was updated to include commitments to a range of activities related to pollinator vitality and public education. In October 2017, Mayor Nancy McFarlane issued a Proclamation to recognize October

21, 2017 as Pollinator Day and in 2018 she issued a Proclamation recognizing June 18-24 as National Pollinator Week for the City. The City also supports pollinator habitats through Urban Agriculture and Pollinator grants, community partnerships, and pollinator projects.

#### **CITY OF RALEIGH MUNICIPALITY**

Many departments have sought opportunities to plant pollinator gardens in parks, vacant, unused, or problem areas. With so many of the habitat areas accessible and visible to the public, these areas also become education and outreach opportunities.

The City of Raleigh Transportation Department kept pollinators in mind

when designing and building Union Station, Raleigh's new multimodal transit facility in the Downtown Warehouse District. Thanks to a visionary team at the City of Raleigh's Urban Design Center, the new transit facility includes a pollinator garden. Funded in part by a grant from Burt's Bees and by the City of Raleigh Sustainability Fund, the Raleigh Union Station Pollinator Garden will "perform as a truly regenerative landscape" coupling low-level remediation to detoxify contaminated rail yard dirt while creating pollinator habitat.

The City of Raleigh Public Utilities Department has been very supportive of pollinators by conducting pilot initiatives and incorporating pollinator habitat into their projects. The Neuse River Resource and Recovery Facility plants more than 75 acres of sunflowers annually that are processed into biodiesel to fuel the equipment at the facility and serves as a massive field of pollinator habitat for bees and other species.

The agricultural field's buffer zones are planted with species that support pollinator and wildlife habitat, and fields that are unsuitable for reuse water irrigation and biosolid application are converted to low-maintenance plant pollinator species. This includes more than sixty acres of various types of clover, for a total of 339 acres. Clover was chosen because it offers a number of benefits to humans, the soil, and bees! As this area along the greenway become popular with residents, it began to educate as well as provide habitat and a biofuel source.

After learning of a recommendation to support pollinators under the Federal Fixing America's Surface Transportation Act, the Public Utilities Department took initiative to support pollinators at a project on Wrenn Road, where five city-owned acres of land adjacent to Wrenn Road was planted with white clover to provide pollinator habitat.

The Parks and Recreation and Cultural Resources Department has several initiatives that support pollinator habitat: native plantings, pollinator gardens, butterfly gardens, and outreach and education programs. The Department has a policy to prioritize the planting of native species and cull invasive species using the North Carolina Native Plant Society list as a guide. This is an effective way to build native wildlife habitat that sustains pollinators. Some of the major projects are listed below:

- At Buffalo Road Athletic Park, staff implemented 2 projects, planted 350 native plants and 6 native trees with the help of 24 volunteers who worked 192 hours to create 10,000 square feet of pollinator friendly habitat.
- At Cowper Drive Park, staff partnered with neighbors to Adopt-A-Park. These 35 volunteers donated 105 hours to assist staff in removing 168,141 square feet of invasive plants without the use of herbicides. To restore the area, they planted over 50 native plants, including trees, shrubs, and wildflowers leaving the area natural to support various wildlife with flowers and fruit while offering an aesthetic benefit to human visitors.
- Dorothea Dix Park partners annually with the City Public Utilities Department to plant 150,000 sunflowers across 5 acres that are used for pollinator and public habitat. In the Fall of 2018, Parks staff planted 50,000 daffodil bulbs in "Flowers Field" that should make a great habitat area in the Spring.

**In this reporting period, the City of Raleigh and its partners have converted over 339 acres of lawn. to habitat, planted 8 acres of pollinator plants, removed 13 acres of invasive plants without herbicides, and left 158 acres natural for pollination and foraging.**

- Fallon Park is home to 4 habitat projects that include invasive plant removal and habitat restoration. Partnering with neighbors to Adopt-A-Park, 27 volunteers donated 81 hours assisting staff in removing 4287,194 square feet of invasive plants, and planting trees and shrubs, leaving 259,182 square feet natural.
- Forest Ridge Park partnered with the Neuse River Hawks, a community organization, to turn an unsightly traffic circle into a beautiful pollinator Garden.



