

Multi-Agency Partnership Working in Support of Pollinators

By Katherine Koonce

For many Tennesseans, the sounds of the spring season include birds chirping, bats striking baseballs, and the sizzle of an upcoming meal hitting a warm grill. Another sound of springtime in Tennessee is the low buzzing and humming of tiny insects and small mammals, making their way through fields and yards on an important mission—to spread pollen from plant to plant. This act, called pollination, is essential to Tennessee’s agriculture and impacts one-third of the food we eat.

Pollinators are a diverse group of species which include bats, bees, beetles, birds, butterflies, moths, and more. You’ve likely heard a lot about pollinators recently due to rising awareness about the dwindling populations of many pollinator species. The population reduction has a number of contributing factors like decrease and fragmentation of habitat, pesticide use, encroaching invasive species, parasites, and other environmental stressors. Today, 70 pollinator species are currently designated as threatened or endangered.

Taking Action

In response to the widespread decline in pollinator populations, governmental entities, nonprofits, conservation groups, and community advocates are taking action to preserve and revive these critical species. It may be surprising to hear that federal and state departments of transportation are part of the solution—actively working to support pollinators across the country. Language promoting pollinator-friendly maintenance practices and the conservation of habitat along publicly owned rights-of-way was first introduced in the nation’s previous transportation funding law, the Fixing America’s Surface Transportation Act (or FAST Act) (Pub. L. 114-94), enacted in December 2015. Programs and language from the FAST

Act were carried forward under the nation’s current authorization, the Infrastructure Investment and Jobs Act (IIJA), passed in November 2021 (Pub. L. 117-58).

In Tennessee, the Tennessee Department of Transportation (TDOT) seized the opportunity brought by the FAST Act by launching its own Pollinator Habitat Program tailored to the needs of Tennessee’s native pollinator populations. The program first focused on vegetation management, examining how contractors and in-house staff were handling vegetation on roadsides across the state. This initial effort included recommending changes to the application of herbicides, as well as defining mow/no-mow zones and examining the frequency and scheduling of when mowing occurred.

As the program became established, research projects were added to identify environmentally-sensitive areas along Tennessee roadsides and to evaluate best practices from surrounding states with similar pollinator species. TDOT partnered with the Southeastern Grasslands Institute at Austin Peay State University to identify where stands of native and prairie remnant species still exist along roadsides, both of which are beneficial to pollinators. Through this research, it was determined that 6,393 miles of roads in Tennessee intersect with historic grasslands that are home to millions of pollinators.

As the Pollinator Habitat Program added projects and resources, partnerships blossomed. Sister state agencies, nonprofits, and university research teams eventually joined in on semi-annual meetings which formed a collective called the Partners for Pollinators Working Group.

“TDOT’s Pollinator Habitat Program was developed with partnerships in mind and three central pursuits,” says TDOT Highway Beautification Office Manager Mike McClanahan. “TDOT’s program focuses on pursuing projects that encourage public education about pollinators

and the importance of pollination, projects that have a positive ecological impact for Tennessee’s pollinator species, and projects that promote sound environmental practices for maintaining rights-of-way.”

In 2016, TDOT approached the Tennessee Departments of Agriculture, Environment and Conservation (TDEC), and Tourist Development about planting pollinator meadows at various public sites. Leveraging shared state resources for a common goal resulted in a series of new pollinator meadows at Tennessee Welcome Centers and Tennessee State Parks. An initial planting was installed in 2016 at the I-65 Tennessee Welcome Center at Ardmore, followed by the West Tennessee Solar Farm Welcome Center in Haywood County in 2019. In 2020 and 2021, the program was responsible for nearly 100 acres of meadows installed at eight Tennessee State Parks. These parks include:

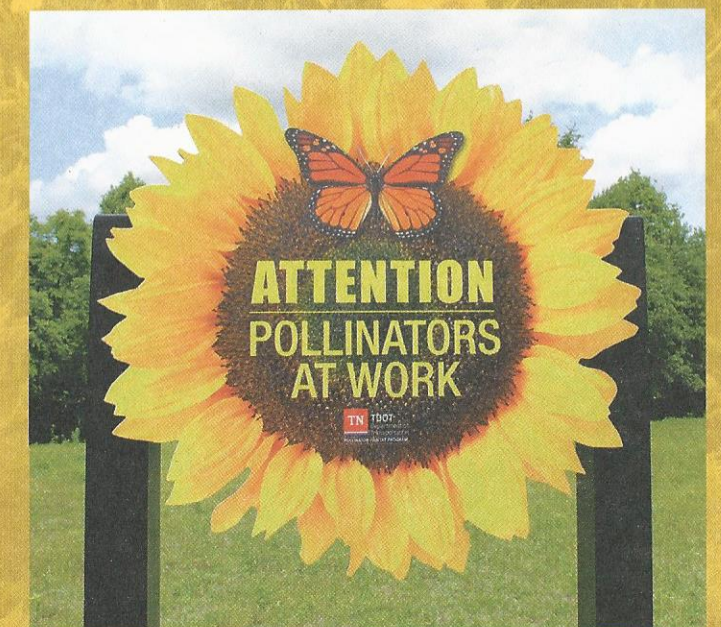
- Big Hill Pond State Park (Hardeman County)
- Henry Horton State Park (Marshall County)
- Montgomery Bell State Park (Dickson County)
- Paris Landing State Park (Henry County)
- Pickwick Landing State Park (Hardin County)
- Seven Islands State Birding Park (Knox County)
- Sycamore Shoals State Park (Carter County)
- Warriors’ Path State Park (Sullivan County)

