



Bee City USA Annual Report for 2018 Pollinator Conservation & Education



HENDERSONVILLE, NORTH CAROLINA

EDUCATION & OUTREACH



Perhaps the highlight of the year was having Estela Romero, monarch educator and journalist who works in the overwintering sanctuaries near her home in Anganguero, Michoacán, make presentations to area school children in September. Photo: Kim Bailey

Bee City USA – Hendersonville tabling events and presentations in 2018

Hendersonville Green Drinks: Protecting Pollinators, January 11

Kim Bailey, the coordinator of the Bee City USA - Hendersonville program and a member of the national Bee City USA Board of Directors, spoke about what each of us can do to provide pollinators with a healthy habitat. Just as plants and pollinators have collaborated for millions of years, Bee City USA believes that communities have the opportunity to join forces to sustain pollinators through more conscientious landscape management. Approximately 30 people attended.

Arbor Day Celebration, May 4

Held at Bruce Drysdale Elementary. Dr. Jim Volk coordinated the program on behalf of Four Seasons Rotary, and the tree board supplied publicity and the American Chestnut tree (beloved by pollinators before the blight that virtually eradicated the species from the east coast), which was planted on the Bruce Drysdale campus. Officials with the City, the NC Forest Service, and the Tree Board were on hand, as well as teachers and 5th grade students at the school.

Garden Jubilee (Downtown Hendersonville), Saturday, May 26 – Sunday, May 27

In partnership with the City of Hendersonville Stormwater Division and Henderson County Beekeepers Association, Bee City USA - Hendersonville provided an exhibit to raise awareness of pollinators and ways to enhance pollinator habitat. "Bee the change you want to see in the world" seed packets were given away.

Packets included enough seeds to cover 10 square feet. Ideal for full or part sun locations, the seed mix featured 19 nectar-rich types of annuals and perennials. In addition, donations to fund upcoming pollinator education efforts raised \$250. As a thank you, each donor received a potted mountain mint plant to take home. Garden Jubilee is the second-largest event held in downtown each year, attracting about attracting about 200,000 people. The Southeast Tourism Society once again named Garden Jubilee one of the Top 20 Events in the Southeast. 175,000 – 200,000 people attended the event.

Henderson County Beekeepers Association Meeting, Monday, July 16

Bee City USA – Hendersonville Coordinator, Kim Bailey, made a presentation about “The Good of the Hive” project, showed a short film about the project, and presented the “Scout Bee” painted by Matt Willey for the Hands-On! Children’s Museum in Hendersonville. Approximately 40 people attended.

North Carolina State Beekeepers Association Meeting, July 19 – 21

Hendersonville Mayor, Barbara Volk (dressed in black and yellow), welcomed attendees to the 7th Bee City USA affiliate in the nation and commented on the importance of honey bees to agriculture in Henderson County. Bee City USA – Hendersonville Coordinator, Kim Bailey, also made a brief presentation about “The Good of the Hive” project and presented the “Scout Bee” painted by Matt Willey for the Hands-On! Children’s Museum in Hendersonville. Approximately 800 people attended.

See How It’s Done: Shade Garden Tour, July 22

Hosted by the City of Hendersonville Tree Board, this private garden that is mostly shade with bright sunny spots was the site of guided tours to see how this Certified Backyard Habitat and two-time landscape-award-winning garden has been arranged and constructed for pleasure, beauty, and preservation of trees. The event attracted both local and regional attendees in spite of severe-weather predictions. The rain stopped to accommodate the 12 visitors.

Apple Festival (Downtown Hendersonville), August 31 - September 2

In partnership with the Henderson County Beekeepers Association, Bee City USA - Hendersonville tabled to raise awareness of pollinators and ways to enhance pollinator habitat. Attendance at the festival was 275,000.

Hendersonville Green Drinks: Why Bees?, September 13

Henderson County Beekeepers Association member, Jim Poe, spoke about why bees are getting so much attention these days – what’s the big deal? Jim explained the immense value of bees to the production of food is difficult to calculate, but suffice it to say, it’s not just honey that benefits humans. Photographer turned beekeeper, Poe manages 34 of his own hives, plus helps others with theirs. Approximately 30 people attended.

Hands On! Children's Museum Parents & Caregivers Workshop, September 18

Guests enjoyed complimentary Hard Cider and Pizza as Haizlip Studio led a focused discussion on museum design to elicit audience members’ ideas and dreams about the future look and feel of a re-imagined children's museum. Hendersonville Bee City USA – Hendersonville Coordinator, Kim Bailey, made a presentation about “The Good of the Hive” project and presented the “Scout Bee” painted by Matt Willey for the Hands-On! Children’s Museum in Hendersonville.

