



Editor's Message *Carmen Horn*



LMN Chapter to Participate in State Master Naturalist Competitions

When Master Naturalists from all over Texas come together at the Omni Hotel in Corpus Christi for the 18th Annual Master Naturalist Meeting October 20-22, 2017, Comal County will be well represented. Not only will a number of Lindheimer Master Naturalist members and guests be present, many have submitted projects for competition showcasing their particular interests and talents.

There are photography, art and media contests - and among those are included plant life, wild life and scenic; drawings and paintings, sculpture and carvings, sewing and stitchery; chapter newsletters, chapter brochures, and scrapbooks. We can easily witness to the wealth of expertise in the Lindheimer Chapter so we wish all good luck - and know everyone will enjoy an enriching learning experience and have a great time!

There are approximately 25 entries. Many of the photos submitted to the contest are in this issue, so please take a look. Many thanks to all who have contributed.

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"Yum!"
Grey Hairstreak Butterfly –
Strymon melinus
Comal County, Texas
©John Davis
Submission to TMN State Contest
(Wildlife Photo)



Carduus nutans is also known as "Musk Thistle" or "Nodding Thistle" and can be found in elevations up to 9000 feet. Originally found in Europe and Asia, Musk Thistle was introduced in the U.S. and Canada in the early 1900's.

The musk thistle is a biennial, meaning that the plants form a rosette on the ground the first year, then send up a flower stalk and die the second year. Hummingbirds thrive on the nectar of the flowers.

The musk thistle is quite edible, except for the spines. Livestock often eat thistles after the plants are cut, apparently since they can bite into them without getting poked in the nose. Wilting may also make the plants easier to ingest without injury. They are edible for humans as well - but only after peeling away the stalk to avoid the spines.

"Pretty in Pink"

Musk Thistle – Carduus nutans

Comal County, Texas

©Sara Riggs

**Submission to TMN State Meeting
(Plant Photo)**

"Puppy-dog ears," Lindheimer's Senna, or *Senna lindheimeriana*, whatever you choose to call this wonderful wildflower, is a plant that should be in every Texas garden. A graceful perennial, it sports beautiful, velvety-soft, gray-green foliage from spring, through summer and into fall and winter. It produces graceful yellow flowers in September and October. It is also an excellent choice for the water-wise landscape.

Lindheimer's Senna is native to Texas, New Mexico, and Arizona. It does best in a dry soil, though it seems also to thrive in heavier clay soil and performs well with only occasional watering during summer.

Senna is deciduous, losing its leaves after a frost - and usually returning in the spring. These hardy plants can grow quite tall and can be lanky. It seems the more sun they get, the less lanky they become.



"Lindheimer Senna"

Senna lindheimeriana

Comal County, Texas

©Carmen Horn

**Submission to TMN State Contest
(Plant Photo)**

“Shake Your Tailfeathers”

Rio Grande Turkey – Meleagris gallopavo intermedia

Bracken Bat Preserve, Texas

©Don Bergquist

Submission to TMN State Contest

(Wildlife Photo)

***Meleagris gallopavo intermedia* –
Rio Grande Wild Turkey**

The gregarious, social Rio Grande turkey which flock together much of the year, ranges through Texas to Oklahoma, Kansas, New Mexico, Colorado, Oregon, and central and western California. The tips of the tail and lower back feathers are a buff-very light tan color. This turkey’s habitats are brush areas of rolling terrain with mesquite, pine, and scrub oak forests interspersed with streams, creeks, & rivers. Population estimates for this subspecies range from 1,022,700 to 1,025,700. This sub-species is native to the central plain states, and is the only turkey found at elevations up to 6,000 feet.