New stands of New England aster, coneflower, black-eyed Susan, butterfly milkweed, and other plants now fill these areas with shades of indigo, purple, yellow, gold, and a bevy of other colors. All pollinator meadow locations received planting designs and supplies, technical and horticultural support, and interpretive signage to educate the public. Some Tennessee State Park locations also participated in the Tennessee State Parks Honey Project, meaning the meadows complemented existing honeybee

hives. These locations received special point-of-sale displays from TDOT to market the locally harvested honey and the importance of pollination.

The Tennessee Pollinator Habitat Program continues to develop high-quality resources to help populations flourish. In addition to developing roadside maintenance best practices, conducting research projects, and planting meadows across Tennessee, the Pollinator Habitat Program developed a series of educational resources for public use, including the following:

- Garden planting plans help Tennesseans determine a layout for a specific area, whether it is in full sun or full shade.

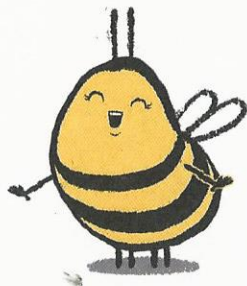


Courtesy of Tennessee Dept. of Transportation: A “Pollinators At Work” sign marks the new pollinator meadow at Warriors’ Path State Park. Background, this spread, Courtesy of Southeastern Grasslands Institute: Coreopsis and other native flowers bloom at a planted pollinator meadow in the interchanges of Exit 1 on I-24 in Montgomery County.

- Project Milkweed, which launches in Summer 2023, will offer free milkweed seeds to Tennesseans that want to specifically support migrating Monarch butterflies.
- A database and mapping tool helps Tennesseans search by eco-region, soil type, and even county to identify which native plants are beneficial for pollinators and well suited to re-vegetate a space.
- The “Find A Speaker” tool puts the public in contact with local experts on pollinators in their communities. These experts are happy to share a presentation with small groups free of charge.
- Pollination education is geared toward all populations, including the youngest Tennesseans. TDOT developed Pollinator Bingo Cards encouraging travelers to notice and identify pollinators and native plants. The bingo cards are available at all Tennessee Welcome Centers. The Pollinator Bingo Cards also promote TDOT’s most recent educational resource creation: “Polli, the Bee from Tennessee.”

Introducing Polli, the Bee from Tennessee

In June 2022, TDOT released a series of three video animations featuring “Polli, the Bee from Tennessee.” Polli’s videos educate young viewers about the process of pollination, its importance to daily life, and the diversity of pollinator species native to Tennessee. Polli is an affable host who shows viewers around her home garden and shares her daily life gathering nectar and spreading pollen. The initial three episodes, “Meet the Pollinators,” “Where



Pollinators Live,” and “Changing Environment” are complete with lesson plans for elementary school teachers and offer accompanying student resources in electronic format.

“Pollinators are vital to life, growing food, and the economy of Tennessee,” says State Apiarist Mike Studer. “Using Polli to tell the story of pollinators in our state is an innovative way to educate the public about their critical importance and the threats they face.”

Polli’s episodes and the adjoining materials are rooted in Tennessee Academic Standards for Science and were peer-reviewed by a panel of STEM teachers. A second series of three videos will be released in the summer of 2023. These episodes will be entitled “Food and Pollinators,” “The Buzz on Bees,” and “Global Pollination.” All of Polli’s videos, as well as the other TDOT Pollinator Habitat Program planting and educational resources mentioned in this article, can be accessed by visiting the website TNPollinators.org.

Tennessee’s Pollinator Habitat Program is committed to supporting pollinators in the state and fostering diverse partnerships to achieve its program goals: from passionate residents and local advocacy groups to sister state departments and national organizations. The Partners for Pollinators Working Group meets virtually semi-annually to maintain and grow the program’s reach.

Learn more: TNPollinators.org or TDOT’s Highway Beautification Office: tn.gov/tdot/environmental-home/environmental-highway-beautification-office.

(Katherine Koonce is an intern with the Tennessee Department of Transportation’s Environmental Division/Highway Beautification Office.)

Above, Courtesy of Tennessee Dept. of Transportation: Polli, the Bee from Tennessee, is featured in three TDOT voice-over animated videos to educate young viewers about the process of pollination. **Below, Courtesy of the Tennessee Dept. of Transportation:** A common eastern bumblebee enjoys nectar from butterfly weed at the meadow planting at Big Hill Pond State Park.

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