Hands On! Children's Museum Community Engagement Workshop, September 25

Guests enjoyed Wine and Hors d'œuvres as Haizlip Studio led a focused discussion on museum design. Audience members shared ideas and dreams about the future look and feel of a re-imagined children's museum. Hendersonville Environmental Sustainability Chair, Alesia Griesmyer, made a presentation about “The Good of the Hive” project and presented the “Scout Bee” painted by Matt Willey for the Hands-On! Children’s Museum in Hendersonville.

Farm City Day , Saturday October 6

In partnership with the Henderson County Beekeepers Association, Bee City USA - Hendersonville tabled to raise awareness of pollinators and ways to enhance pollinator habitat. Farm City Day was started in 1955 by the Cooperative Extension Service and Kiwanis International. The Festival highlights the dependency of farm

people and city people on each other for products and services essential to modern living. The Farm City program was designed to encourage the exchange of ideas and development of shared activities creating a feeling of mutual understanding and good will. Approximately 20,000 people attended.

Projects funded with small grants

Bee City USA - Hendersonville USA used a portion of a \$1300 grant from Duke Energy Foundation to Bee City USA to commission artist Matt Willey (The Good of the Hive) to paint the "Scout Bee" for the Hands On! Children's Museum in Hendersonville. The remainder of the grant funds combined with City funds were used to create a guided pollinator walk kit. The kit is available for loan for up to a week. Kit Contents: 12 sturdy child-size insect nets, 12 special bug capture bubbles, 16 bug boxes with magnifying lids (various sizes), 12 magnifying glasses, 1 magnifying loupe, 2 pop-up insect habitats, 2 sets of laminated fold-out field guides (NC Trees & Wildflowers, NC Butterflies & Moths, Bees & Other Pollinators), 2 sets of laminated Bee All-Star cards - <https://www.greatsunflower.org/node/1143360> (or <https://cpb-us-w2.wpmucdn.com/u.osu.edu/dist/f/45464/files/2017/05/Bee-ID-cards-sunflower-project-p12aj1.pdf>), 2 sets of laminated EOL Bee Observer cards - https://education.eol.org/observer_cards/bee_cards_ebook.pdf, 2 Bee City USA antennae posters, 1 monarch life cycle poster, 1 monarch migration map poster, 1 digital refractometer, 2 sets of tuning forks (to demonstrate buzz pollination)

City funds were also used to purchase exhibit materials including honeycomb table cloths, brochure stands, educational brochures from pollinator.org, antennae making supplies (headbands and pipe cleaners), honey sticks, and kid-friendly pollinator stickers and bookmarks from bbbseed.com.



25 participants installed a rain garden using native plants at Bruce Drysdale Elementary School in March. Photo: Kim Bailey

Pollination Celebration Month (June)

Oklawaha Greenway Non-Native Invasive Plant Removal, Thursday, June 7

Presented by: MountainTrue

Participants were trained on identifying target invasive plants and control methods (manual and herbicide application), and then walked to a section of the Greenway near the wetland forest and to remove three invasive species to restore native wetland habitat.

Gardening for Pollinators in Western North Carolina, Thursday, June 7

Presented by: Henderson County Extension

Butterflies, bees, and green lacewings are just a few of the insects that benefit humans. Class members learned how to identify pollinating insects in the landscape and vegetable garden; which plants feed, shelter,

and provide habitat for pollinating insects; and how to build a pollinator house! Because pesticides use can harm beneficial insects, participants learned how to control pest insects with non-pesticide techniques. Steve Pettis, Horticulture Agent with NC State Extension was the instructor.

Summer Garden Tour, Friday, June 8

Presented by: Bullington Gardens

This 90-minute magical tour of Bullington Gardens (a haven for native plants) in full bloom took participants through some of the most popular gardens including the Perennial, Rain, Shade, Reflection, Herb, Native Woodland, Pollinator, Dahlia, Therapy, Fairy and Sally's Garden.

Introduction to Beekeeping, Sunday, June 10 & Saturday, June 16

Presented by: Henderson County Beekeepers Association and Veterans Healing Farm

Topics included: basic bee biology, equipment and terminology, how to get bees, beekeeper responsibilities, investment (cost), producing local honey, benefits of joining a bee club, and more.

