



August 2020 Newsletter

Welcome to the Friends of San Antonio Natural Areas (FOSANA) e-newsletter! We share natural areas news, the Friends' efforts, and opportunities to get involved in volunteering or educational programs at San Antonio's natural areas parks. Please check our website, www.fosana.org, for periodic updates and program information.

The Magic and Essential Value of Biodiversity

By Jayne Neal and Jyotsna Sharma

Biodiversity simply defined is bio (life) + diversity (variety), the variety of life. Biodiversity is found at all levels of life—gene, organism, ecosystem. Go into your own yard and you can find biodiversity, but to really appreciate it takes time and all your senses. Start by simply listening and see how many different sounds/songs the mockingbird sings. Mockingbirds are known to [mimic sounds](#) including whistles, doorbells, other birds common in the area. Next, follow your nose or simply remember the scent of cut grass. Did you know that plants, when cut, emit chemicals and these [chemicals in turn can signal other plants as well as insects](#)? Explore how it feels in different microhabitats—under a tree, out in the sun, down in the bare earth, and under mulch. No wonder trees are so valued for the shade and other services they provide. Does it make sense why mulch is recommended to hold down temperatures and hold in moisture? Look closely at a feather (good idea to put on a glove first)—spend time with it—push it this way and that; then run your fingers up and out and see how nicely it returns to its original alignment. It's all thanks to structures with names like [barbs and barbules](#). Taste a drop of [nectar](#) and appreciate what it takes for some bees to get this sweet subsistence. Each of these demonstrates a facet of biodiversity. Each also demonstrates connections, the relationships that hold us together.



[Anisacanthus quadrifidus](#), or Flame Acanthus, whose flower provides food for many insects and hummingbirds. Look for the bee that cuts an opening at the flower's base in order to reach the nectar.

Park naturalists manage natural resources within the city's Natural Areas to promote healthy ecosystems and consequently, biological diversity. [Texas Parks and Wildlife Department](#) also does regular surveys of wildlife to assess the impact of climate and introduced species on TX native systems.

Biodiversity has value in its own right. It is also the very foundation of ecosystem services, benefits provided directly and indirectly to humans. Ecosystem services include food and building materials, regulating climate, purifying water, recycling nutrients, and pollinating plants. As the [combination of ecology and economics research](#) shows, ecosystems add monetary value to our earth. For example, plant species richness can be correlated with carbon storage. Moreover, the loss of biodiversity and the consequent environmental change and degradation is [linked to human health and spread of diseases](#).

Nature and people are inextricably linked. In effect, "[biodiversity is an insurance policy. It is earth's own safety net to safeguard our survival](#)." Our attitudes about biodiversity can affect important decisions for conservation and development. As one economist put it, "Just because it is free, it does not mean it is without value" (Dr. Shana McDermott, pers. comm). To do our part each of us must examine our priorities and ask ourselves what we will contribute to preserving biodiversity.

Activity: Take note of the biodiversity in your neighborhood

Work with your child to discover biodiversity where you live using the [Biodiversity Quadrat lesson plan](#). Additional activity information can be found at [keepaustinbeautiful.org](#). For younger students, visit the [American Museum of Natural History](#). If time allows, consider the [TedEd Earth School](#). 30 Quests (or adventures!) introduce concepts in environmental education, including biodiversity. Don't forget to answer the questions in the THINK section. Once completed, your child can earn a certificate.

ACTIVITY SUMMARY:

In this activity we will use tools to learn more about local biodiversity at school or in your backyard. Youth can also experiment with using different apps to assist in plant identification and contribute to local citizen science projects.

This lesson plan was modified by the Keep Austin Beautiful Education team for at-home learning.

UNIT: Clean Creek Campus**GRADES:** 3rd-12th (see modified activity for lower grade levels on page 3)**MATERIALS:**

- Rulers, string, or sticks to measure their own quadrats outside.
- Notebook and pencil to make a chart or printed Biodiversity Quadrat Worksheet (included)
- Calculator
- Optional: Phone or other device with iNaturalist app downloaded and account made with the program.
 - <https://www.inaturalist.org/>

OBJECTIVES:

Youth will be able to:

- Practice basic observational skills, hands-on investigation
- Understand what biodiversity is and why it matters
- Learn some simple measurements for biodiversity on a local level
- Utilize technology as a resource to identify flora on their campus

TEKS CORE CONCEPTS:

3rd grade: 2B-E, 4A, 10C
4th grade: 2B-F, 4A, 10A
5th grade: 2C-F, 4A, 10A
6th grade: 2C-E, 4A
7th grade: 2C-E, 4A, 11A
8th grade: 2C-E, 4A

Introduction (see page 3 below for modified activity for grades K-3rd)

Today we're going to be taking a look at biodiversity in our environment!

What is biodiversity? Diversity, or variety, of living things, like plants or animals.

Why is biodiversity important? Helps ecosystem resiliency and stability.

What might be some threats to biodiversity? Habitat loss, extinction, fragmentation, climate change, invasive plants, etc.

What are native and invasive plants? Native plants – plants from here/native to a specific area, invasive plants – plants not from here that can compete with native plants for resources.

We can measure biodiversity to assess ecosystem health. There are different methods to doing this but we'll be using biodiversity quadrats to investigate biodiversity right here at school.

Activity – Part I – Take it outside!