“Newest Bat Cave Docent”

Rio Grande Turkey –

Meleagris gallopavo intermedia

Bracken Bat Preserve, Texas

©Edith Bergquist

Submission to TMN State Contest

(Wildlife Photo)

Chapter Meetings

July 20, 2017: Comal Trinity Groundwater Conservation District

Jensie Madden, CTGCD Board Member, Precinct 4



Jensie Madden, N2Nature member, explained The Comal Trinity Groundwater Conservation District (CTGCD) was created to help Comal County residents conserve, preserve, recharge, protect, and prevent waste of groundwater from the Trinity Aquifer which underlies all of Comal County. The Comal Trinity GCD was created during the 2015 84th Texas Legislature with the enrollment of House Bill 2407 and became effective 17 June 2015. The bill provides the GCD the authority to issue bonds; and impose assessments, fees, or surcharges. The Comal Trinity Groundwater Conservation District does not currently have rules regarding Drought Restrictions in place, but encourages users to utilize this shared resource in a conservation-minded manner.

AUGUST 17, 2017: Climate, Biodiversity, Poverty & Everything Else

Michael Huston, MS, PhD, Texas State University

Why does extreme poverty exist in the tropics, Central Africa and Southeast Asia – and not in Poland?! This and other timely questions were addressed when **Dr. Michael Huston** at the August 17th meeting of Lindheimer Master Naturalists. Dr. Huston explained that biodiversity and poverty are inversely related, and that there is also a relationship between the size and vigor of the species – with the species farther away from the equator being larger, more vigorous and (in humans) wealthier. Farther away from the equator there are fewer species - with 23.5 degrees latitude being the apparent “cut-off” point.

Dr. Huston also spoke on climate change and showed the effects on the planet and its inhabitants that the biological and chemical processes have. He also introduced many of us to Svante Arrhenius (1859-1927) who understood and predicted climate change over 100 years ago. In 1896, in his study of previous ice ages, Arrhenius is said to have been the first to use the basic principles of physical chemistry to calculate estimates of the extent to which increases in atmospheric carbon dioxide (CO₂) will increase Earth’s surface through the greenhouse effect and concluded that human caused CO₂ emissions, from fossil-fuel burning and other combustion processes, are large enough to cause global warming.

Dr. Huston presented “Win-Win Solutions” for the problems that human beings as a species, face today. He included concentrating agriculture on the “best soils”, reserving vast areas of poor soils for conservation of biodiversity and ecosystem services including our water supply and carbon sequestration. He ended his talk by ensuring this is all possible on a global scale, but only if we have international cooperation.





SEPTEMBER 21, 2017 Oak Wilt Identification & Management

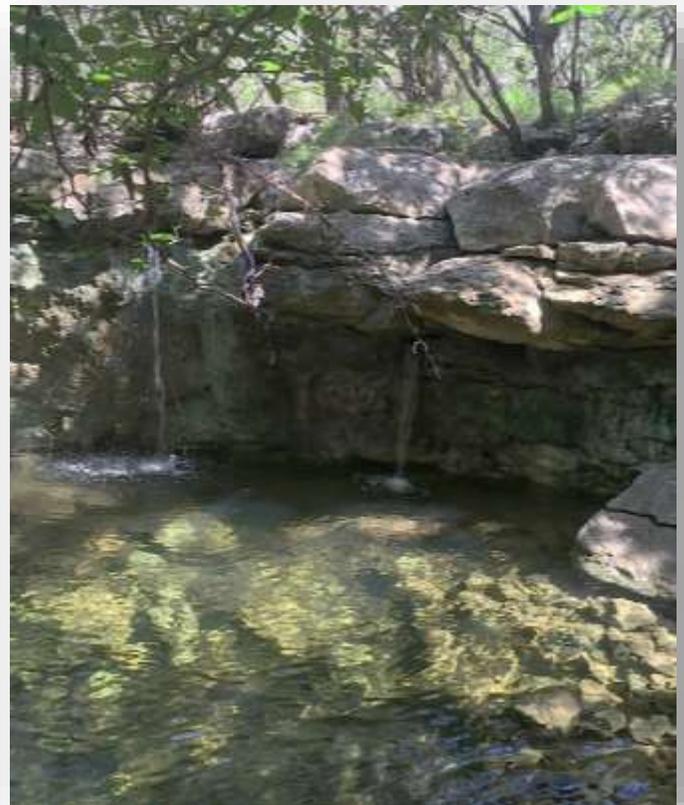
Robert Edmundson, Biologist III, ISA Certified Arborist

