

The Importance of Pollination

Efforts in Education

Article by ELANOR DEAN
Photos courtesy of TWA CONSERVATION LEGACY



Just as big game has been adversely affected by increased fragmentation of land through urbanization, so have pollinators such as bees, beetles and butterflies. The adult and youth Conservation Legacy programs cover pollination and our responsibility as land stewards to maintain healthy habitat for pollinators.

Why the decline in pollinators? Could it be the increased use of pesticides...or light pollution to the night sky?

Pollinators are attracted to plants that produce pollen, nectar, habitat, shelter and safety from predators. Pollinators need nectar throughout most of the year, not just in spring. Planting diverse native wildflowers will benefit honey bees and native bees.

The L.A.N.D.S. Intensive youth education program uses a seed ball activity in its Field Investigation Days and for public education events to make pollination “personal” for students. Students create their seed balls (a damp soil and native seed mixture) and place them in a brown paper sack. Next, they:

- Store their seed balls in a dark, cool, dry place, where the clay hardens and the ball strengthens. Once the seed ball is dry and hard, they toss or place it wherever they would like wildflowers to grow. (This method of human seed dispersal came about when individuals wanted to spread seed in areas where machines were not feasible.)
- Participants are encouraged to toss their seed balls somewhere it will get plenty of sunshine!
- When it rains, the soil in the seed ball softens and dissolves, releasing its contents. This is how the seeds are then planted. These native seeds just require a shallow soil covering.

In several of our L.A.N.D.S. Outreach youth education programs, we discuss pollinators and their importance to the environment. Our Discovery Trunks are shipped to schools for two-week reservation periods and are full of hands-on materials and lessons. Both the *Bats-A-Billion* and *Butterflies Flutter By* trunks introduce pollination.

In our Distance Learning program, *The Magic of Monarchs*, we discuss the importance of planting native gardens. An ideal nectar garden will benefit butterflies in all stages of their life cycle. Nectar plants for the adult butterfly, host plants, such





as milkweed for the caterpillar stage, and tall plants where the caterpillar can pupate into a chrysalis. We also discuss Monarch migration through Texas and the importance of butterfly access to nectar plants and milkweed during their migration to and from Mexico.

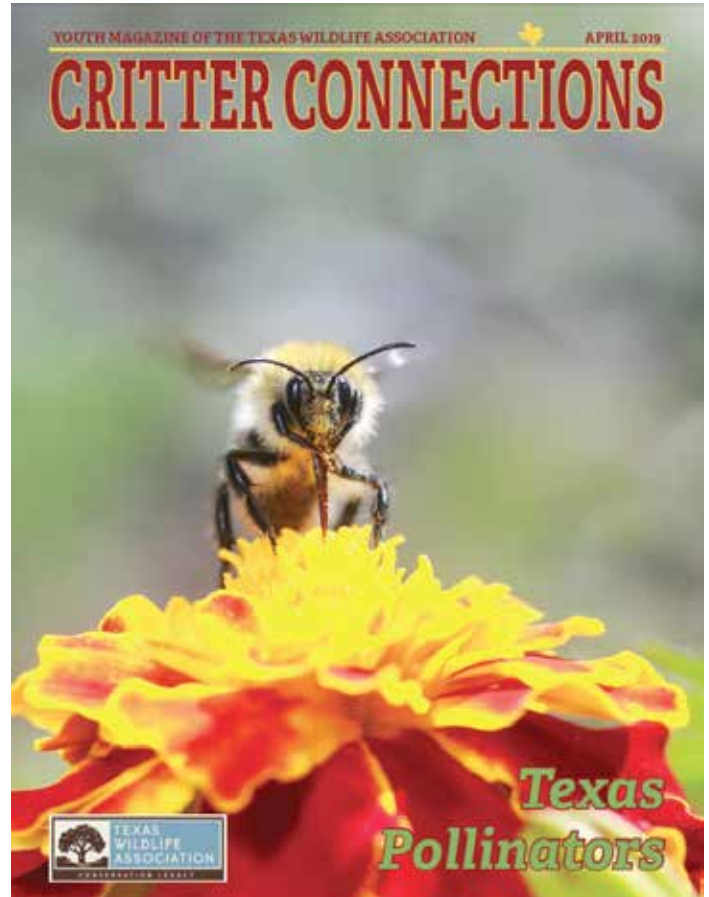
The relationship between most flowering plants and pollinators is discussed in our Wildlife by Design classroom program, *Investigating Life Cycles*. Students learn that many flowering plants require a pollinator to complete their life cycle. Without this relationship with pollinators, many plants would not produce fruit.