1. **What is a biodiversity quadrat?** A quadrat is like a small window made to designate a square meter plot to assess for biodiversity. Using this window, we will count how many different kinds of plants we find.
 - Scientists use this to get a glimpse into the larger area that they're trying to study, because it would be impossible to count all of the plants and animals on every inch of the Earth's surface!
 - You can make your own quadrat with any materials you have on hand, and can be creative! A hula hoop is a great option, or use a piece of string or some sticks to designate the space you're working with! (See example photo on page 6)
2. Explain to youth how to keep track of their plant findings using their Biodiversity Quadrat Worksheets or by making their own in their notebook. (See chart below on page 4)
3. Have participants select specific areas to measure out their "quadrats", and then have them record their observations of what is inside.
 - Optional: If phones or tablets are available, check out [iNaturalist](#) or another plant ID app to ID the plants within the quadrat and upload sightings (note: make sure you're investigating an uncultivated area if uploading sightings to iNaturalist!). If iNaturalist unavailable, you can use the [City of Austin's Grow Green guide](#).

Education Resources List

While we continue social distancing measures, we're continuing to build a list of some of the best education resources we can find. We hope these activities will help you and your families stay connected with the outdoors!

[Ted Talk Earth School](#)

[The Kids Should See This](#) (curated art, science, and nature videos)

[Audubon](#) (weekly interactive lessons)

[Khan Academy Kids](#)

[DIY Growing Up Wild & Starting Out Wild lessons](#) (more are added weekly)

[Ranger Rick craft activities](#)

[National Geographic Kids](#)

[Museum of Natural History](#)

[KLRN Science videos](#) (can be filtered by grades)

[PBS Nature Games](#)

[Families in Nature—The Ecologist School](#) (16 weeks of content)

The Big Give: September 10, 2020

The annual day of giving will now be held on September 10 and we hope you'll consider donating this year. The needs of the Natural Area parks do not stop as the use of parks continues to increase exponentially during the pandemic. Although education classes have since been halted, we are supporting weekly video content that is posted to the Parks and Recreation Youtube channel and shared through social media platforms. We also have other education endeavors and look forward to sharing those in the coming weeks.

We are grateful for your continued support and look forward to the time we can gather for hikes, classes, and membership drives. Until then, enjoy the outdoors and help us to care for the Natural Areas.

Covid-19 in Parks

When the city imposed a strict lockdown in early March to stay at home unless working in essential services, normal social interactions came to a halt with the closing of gyms, coffee shops, bars and restaurants. We were encouraged to stay home and walk in our neighborhoods. For most people who are accustomed to going to work, the [lockdown has been stressful](#), but to cope with the lockdown it helps to be resilient, broadly defined as the ability to recover from or adjust easily from adversity. Though there are certain [traits of resilient people](#), a good way to build resilience is by [walks in nature](#) but stay with a small group and maintain a social distance from others.

Although park trails remain open, we should continue to practice social distancing and avoid groups. Walking in parks also reminds us of the resilience of ecosystems to the extreme temperatures we experience in south Texas. With the exception of a few sprinkles, the past few weeks have seen little rain in Bexar County, yet the parks are blooming with several native plants that can tolerate the heat and drought. The wildflower gardens and the open grassy areas always have some flowers blooming.

The restrictions due to Covid-19 by the [City of San Antonio and Bexar county](#) allow people to walk outside to get exercise but maintain a safe distance of 6 ft. The contagious nature of the virus suggests that we must maintain a 'social distance' of 6 ft as it is an airborne virus and one may be infected but not show any symptoms.

It has come to our attention that people are crowding Friedrich Wilderness Park and Crownridge Canyon Natural Area, and they are doing this in a way that puts themselves, Park staff, and possibly first responders at risk. As you undoubtedly know, Friedrich and Crownridge are nature preserves that are home to wildlife, including federally listed endangered species, snakes, poison ivy, and a host of other plants and animals. The trail systems cover hundreds of acres, and some of the trails are quite remote from the entrance.

IF you feel you MUST hike on trails, keep group size very small, and ALWAYS stay on the designated trails. Failure to do so endangers yourself, others, and the ecosystem.

If you're unable to do so, enjoying nature right where you live is recommended. Discover nature in your neighborhood and you may notice that with less traffic noise you can hear the sound of birds. Take time to identify the trees in your neighborhood using this [TAMU identification guide](#).

If you see people failing to maintain 6' distance or vandalizing parks properties, please call 311 and/or the police non emergency line at 210-207-SAPD.



We hope that you will follow the recommendations of the National Recreation and Parks Association that emphasize the importance of social distancing in Park trails.

Please pick up your own trash and deposit it in trash bins at park entrance.



Thank you for helping us protect the Natural Areas and the health of our San Antonio community.

Please note that the **Big Give has been moved to September 10, 2020.**

We understand that there are many [local organizations that need immediate help](#), we would appreciate your membership and donation to [Friends of San Antonio Natural Areas](#) also.

Are you connected to San Antonio Natural Areas on social media?

You can like us on [Facebook](#).

Find us on [Instagram](#) @sanaturalareas.

Are you a member of Friends of San Antonio Natural Areas (FoSANA)?

Please support FoSANA on the preservation and educational outreach of natural areas around San Antonio by joining or renewing your membership [online](#) today.

Your membership this year will help us continue to

- offer over 400 environmental programs for families and adults at the Natural Areas.
- serve over 14,000 families and adults through education and outreach programs.
- coordinate over 400 volunteer programs and 7,500 volunteer hours supported trail maintenance, habitat conservation and restoration, and native landscapes and gardens.

Plus, when you renew your membership, you'll receive our monthly newsletter that provides updates on natural areas happenings and timely information on upcoming events. Should you need any assistance or have any questions or comments about your membership, please feel free to email us at friendsofsanaturalareas@gmail.com.

Sincerely,
FoSANA Board

Friends of San Antonio Natural Areas is dedicated to promoting stewardship of San Antonio's Natural Areas, and to the understanding and appreciation of nature through educational and scientific programs.

For the latest updates and more activities, please see the calendar on the FOSANA website.

[Friends of San Antonio Natural Areas Website](#)