Maintaining the Mountain Landscape Garden, Monday, June 11

Presented by: Henderson County Extension

Steve Pettis, Henderson County Commercial and Consumer Horticulture Agent, taught gardeners the most effective ways to maintain the mountain landscape utilizing bee friendly techniques.

Gardening for Pollinators Online Education Series, June 18-22, noon - 12:20 PM AND June 22,

Presented by: Gardens That Matter

Garden educator and author Amy Landers provided a short daily lesson about pollinators in our gardens. On Friday evening, she provided an in-depth webinar and live Q&A about pollinator-friendly plants and practices. Location: Online at www.facebook.com/gardensthatmatter/videos

Lewis Creek Preserve Nature Walk, Tuesday, June 19

Presented by: MountainTrue and Conserving Carolina

Lewis Creek Preserve is an eight-acre preserve protected and managed by Conserving Carolina. MountainTrue Ecologist and Public Lands Director, Bob Gale, led a slow hike along the trail, interpreting the plant life, wildflowers, and value of pollinators on this property. The visit included a boardwalk which overlooks an example of the remaining rare Southern Appalachian Bog ecosystems. Bob and MountainTrue have special expertise in managing these bogs and in addressing their threats, including non-native invasive plants.

Guided Nature Walk, Saturday, June 23

Presented by: The Park at Flat Rock

Certified naturalist Rosalie Estey led a nature walk featuring pollinators and flowers. The walk began at the welcome center/pavilion area and included a stroll through the pollinator garden and future wildflower meadow area.

Pollinator Day, Saturday, June 23, 10 AM – 2 PM

Presented by: B.B. Barns Garden Center and Henderson County Beekeepers Association

B.B. Barns held a seminar on the best pollinator blossoms to use in cut flower arrangements. An observation bee hive was on display, with members of the Henderson County Beekeepers Association on hand to answer questions.

Farm, Field and Forest: Discover Pollinators at Connemara, June 1-30

Presented by: Carl Sandburg Home National Historic Site

The Farm, Field and Forest TRACK Trail brochure takes visitors by the gardens, goats and pastures while following the footsteps of Carl Sandburg's grandchildren. Activities in the brochure guided guests to learn about the various plant and animal communities that work together at Connemara.

Pollinator Seed Packet Giveaway, June 1-30, open weekdays from 9:00 AM - 5:00 PM

Presented by: City of Hendersonville - Tree Board and Environmental Sustainability Board

As part of the effort to expand local habitat for pollinators, Hendersonville Bee City USA offered free seed packets to plant a patch of flowers to feed the bees, butterflies, and hummingbirds. These "Bee the change you want to see in the world" packets included enough seeds to cover 10 square feet. Ideal for full or part sun locations, the seed mix featured 19 nectar-rich types of annuals and perennials. Quick-blooming garden favorites such as zinnia and cosmos flower later last summer while native wildflowers including purple coneflower, black-eyed susan, and lance-leaf coreopsis will provide years of blooms in the seasons to follow. Seed packets contain 100% pure, non-GMO, neonicotinoid-free seeds guaranteed to grow by American Meadows. For a complete listing of species and links to more details, visit www.americanmeadows.com/wildflower-seeds/wildflower-mix/honey-bee-wildflower-seed-mix. Over 500 packets of seed were distributed.

Monarch Month (September)

Monarch Butterfly Day, Saturday, September 8

Presented by: The North Carolina Arboretum

Known for their stately colors and elegant wings, millions of monarch butterflies travel more than 2,000 miles from across North America to Mexico each fall, where they cluster in about a dozen small areas. Unfortunately, the monarch population has declined from 556 million in 2004 to a historic low of 33.5 million in 2014. This is due to the butterflies' dramatic loss of habitat and food sources, including the milkweed plant. As part of a national effort to stave off the decline of monarch butterflies, the North Carolina Arboretum hosted its fourth annual Monarch Butterfly Day inside the Arboretum's Education Center and throughout its gardens. As part of this free event, participants learned ways to help monarch butterflies, have the opportunity to purchase milkweed, create make-and-take butterfly crafts and witness monarch butterfly releases. Bee City USA - Hendersonville assisted with the event by providing a tent of live butterflies.

Monarch Conservation Mini-Symposium, Saturday, September 22

Presented by: The North Carolina Arboretum, Bee City USA - Hendersonville, Bee City USA - Asheville

Monarch educator, Kim Bailey; international monarch butterfly expert, Estela Romero; and cutting-edge monarch population researchers, Dr. Nickolay Hristov and Dr. Louise Allen; gave a special monarch conservation mini-symposium. Following the symposium, some participants explored the Blue Ridge Parkway in search of monarchs along their migration route to Mexico.