The Oak Wilt fungus, *Ceratocystis fagacearum*, is one of the most destructive tree diseases in Texas, killing thousands of acres of oaks. Oak wilt fungus is a primary vascular pathogen, which means it invades the water conducting vessels of the sapwood through fresh wounds or by root grafts formed between diseased and healthy trees, and begins to block the water conducting tissue, stopping the flow of water and nutrients from the roots to the foliage, causing the leaves to wilt and die. Oak wilt is not an air-borne disease, but moves from diseased to healthy trees in two ways: through root grafts formed between trees and through fresh wounds via sap-feeding insects, such those of the Nitidulidae family. Oak wilt spores, produced on fungus mats formed beneath the bark of wilt-killed trees, rely on the insects to spread the sticky microscopic spores to trees. Those with fresh wounds which are

dripping sap are vulnerable from February to June. Where trees are growing close to one another, their root systems often become intertwined, and these root grafts serve as a highway for the oak wilt fungus to spread. Oak wilt travels along a root graft at approximately 50 to 75 feet annually. Mr. Edmundson explained that there is no cure for oak wilt, but there are management actions which can be taken: 1) Prevention – Don't trim limbs between February to June; if necessary, treat IMMEDIATELY with wound sealant. Don't transport infected firewood; 2) Diversity Planting – Maintain a diversity of native tree species in the landscape, monitor for tree health, and treat oak wilt infections early as they are detected; 3) Trenching – Sever roots by trenching at least 4 feet deep to break any root grafts; 4) Fungicide – Propiconazole (Alamo™) is the only proven effective preventative treatment.

Oak wilt can be confused with other problems such as anthracnose, construction damage (including soil compaction), changes in the soil grade or water table, lightning damage, nutritional disorders, insect & animal injuries, chemical damage & root decay, so be sure to have your problem diagnosed by a certified arborist. For more information on oak wilt go to www.texasoakwilt.org and www.tfsweb.tamu.edu.

**"Falling Rock Grotto"
Canyon Lake, Texas
©MJ McFarland
Submission to TMN State Contest
(Scenic Photo)**



“Waiting”

Summer Tanager – Piranga rubra

Comal County, Texas

©Teresa Turko

**Submission to TMN State Contest
(Wildlife Photo)**

Summer Tanagers are medium-sized, chunky songbirds with big bodies and large heads. They have large, thick, blunt-tipped bills. Adult males are entirely bright red. Summer Tanagers tend to stay fairly high in the forest canopy, where they sit still and then sally out to catch flying insects in midair, or move slowly along tree branches to glean food. In the Southwest, look for them along streams among willows, mesquite, cottonwoods, or saltcedar.



“Lantana For Lunch”

Female Eastern Tiger Swallowtail:

Papilio glaucus

Comal County, Texas

©Jeanie Springer

**Submission to TMN State Contest
(Wildlife Photo)**

This unique species of swallowtail is a quick and strong flier, gliding when able. The males are a bright yellow, while the females can exhibit two different color forms; yellow and black and black and blue. The darker form is more common in the southern states. The caterpillar is just as remarkable, it resembles a small snake with eyespots. This butterfly particularly enjoys pink, purple, and red flowers, and is a wonderful visitor to any garden. Average Wingspan: 3" - 6".



"I Need A Drink"

Grey Fox – Urocyon cinereoargenteus
Comal County, Texas
©Nancy Hammack
Submission to TMN State Contest
(Wildlife Photo)

Urocyon cinereoargenteus –
The Grey Fox

The grey fox is named for its grey, salt-and-pepper coat. It has a white throat, cheeks and underbelly, reddish brown legs and a distinctive black-tipped tail and weighs 7 to 11 pounds as an adult. Grey foxes mate in January/February with a gestation of 53 days and an average litter of four. A grey fox den can be a hole, hollow tree, brush pile or rock outcrop. Young foxes stay with the parents about 8 to 10 months and are then pushed out on their own.