*Durant Nature Reserve Invasive removal*

- Fred Fletcher Park hosts a wetland garden with a variety of evergreen and perennial plant species and 4 pools to capture stormwater, providing an excellent habitat for pollinators. With the help of 20 volunteers who contributed over 100 hours, 2.5 acres were filled with 250 native plants.
- Horseshoe Farm Nature Preserve's rich natural and cultural resources as well public input led to the concept of a nature preserve which guided the overall planning principal with the intent to preserve the existing character of the property and minimize the environmental impacts to the site. The Preserve was developed using sustainable practices and was selected by the Sustainable Sites Initiative (SITES) to participate in a new program testing the nation's first rating system for green landscape design, construction and maintenance. The Preserve employs sustainable features such as; minimizing site disturbance, eliminating the need to be connected to public utilities, implementing the City's first compost restroom facility, providing on-site stormwater management, protecting wetlands and riparian buffers, using native plants, regional materials, permeable pavement and solar lighting. The edge of the mowed turf area was seeded with a native plant pollinator seed mix (about 350 sq ft) and has been extremely successful.
- Poplar Street Park worked with neighbors to Adopt-A-Park and 41 volunteers worked 82 hours to assist staff in clearing 18,642 square feet of invasive plants without herbicides, and planted more than 69 trees, shrubs, and wildflowers, leaving 42,253 square feet of the area natural.
- Sassafras All Children's Park is home to a 2-acre perennial garden providing habitat where children of all abilities are able to play among the flowers and enjoy a variety of play experiences.
- Sertoma Arts Center, with the help of volunteers, was planted with hundreds of pollinator plants in a 2,800 square foot area to restore the area, control stormwater and prevent erosion.



*Sertoma Arts Center*



*Pollinator hotel at Walnut Creek Wetlands Center*

- Walnut Creek Wetlands Center has 58 acres of natural and pollinator habitat. Its mission is to make people aware of the importance of wetlands for clean water, habitat, and recreation while emphasizing the importance of human interaction with nature. There is a pollinator hotel on site and the center hosts many nature education events.
- Wilkerson Preserve Park has several native plant gardens located around the 157 acres donated and committed to nature and wildlife education.
- The City of Raleigh Parks staff also manages the landscaping for two public venues in downtown Raleigh:
  - Red Hat Amphitheater is home to a 300 square foot raised concrete bed, planted with pollinator plants, near the entrance of the amphitheater.
  - At the Raleigh Convention Center, Parks staff along with 22 volunteers that contributed 110 hours, installed 2 planters that included a dry river bed, one with a water feature, coupled with 300 native perennials and grasses in a 1,575 square foot area to showcase a sustainable pollinator landscape with year-round interest and color.

City Departments continue to evaluate opportunities to host pilot projects and partner with the community to support pollinator species and habitat. There are also numerous community resources dedicated to promoting pollinator habitat.

## COMMUNITY

The City has Research Partnerships with North Carolina State University (NCSU) and the State of North Carolina's Wildlife Resource Commission to determine the most suitable pollinator species for various sites and applications. For example, discussions are ongoing to determine the best species to plant under solar panels that would require no maintenance or cutting and thrive in the shaded area, while providing the added benefit of pollinator habitat.

NCSU has pollinator habitat projects around campus and the city, including three bee hotels in three locations. Aside from the university, the State of North Carolina has many programs and projects located in Raleigh and the surrounding area that include Prairie Ridge Ecostation, the North Carolina Museum of Natural Sciences and the North Carolina Gregg Museum of Art & Design that offer programs and habitat areas.

Raleigh City Farm is a strong supporter of habitat in the downtown Raleigh vicinity. This formerly vacant one-acre lot hosts multiple habitat projects that are supported by more than 794 volunteers that spent over 1,600 hours at the farm.

We are fortunate to have so many passionate pollinator supporters in our area that promote pollinators and habitats through a variety of outreach mechanisms, with representatives from individuals to private businesses and everything in between, to help support pollinator habitat and public involvement.

## POLICIES & PRACTICES

The Committee that supports the Bee City USA designation for City of Raleigh includes the Environmental Advisory Board (EAB) with direct staff support from the City of Raleigh Office of Sustainability. The EAB is a citizen board appointed by Raleigh City Council to advise on matters related to environmental stewardship in Raleigh. The EAB creates a work plan each year that focuses on environmental issues, and on education and outreach. The EAB is tasked with holding an Environmental Awards celebration each year to educate, celebrate and support the public in environmental issues. Urban Agriculture and pollinator habitat have been a focus area of the EAB, and they support this work through discussing topics and potential initiatives for Raleigh; as well as providing grants and awards to local individuals, businesses and organizations that support pollinator habitat in Raleigh. Several accolades and funding have been awarded over the years to organizations, and this recognition also allows for these best practice examples to be used as education and outreach tools with the broader community. In addition, the Office of Sustainability works collaboratively in the community and with all City Departments. This allows for the continued collaboration and development of departmental city work as well as community-wide work in support of pollinators and Bee City.

**Recommended Locally Native Plant Species List—**

**[https://www.ncwildflower.org/native\\_plants/recommendations](https://www.ncwildflower.org/native_plants/recommendations)**

**Regional Native Plant Supplier List— [https://ncwildflower.org/native\\_plants/nurseries](https://ncwildflower.org/native_plants/nurseries)**

**Pollinator Friendly Integrated Pest Management Plan—To be developed**

## CONTACT US!

**Committee—Environmental Advisory Board**

**Website—**

**<https://www.raleighnc.gov/government/content/BoardsCommissions/Articles/EnvironmentalAdvisoryBoard.html>**

**Social Media— <https://twitter.com/RaleighGov/lists/raleighgov-on-twitter>**