



Houston Zoo Volunteer Training

ACT: POLLINATORS



The goal of this continuing education opportunity is to offer Volunteers at the Houston Zoo the tools and training to effectively engage guests with messaging that supports the mission of the Houston Zoo

Houston Zoo connects communities with animals, inspiring actions to save wildlife.

The information offered here is meant to supplement the training course and should be read prior to attending training.

*"**Interpretation** is a mission-based communication process that forges emotional and intellectual connections between the interests of the audience and the meanings inherent in the resource." – National Association for Interpretation (NAI)*

Think about what the "resource" is here at the Houston Zoo. Our individual animals? Our conservation programs? A little of both? As we move forward as both an institution and as a live-interpretation program, our focus is going to be more on connecting our guests with the individual animals in our collection. The hope is that once an emotional relationship is established, behavior change will be more easily achieved.

So how do we forge emotional and intellectual connections? By relating our conversations and presentations to our guests' interests and lives. Basically, we are answering the question: *What can I do?* There are some who would argue we should be answering: *Why should I care?* The reality is that most people know the answer to this and actually *do* care. Consider what our end goal is. Are we asking people to *care* or are we asking for them to *change* their behavior?



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Pollination is an interesting topic to discuss with guests. After all, we consume and interact with things daily that are present only because of pollinators. While the first animal that people might think of as a pollinator is the bee, there are thousands of other examples - many of which can be found right here at the Houston Zoo! Pollinators also come in different varieties, from the “traditional” bees and hummingbirds to “seed dispersers” like lemurs and bears. Whichever way you look at it, our world would be a much different place without the presence of pollinators!

When speaking to our guests about any of the Zoo’s Conservation Initiatives, it is important to remember to highlight what the Zoo is doing to help as well as the simple things our guests can do. We want to avoid the “doom and gloom” presentations that leave guests feeling guilty and helpless. Our main goal is to encourage behavior change and empower guests to make and be those changes! When opening conversations, it is most effective to begin with the animals themselves. Of course, if you are already in conversation with a guest about a conservation topic, use your best judgement. However, studies have shown that behavior change is most effective if spurred by an empathetic connection. If guests have some sort of connection to the wild world we are trying to save, they are more inclined to want to help it!



What is necessary to change a person is to change his awareness of himself.

Abraham Maslow



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As an ACT (Animal Conservation Team) Volunteer, you will be able to talk about this message across many areas of the zoo. We encourage you to be creative, but here are a few ideas of where you can talk and how this ACT messaging can be related to the animals in this area:

Butterfly Garden (by the warthog habitat), Pollination Stations (outside the Swap Shop and Yellow Pavilion), or anywhere there is pollinator activity (Plants in front of giraffe exhibit often have a lot of bee activity)

Bees

We have several different types of bees that frequent the Houston Zoo. European honeybees are probably the ones that are the most familiar to people, but there are others that can be found here and around Texas including



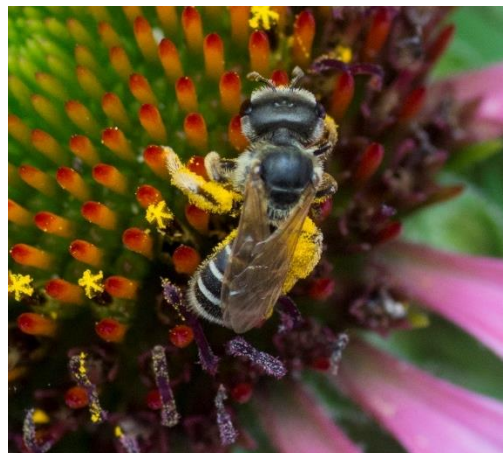
Eastern Bumble Bee



Carpenter Bee



European Honey Bee



Mason Bee



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Most of the bees you see around the Zoo and throughout Texas are solitary, with females establishing and maintaining their own nest sites. Honey bees and bumble bees are more social and will establish larger colonies with the typical queen, drones, and workers. Many people fear bees, especially the larger bumble bees. Bumble and honey bees are only aggressive when defending a nest, and even then, a good rule of thumb is that if you don't bother the bee, the bee won't bother you! Another misconception is that all bees will die after they sting you. This is true of the honey bee, but not other bee species.

So why are bees so amazing???

- About 1/3 of the world's food supply is pollination dependent. That's a whole lot of responsibility for just one taxon!
- Bees navigate using the Earth's magnetic field and are thought to be so sensitive to electromagnetic waves they can sense thunderstorms before they arrive.
- Bees have a complex language and even have an advanced form of dance-based sign language – being able to report the exact location of food over 3 miles away.
- Honey never actually spoils! It is primarily composed of sugars that can be melted and used repeatedly. Honey was found in tombs in Egypt and was reportedly still edible.
- Bees have 5 eyes – the two large ones in front and 3 smaller ones at the top of their heads. They also have hair **on** their eyes!



Superstitions

Bees are considered very lucky in many different cultures through the ages and are thought by some to be messengers carrying news to and from the spirit world.

Bees are thought by many to represent and symbolize love, fidelity, wisdom, industry and immortality.