Grey foxes are nocturnal, or at least crepuscular, and prefer dry, brushy and rocky habitat. They are very secretive, and are rarely seen, but are common here in the Hill Country. Primarily carnivorous, the grey fox is an opportunistic feeder – small mammals, birds, insects, eggs, and some berries and fruits are on its diet list. These beautiful animals do not pose a threat to domestic animals.

"Bright-Eyed & Bushy-Tailed"

Grey Fox – Urocyon cinereoargenteus
Comal County, Texas
©Glenna Dunnington
Submission to TMN State Contest
(Wildlife Photo)



LMN Volunteers in Action

PROJECT: RAIN GARDEN AT AGRILIFE

Most Lindheimer Chapter projects don't involve heavy equipment, but the Rain Garden at the AgriLife Building needed a lot of dirt rearranged!



The drain, which slopes downhill, was dug and lined with rocks. Rainwater rushes down the drain and into the pool. The end result is prevention of flooding, and collection of rainwater. Plants around the pool will have access to water and not require additional watering. It's a win-win!



Clockwise from top: 1) Moving some earth; 2) the gravel drain; 3) empty pool; 4) full pool after storm; 5) hardworking volunteers perfect the pool shape (wow, this ecological science stuff really works!); 6) chapter advisor, Travis Luepke, on site.