Flight of the Butterflies Movie Screening, Saturday, September 22

Presented by: The North Carolina Arboretum, Bee City USA - Hendersonville, Bee City USA - Asheville

The "Flight of the Butterflies" is an awe-inspiring film that tells the story of extraordinary insect endurance and human perseverance. Viewers learned about the remarkable migration of the monarch butterfly and the determined scientist, Dr. Fred Urquhart, who spent 40 years trying to discover exactly where the butterflies mysteriously disappeared when they flew south for winter. This interconnected scientific adventure story spans not only thousands of miles, but generations. Following the screening, international monarch butterfly expert, Estela Romero, hosted a special Q&A focused around her hometown of Angangueo, Mexico and the nearby monarch overwintering sanctuaries.



Monarch School Presentations by Estela Romero, Monday, September 24 – Friday, September 28

In partnership with Conserving Carolina, Bee City USA - Asheville, and participating schools, Bee City USA - Hendersonville delivered monarch education programs presented by Estela Romero at the following 7 schools:

- Dana Elementary - <https://www.blueridgenow.com/news/20180924/dana-students-learn-from-expert-about-monarch-butterflies>
- Glen Arden Elementary
- Montford North Star Academy
- Vance Elementary

- Edneyville Elementary - <http://www.hendersoncountypublicschoolsnc.org/edn/2018/09/28/symbolic-monarch-butterfly-migration-program/>
- Sugarloaf Elementary
- West Marion Elementary

At some schools, Estela spoke to schoolwide or multi-grade assemblies of over 500 students. At other schools, she spoke to a series of individual classrooms.



A Monarch’s Journey: From NC to Mexico and Back, Monday, September 24

Presented by: Bullington Gardens, Bee City USA - Hendersonville, Bee City USA - Asheville
 Kim Bailey, a local educator and farmer who runs Milkweed Meadows Farm in Fruitland, NC, and Estela Romero, a monarch educator and journalist who works in the overwintering sanctuaries near her home in Anganguero, Michoacán, provided an up-close and personal view of the monarch’s remarkable life cycle and epic migration. Together, Kim and Estela shared their deep passion and knowledge of these winged wonders on the journey from Mexico to NC and back again.
 Approximately 50 people attended. Sold out!

Symbolic Monarch Migration to Mexico, Tuesday, September 25 – Saturday, September 29

Presented by: Hands-On! Children’s Museum and Bee City USA - Hendersonville
 Visitors to Hands-On! Children’s Museum participated in the 23rd annual Symbolic Monarch Butterfly Migration, joined by more than 60,000 children from across the United States and Canada in creating paper butterflies to send to Mexico for the winter. The symbolic butterflies’ fall flight is timed to correspond with the living monarchs’ journey south. As the real monarchs arrive in Mexico for the winter, Estela Romero will deliver the symbolic butterflies to schools in the monarch sanctuary region. Sometime in March after the real monarchs’ departure from Mexico, a group of paper butterflies will return north to Hands-On! Children’s Museum, carrying special messages from the students in Mexico. United by the monarch butterfly, children across North America learn authentic lessons of conservation, cooperation, and ambassadorship.



Flight of the Butterflies Movie Screening, Thursday, September 27

Presented by: Blue Ridge Community College, Conserving Carolina, Bee City USA - Hendersonville USA, Bee City USA - Asheville, Mountain True

“Flight of the Butterflies” tells the story of extraordinary insect endurance and human perseverance. Viewers will learn about the remarkable annual life cycle and migration of the monarch butterfly as well as the determined Canadian scientist, Dr. Fred Urquhart, who spent 40 years trying to determine exactly where the butterflies went after mysteriously disappearing each fall. Described as “a natural history epic and a compelling detective story,” this interconnected scientific adventure spans not only thousands of miles, but generations. The award-winning production team filmed hundreds of millions of monarchs in their remote overwintering sanctuaries in Mexico and along their migratory routes from Canada, across the U.S. and into Mexico. Following the screening, international monarch butterfly expert and educator, Estela Romero, made a special presentation about her home near the monarch’s overwintering sanctuaries in the mountains of Mexico and shared her family’s memories of experiences with monarchs prior to their “discovery” and revelation to the rest of the world in 1976. Bee City USA/Bee Campus USA, MountainTrue, and Conserving Carolina hosted exhibit tables. Conserving Carolina provided a free native milkweed plant to the first 50 attendees to come by. Approximately 75 people attended.

