



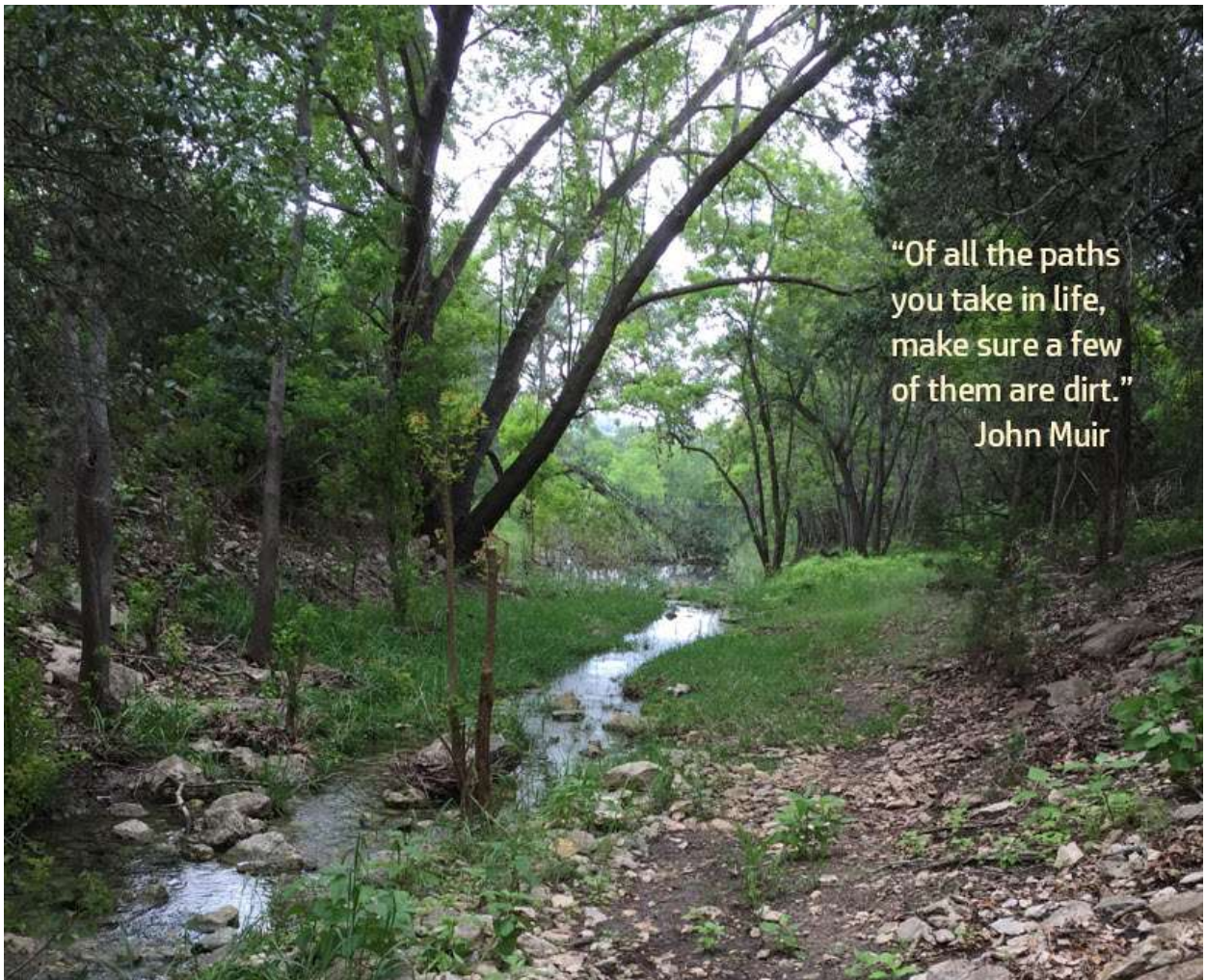
Lindheimer Chapter
Texas Master Naturalist™



2019
Annual Archive

Never doubt
that a small group
of thoughtful, committed
citizens can change the world.
Indeed, it is the only thing
that ever has.

- Margaret Mead



"Of all the paths
you take in life,
make sure a few
of them are dirt."
John Muir

THE VALUE OF MEMORIES



Having recently spent time looking through old scrapbooks, paper documents, and photographs of previous years of the Lindheimer Chapter, I realize how important it is to have an archive which collects and arranges Chapter memories in an orderly and concise fashion; how helpful and gratifying it is to look back at past Chapter members as they carried out the mission of the Texas Master Naturalist™ Program.

An archive provides reminders of people, places and projects, of hard work and awards. An archive allows us to evaluate progress and changes made over the years, and perhaps revive or recycle some of the successful ideas of the past.

What a plus that technology now allows us to put our "scrapbooks" online for access by everyone! The Chapter has many historical documents that are waiting to be scanned and posted on line, and it is our goal to do so. I hope you enjoy this look back at Lindheimer Chapter 2019!

Marilyn J. McFarland, Historian/Archivist

Thank you to our photographic contributors:



Edith Bergquist, Don Bergquist, Rick Corbell,
John Davis, Glenna Dunnington, Joel Dunnington,
Holly Emrie, Nancy Hammack, Mark Henderson,
Carmen Horn, Debbie Kyroutac,
Evelyn Nielson, Sara Riggs,
Dick Scarbrock, Jane Schnell, Jeanie Springer,

How to Use the Electronic Version of the 2019 Annual Archive

As you browse you will notice text entries highlighted in blue:

<https://txmn.org/lindheimer/>

This is a "link" that will take you to another page - in this case, a link to a page on the Lindheimer Chapter website. If you place your cursor on the link, a hand appears. Just click. You will be taken to that page. To return back to the annual, use your back arrow.