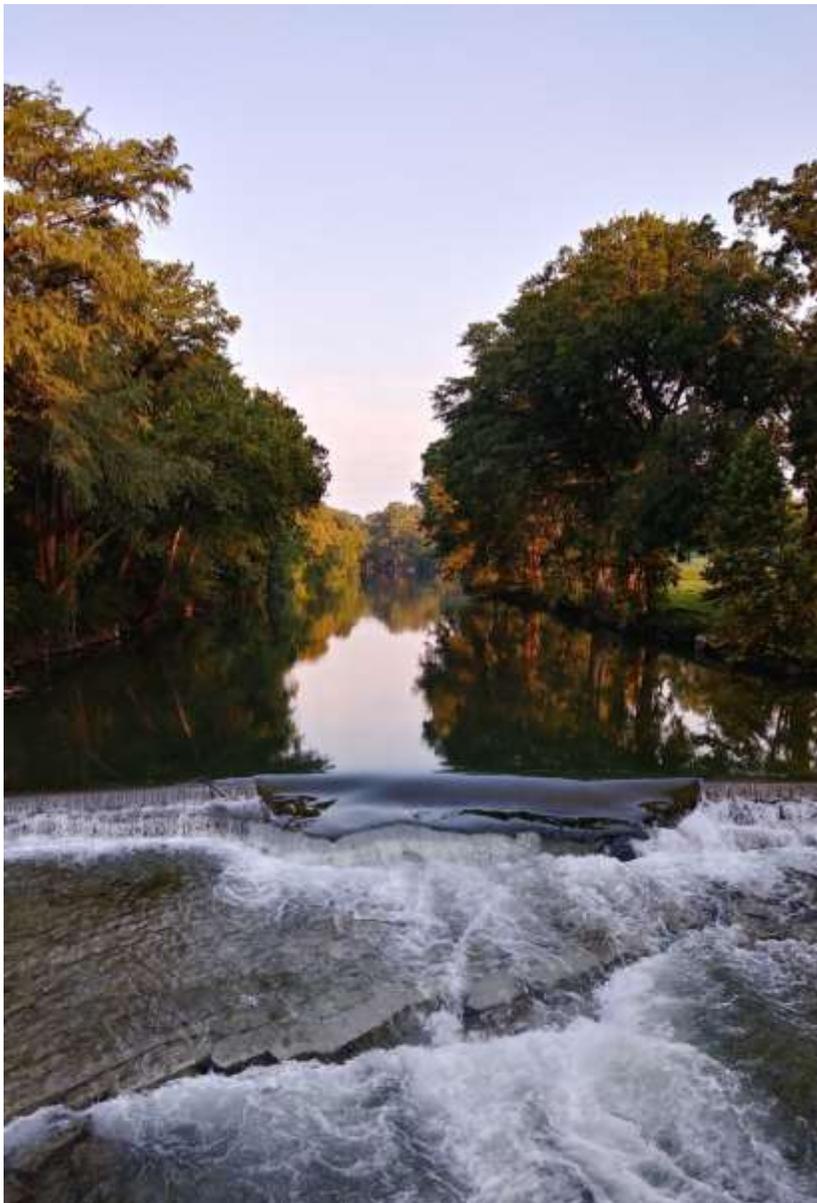
Photos ©Rich Bradley



“Supper Time!”
*Brazilian Free-Tailed Bat –
Tadarida brasiliensis*
Bracken Bat Preserve, Texas
©Sara Riggs
Submission to TMN State Contest
(Wildlife Photo)

***Tadarida brasiliensis –
Brazilian Free Tailed Bat***

The Brazilian Free-tailed Bat is a medium-sized bat with broad ears, large feet, and the end of its tail free. They have short, velvety, reddish to black-colored fur. Millions arrive in central Texas each spring. They migrate to Mexico, Central America, and possibly South America for the coldest winter months. At dusk, just before dark, the bats emerge from their roosts to feed. Insects such as moths, beetles, flying ants, and June bugs are their sole source of food. Brazilian Free-tailed Bats can live up to 11 years in the wild. Females born in Texas are almost all pregnant when they return the summer following their birth. Each female gives birth to only one baby per year. Bats are born without fur & unable to fly. Within a month after birth the majority of babies have fur, are nearly full-grown, and can fly outside of the cave to find their own food. Because baby bats grow so quickly, the caves become extremely crowded in a very short period of time & the adult bats leave the caves to the fledglings and move completely out of Texas.



“Serenity”
Guadalupe River, New Braunfels
©Nancy Hammack
Submission to TMN State Meeting
(Scenic Photo)

Contributing to Citizen Science: iNaturalist.org

“Citizen Science” is the participation of non-scientists in scientific research. As naturalists, many of us already participate in citizen science projects that contribute to the body of scientific knowledge about plants, animals & insects: butterfly surveys, bird counts, plant identification. AND we take pictures – LOTS of pictures! Each picture is an observation, and represents an opportunity to increase the scientific knowledge of what, where & when. One of the largest citizen science projects is iNaturalist, a world-wide, on-line database of observations provided by citizen scientists like Master Naturalists.



From www.inaturalist.org : “From hikers to hunters, birders to beach-combers, the world is filled with naturalists, and many of us record what we find. What if all those observations could be shared online? You might discover someone who finds beautiful wildflowers at your favorite birding spot, or learn about the birds you see on the way to work. **If enough people recorded their observations, it would be like a living record of life on Earth that scientists and land managers could use to monitor changes in biodiversity, and that anyone could use to learn more about nature.**”

Here are the numbers as of 10/16/2017:

Location	Observations	Species	Identifiers	Observers
World	6,402,071	125,499	27,933	160,136
Texas	713,918	13,659	5,846	13,956
Comal County	2,303	841	469	343

Approximately 508,000 observations were added in one month! Comal County added almost 300!

How do you get started? Go to www.inaturalist.org and sign up. You can pick a cool user name such as “sea-kangaroo” or use your name “SamSmith”. Then go to “Getting Started” & follow the directions. If you have an iPhone or an Android & download the mobile app, it’s really easy to submit your observations.

The information you need to submit is: 1) Photo or sound; 2) date; 3) location; 4) your species identification (you can get help from the iNaturalist community on identification). It’s that simple!

Within iNaturalist are specialty projects which usually have a much narrower focus – such as “Herps of Texas” or “Texas Monarchs and Milkweeds.” You can join as many projects as you like and add your data to the appropriate projects. Here is what a sample observation looks like:

Photos/Sounds	Species/Taxon	Date Observed	Place	Date Added	
	Western Diamondback Rattlesnake <i>Crotalus atrox</i>	September 11, 2005	Val Verde County, TX, USA (Google , OSM)	October 16, 2016 10:07 AM CDT	3 IDs Research Grade Edit View »

The data quality assessment in the far right column documents the observation’s accuracy. “Research Grade” observations can be used by scientists (and citizen scientists!) for research.