Sometimes, students need to see how pollination works in order to really understand the process. This is where our lesson, *Pollination Partners* comes into play. In this lesson, available in our *Stewarding Texas-A Scientific Exploration* resource guide, students experience pollination from the perspective of either the flower or the pollinator.

Pollinator students buzz around between flowers drinking nectar, while pollen represented by colored dots, is transferred from a student stamen on one plant to a student pistil on another. Using different colored dots for each “flower” allows students to see how pollen is transferred through pollination. After the lesson is complete, the teacher leads a discussion about the importance of pollinators to wild plants and farming.

Each quarter, we publish *Critter Connections*—a mini-magazine for youths. April’s issue focused on Texas pollinators. In that issue, students learned how to craft a bee house, help pollinators through citizen science and gardening and complete a pollinator crossword puzzle. Additionally, the lead article *Popular Pollinators* provided information about many types of pollinators and how they pollinate.

We also cover pollination in our Adult Education programs. Three episodes from our *Wildlife for Lunch* webinar series focus



on pollinators. Find these programs on our website and the Texas Wildlife Association YouTube page:

Maintaining Pollinators While Controlling Invasive Plants
Wildlife for Lunch, November 2017

Native Plants and Pollinators, Forever Intertwined
Wildlife for Lunch, March 2017

Managing for Pollinators, Bees in Texas
Wildlife for Lunch, October 2015

The diverse vegetative cover vital to pollinators can be traced to rich, healthy soil. The Texas Wildlife Association is working with partners to elevate and provide opportunities for all landowners to learn about the benefits of soil health.

Soil is the living, breathing environment under your feet that, if healthy, can support and improve your desired land use. Healthy soils look and smell alive with underground “wildlife” that benefit above-ground plants, pollinators and terrestrial wildlife. Through our Adult Education programs, we have devoted entire workshops to soil health or made sure to integrate soil health fundamentals into programs like Women of the Land.

Pollinators are such an important component to our natural environment and our agricultural fields. Education continues to be an important first step in aiding our native pollinators. ☺





INTRODUCING HARRIS AREA L.A.N.D.S. EDUCATOR ALI KUEHN

My name is Ali Kuehn, and I am excited to be joining the Texas Wildlife Association team as the new L.A.N.D.S. Educator for Brazoria, Chambers, Galveston, Harris and Liberty counties.

I spent my early years in western Washington where I developed a love for wildlife. When I was 5 years old, I brought home my first garter snake, much to my parents' surprise... and delight. At the end of elementary school, we moved to rural north central Washington where I learned the balance between love and respect for wildlife (i.e., not all snakes are safe to pick up and bring home to mom and dad). My curiosity and enthusiasm for animals was encouraged by my teachers and my parents. For my 16th birthday, when some kids get a car, I got a snake.

I graduated from University of Puget Sound with a Bachelor of Science in Biology in 2005. During college, I interned at Northwest Trek Wildlife Park where I developed a passion for educating people about wildlife and conservation. I spent the next 18 years pursuing that passion as a zookeeper in Washington and Texas. Last year, I earned a Master of Arts Degree in Teaching in Conservation Biology through Miami University with the goal of transitioning into conservation education. Working with TWA is the perfect opportunity to combine my love of animals and passion for conservation and education, and I am so excited to bring TWA's message to area youths. 🐾



MEET DFW L.A.N.D.S. EDUCATOR TIM SCHENK

My name is Tim Schenk, and it is my privilege to be part of the Texas Wildlife Association team as the new L.A.N.D.S. Educator for Parker, Wise, Tarrant and Denton counties.

Exploring the boundaries of our family farm and times spent camping, fishing, and hunting with my grandfather in Ohio were some of my earliest and fondest childhood memories. This exposure to nature sparked a life-long curiosity about the world around me. At Oregon State University, I honed my understanding of ecology through field-based courses in natural resources with a focus of education.

Public service has been at the core of my varied pursuits from nine years of service in the Army to working in the Intensive Care Unit in several hospitals. More recently, I worked as a park ranger with the United States Forest Service in central Oregon and the National Park Service in Del Rio. These experiences supported my passion for conservation and helped me develop my interest in outdoor education.

In Texas, we are surrounded by the wonders of native plants and wildlife. I look forward to working with Texas youths to explore the splendors of our amazing ecosystem. 🐾