POLLINATOR HEALTH & HABITAT

Rain Garden Installation at Bruce Drysdale Elementary, March 13

The City of Hendersonville Stormwater Division announced the installation of new stormwater rain garden at Bruce Drysdale Elementary to highlight the amazing work that can be accomplished when various community organizations collaborate and work together on a project.



This innovative but simple method of stormwater management reduces pollution and flooding downstream by holding rain water onsite and allowing it to slowly infiltrate back into the ground. Besides the benefit to the local water quality, rain gardens are excellent education projects because they serve as living classrooms, creating education opportunities focused on the water cycle, soil, plants, pollinators, and stormwater. Throughout the school year teachers and students use the rain gardens for lessons and activities, and work with community volunteers to care for the rain garden. This rain garden serves as a demonstration project for others who are interested in a more environmentally friendly way to manage stormwater runoff on their property. This project was the focus of a workshop hosted in partnership with the Girl Scouts of America, NC State University and the NC Cooperative Extension Office, Hendersonville Tree Board, Hendersonville Water and Sewer Department, and Henderson County Public Schools. Attendees of the workshop were educated on how to locate, design, and install a rain garden. 25 people participated in the event.



Rain Garden Installation Henderson Elementary School, September 29

A second stormwater rain garden was installed at Henderson Elementary. Three people participated.

NeighborWoods Tree Planting in Towne Forest on Blythe St., October 14

33 trees chosen by Towne Forest residents were distributed for planting to participants during the neighborhood's annual meeting. Trees were provided at no charge through the Tree Board's NeighborWoods project. This project helps sustain our urban tree cover and provide habitat for pollinators.

5-acre Pollinator Meadow along Oklawaha Greenway , Late 2018

The site for the new 5-acre Pollinator Meadow along Oklawaha Greenway was cleared in late 2018. With technical assistance from Bryan Tompkins at US Fish and Wildlife Service, it will be planted with a native pollinator-friendly seed mix (from Ernst Conservation Seeds) in 2019.

Hendersonville's Tree City USA and Bee City USA Program Collaboration

The North Carolina Forest Service designated Hendersonville as the 2018 Tree City of the Year in North Carolina. Hendersonville's Tree City USA and Bee City USA programs work hand in hand to plant native species that support pollinators. Each year, entrants are judged not only on their impact on the environment but on the innovation demonstrated by their green initiatives and the degree to which the work can serve as an example for other communities. Not only did Hendersonville and its fellow competitors strive to create greener ecosystems in their urban environments, but they've also set the stage and demonstrated the capacity of grassroots communities and councils to band together in pursuit of environmental protection. The Hendersonville Tree Board was supported by hundreds of volunteers and staff in their mutual quest for a greener community. Their hard work in partnership with organizations like Bee City serve as a testament to the overarching power of community. Their efforts were lauded at The North Carolina Urban Forest Council's 11th-Annual Great NC Tree Conference Awards Luncheon in late September, where the award was bestowed by

the Forest Service upon Hendersonville. Hendersonville City Manager John Connet commended The Tree Board and volunteers alike, noting that “[The award] is another thing that makes our City the wonderful place it is. We could not do this without the excellent help from our loyal, hard-working volunteers.”

Sources: <https://kellerwilliamsasheville.com/hendersonville-awarded-tree-city-of-the-year-recognition/>
<https://www.blueridgenow.com/news/20180824/hendersonville-awarded-tree-city-of-the-year-recognition>

POLICIES & PRACTICES

The Hendersonville Public Works Department is our program’s sponsoring department and its Director, Tom Wooten, serves as our liaison to Hendersonville.

The City of Hendersonville Tree Board coordinates the Bee City USA program in partnership with the Environmental Sustainability Board. The Tree Board takes the lead on coordinating and funding pollinator habitat planting/improvement projects while the Environmental Sustainability Board takes the lead on pollinator education/outreach projects.

Recommended Locally Native Plant Species List—

https://www.hendersonvillenc.gov/Data/Sites/1/media/landscape_species_list_final_2016.pdf

Regional Native Plant Supplier List—To be developed

Pollinator Friendly Integrated Pest Management Plan—To be developed

CONTACT US!

Committee—City of Hendersonville Tree Board (in partnership with City of Hendersonville Environmental Sustainability Board)

Website—<https://www.hendersonvillenc.gov/bee-city>

Social Media—<https://www.facebook.com/bee-city-hendersonville>