- You can upload sounds like bird songs, frog chirps, whale vocalizations and wolves howling at the moon!
- Accepted are observations of dead animals and roadkill.
- You can search anywhere in the world for any species. Want to know how many & where a Western Diamondback was found? You can query the database by species, location, date.
- If you want to be a citizen scientist, and contribute to knowledge of the natural world, iNaturalist is a great place to start! Contact Marilyn McFarland at mcfarland1953@sbcglobal.net if you have any questions.



“The Bee & The Butterfly”

Honeybee – Apis mellifera

Juniper Hairstreak – Callophrys gryneus

Comal County, Texas

©Brian Trock

**Submission to TMN State Contest
(Wildlife Photo)**

“Ruffled Elegance”

Southern Catalpa Tree –

Catalpa bignonioides

Canyon Lake Gorge, Texas

©Mark Henderson

**Submission to TMN State Contest
(Plant Photo)**

***Catalpa bignonioides* –
Southern Catalpa Tree**

The Indian bean tree (*Catalpa bignonioides*) is also known as the cigar tree or southern catalpa. It originates from the southeastern United States and grows in USDA zones 5 to 9. The bean tree grows about 30 feet high and has an irregular silhouette unless severely pruned. The tree is famous for its long seed pods, which resemble beans or cigars. Despite the common name of "bean tree," however, this catalpa has no known edible uses. Its roots are highly poisonous.



N2Nature Class Field Trip: National Weather Service Austin/San Antonio Forecast Office

The weather on September 7, 2017 was sunny and clear with a temp of 84° when members of the N2Nature Class traveled to the National Weather Service Austin/San Antonio Forecast Office located adjacent to the New Braunfels Airport. Jon Zeitler, Science & Operations Officer, served as their guide, explaining the various components of the weather station.



The National Oceanic Atmospheric Administration (NOAA) is the parent agency of the National Weather Service (NWS). The Austin/San Antonio NWS Office serves 33 counties, including Comal. NWS vision is a weather-ready nation: “Society is prepared for and responds to weather-dependent events.” Their mission is “to provide weather, water and climate data, forecasts and warnings for the protection of life and property and enhancement of the national economy.”

L to R: Jon Zeitler , Joe Finneran, Midge Baugh, Marilyn Garrison, Brenda Stoeck, Mike Hammack, Nancy Hammack

SKYWARN®

A very popular program of the NWS, Skywarn® severe weather training allows citizens, first responders, emergency management, amateur radio operators, and volunteer organizations the opportunity to learn about severe weather preparedness and safety. Besides learning about severe weather topics specific to South Central Texas, procedures for reporting severe weather to the local Austin/San Antonio National Weather Service Office are also covered. Scheduled training sessions are free and open to the general public. Most training sessions are given in the early part of the year. Check the website for the next training in our area.



Front row (L to R): Jon Zeitler, Amber Garcia, Marilyn Garrison, Midge Baugh, Nancy Hammack.
Back row (L to R): Joe Finneran, Steve Jones, Brenda Stoeck, Ron Stoeck, Mike Hammack.



“Feeding Frenzy”
Monarch Butterfly - Danaus plexippus
Comal County, Texas
©William Suddith
Submission to TMN State Contest
(Wildlife Photo)



“Lajitas Vista”
©William Suddith
Submission to the TMN State Contest
(Scenery Photo)



“Buckeye Blooming”

Mexican Buckeye Tree – Ungnadia speciosa

Guadalupe River State Park

©Dottie Green

**Submission to TMN State Meeting Contest
(Plant Photo)**

Ungnadia speciosa, the Mexican Buckeye, is a shrub or small tree native to northeastern Mexico and adjacent western Texas and southern New Mexico in the United States. It is **monotypic**, the only species in the genus Ungnadia.

It differs from the buckeyes in the related genus Aesculus in having alternate, pinnate leaves with 5 to 7 leaflets, but the flowers and nuts are similar. Another similar related genus is the soapberry (genus Sapindus).