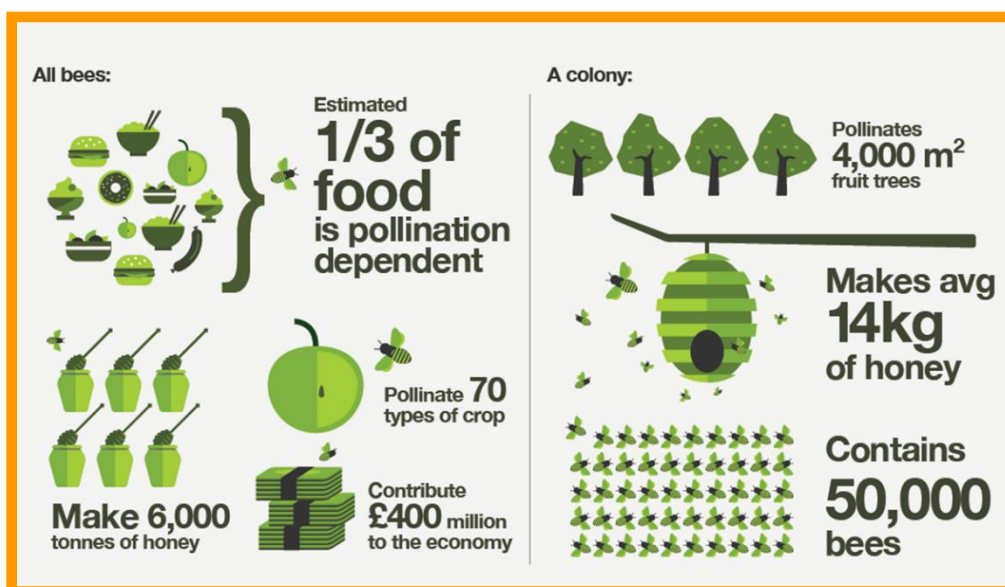
Other superstitions:

If a bee flies into your house, it means you will soon have a visitor. If you kill the bee you will have bad luck or the visitor will be unpleasant.

A bee landing on your hand foretells money to come.

A bee landing on your head means that you will rise to greatness.

Most superstitions centered around the idea that a bee in your life is good luck, however harassing or killing said bee leads to bad luck or at least a sting for your rudeness.





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OK, bees are amazing and do great things, so what's the problem?

[How parking lots could save the bees](#) – click to watch

- The loss of habitat is a big contributor to pollinator decline. Many pollinators are habitat-specific, and require specific sites for overwintering, foraging for pollen and nectar.
- Pesticide misuse and drift from aerial spraying are a major threat to insect pollinators, especially spraying with persistent chemicals that remain in the environment for a long time before degrading.

What the Houston Zoo is doing to help

- We have surrounded the conservation stage in the front entry plaza of the zoo with pollinator friendly plants with signs identifying the type of plant. They are labeled for guests to photograph them and take to the nursery to help find pollinator friendly plants to place in their own gardens.
- We provide habitats for pollinators through pollinator stations and planting 100 species of plants that attract pollinators in 9 gardens throughout the zoo.
- We helped to plant 12,000 trees in Madagascar to save lemur homes.

What can our guests do to help?

- Become a [Pollinator Pal](#) in the Naturally Wild Swap Shop by planting a pollinator garden (even a potted plant counts!), taking some pictures, and bringing a report about it to the Swap Shop to earn points. As the garden grows and brings in more pollinators, guests can bring in more reports on what they have seen and how the garden is doing to earn even more points!
- Guests can build their own pollination station using examples seen in the John P. McGovern Children's Zoo.
- For our tech savvy guests, they can download the Bee Smart app onto their smart phone for help in deciding which plants are good for what region.
- Make good shopping decisions and talk about the value of pollinators to family and friends.





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Butterflies



Did you know the Houston Zoo participates in **butterfly** conservation? Houston Zoo staff and volunteers participated in a butterfly tagging program here on grounds in partnership with [Monarch Watch](#). Once the butterflies are tagged and recorded, Monarch Watch analyzes the information.

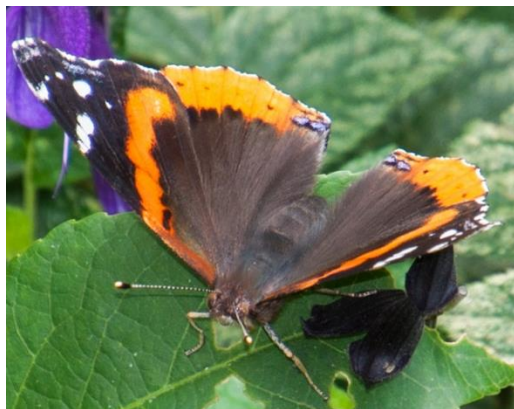
Species of butterflies commonly seen on zoo grounds:



Gulf Fritillary



Pipevine Swallowtail



Red Admiral



Queen



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Giant Swallowtail



Tiger Swallowtail



Spicebush Swallowtail



Monarch

Other pollinators at the Houston Zoo (please research these species via our animal database)

Straw colored fruit bat

Ring-tailed lemur

Seba's short-tailed bat

Maned wolf

Pallas' long-tongued bat

Black bear

Crowned lemur

Andean bear

Baird's tapir

Species like lemurs, bears, and tapirs are seed dispersers and pollinate by redistributing seeds through their scat.



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More information

The Vanishing of the Bees <https://www.youtube.com/watch?v=9755v261uhQ>

Bee Basics: An Introduction to Our Native Bees

https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5306468.pdf

Pollinator Partnership <http://www.pollinator.org/>

Monarch Watch <http://www.monarchwatch.org/>

After the listening you become accountable for the sacred knowledge that has been shared. Shared knowledge equals power. Energy. Strength. Story is an affirmation of our ties to one another.

Terry Tempest Williams "Pieces of White Shell"