“Maximum Capacity”

Dark Flower Scarab – Euphoria sepulcralis

Comal County, Texas

©Joel Dunnington

Submission to

TMN State Meeting Contest

(Wildlife Photo)

Euphoria sepulcralis is a common, day-flying scarab beetle found in Florida to Texas. The adults feed on tree sap, a wide variety of ripening fruits, corn, and the flowers of apple, thistle, mock orange, milkweed, dogwood, sumac, yarrow, daisies, and goldenrod. The adults have a one year life cycle, but very little is known about this often destructive beetle.



Chapter Information

Chapter Meetings – 3rd Thursday
6:00 Social, 6:30 Meeting
Tye Preston Memorial Library

LMN HOSPITALITY

Our chapter meetings are made even more enjoyable by great food.

Many thanks to Joyce Doyle, Hospitality Head, and LMN members for their delicious contributions.

Earn 1 VH (and our heartfelt thanks) by bringing refreshments! Sign up at the next meeting!

July

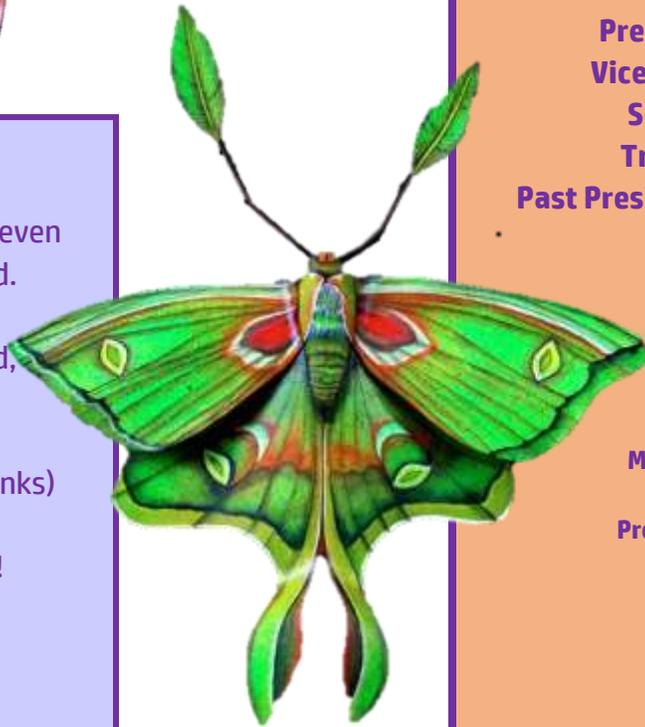
Nancy Hammack
Denise Williams
Marilyn McFarland
Ellen Anderson
William Suddith
Joel Dunnington

August

Lynn & Sandy McLemore
Art Williams
Joyce & Jim Doyle
Debbie Subte
William Suddith
Sara Riggs

September

Steve Jones
Edith Bergquist
Darlene Varga
Nancy Fitzpatrick
Elizabeth Bowerman
Gloria Glass



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Vice President Art Williams

Secretary Kim Wright

Treasurer Rich Nielsen

Past President & TMN Rep Jim Teeling

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Outreach

Darlene Varga

Education

Sara Riggs

Debbie Kyrouac

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Cheryl Trock

Projects & Opportunities

Jeanie Springer

Communication

Marie Miller

Hospitality

Joyce Doyle

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- Out & About – Sara Riggs
- Social Media – Jennifer Hendren
- Newsletter – Carmen Horn
- Photography – Bill Suddith
- Publicity – Karen Lillard
- Historian – Marilyn McFarland

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Craig Hensley

Texas Parks & Wildlife
Guadalupe River State Park

Troy Luepke

Texas A&M AgriLife
Extension Service

Florence Oxley

Austin Community College

Newsletter Staff
Editor – Carmen Horn
Assistant – MJ McFarland

Upcoming Meetings

October 19: N2Nature Graduation

November 16: David Will – Landscaping with Native Plants

December 14: Holiday Party

Board Meetings
4th Monday, 6pm
AgriLife