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TEXAS MASTER NATURALIST™

Mission: To develop a corps of well-informed volunteers to provide education, outreach, and service dedicated to the beneficial management of natural resources and natural areas within their communities for the State of Texas.



Need: Many communities and organizations rely on such citizen volunteers for implementing youth education programs; for operating parks, nature centers, and natural areas; and for providing leadership in local natural resource conservation efforts. In fact, a short supply of dedicated and well-informed volunteers is often cited as a limiting factor for community-based conservation efforts.

TMN provides volunteers with 40 hours of initial training, including field and classroom instruction and 8 hours of advanced training annually customized to meet the needs of local environmental issues. Certified Master Naturalist Volunteers then give a minimum 40 hours of community service annually.



Sponsors: The Texas Master Naturalist Program exists to make a positive difference in the quality of the environment in Texas. Texas Parks & Wildlife Department along with Texas A&M AgriLife Extension serve as sponsors for the program. Together they provide education, outreach and service to their community with an emphasis on how to manage Texas' natural resources.

January - February - March



"Huisache Tree"
Nancy Hammack



President's Message

April Membership Meeting: "State of the Chapter"

You are all encouraged to attend the April Meeting which will be a "State of the Chapter" update. You will find out what your Board is doing to support you and our mission.

Our Mission

*"To develop corps of well-trained "Master Volunteers" to provide education, outreach and service dedicated toward the beneficial management of natural areas and resources within their communities for the State of **Texas**."*

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We will discuss the changes to the Chapter Operating Handbook (COH), the budget, dues, and the vision we would like to pursue for the future of the Chapter.

--Rich Nielson

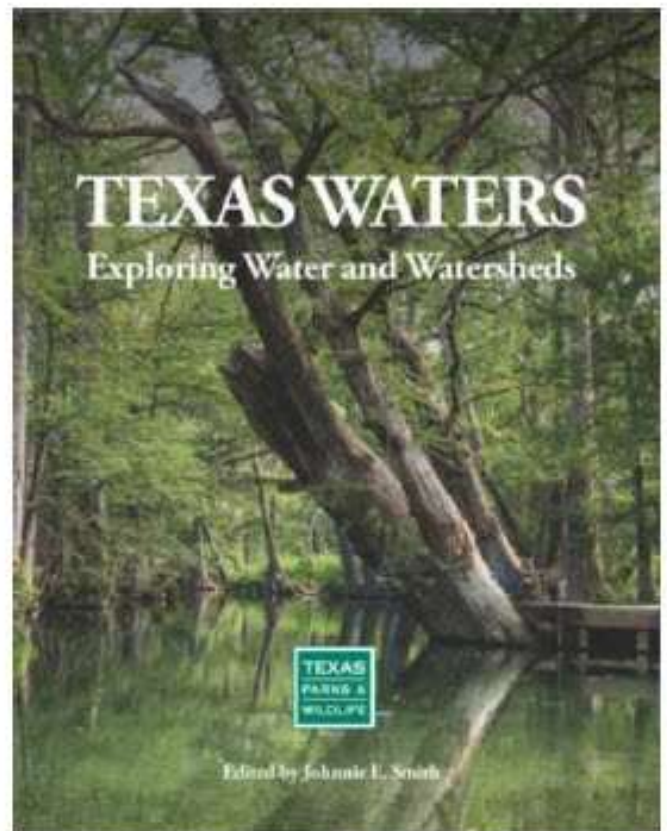


Texas Waters Specialist Certification Classes

- The purpose of the Texas Waters Specialist Certification is to "develop a corps of well-informed volunteer specialists who provide education, outreach & service dedicated to the beneficial management of aquatic resources & aquatic habitats within their communities for the state of Texas."



- There are 3 classes totaling 9 hours of Advanced Training using the **Texas Waters Curriculum** which will certify you as a Texas Waters Specialist.
- **Prerequisite** for this class is **Certified Texas Master Naturalist™** or **Master Naturalist-in-Training**. Need to attend all three classes in order to certify.



Texas Waters Specialist Certification Classes Presented by Lindheimer Chapter

WHEN: Monday, May 13, 2019 1:00 - 4:00pm
Thursday, May 23, 2019 2:00 - 5:00pm
Thursday, May 30, 2019 1:00 - 4:00pm

WHERE: Tye Preston Memorial Library
16311 S Access Rd, Canyon Lake, TX 78133

WHO: Marilyn McFarland

SIGN-UP: Send an email to LindheimerMNContact@gmail.com stating you'd like to take the class or want more information. Deadline to sign up is May 1, 2019. Class size is 15.

MONTHLY MEETINGS

January 17, 2019 Meeting

"Spying on Bats: Using New Technology to Understand Behavior and Reduce Impacts Caused by Wind Energy"
Danielle Cordani, Texas State University Wildlife Biology and B.A.T.S.

By Carmen Horn, Editor

More than 90 attendees gathered at Tye Preston Memorial Library for the January 17th, 2019 LMN Meeting. "Spying on Bats" was the subject of the presentation by Danielle Cordani, Research Assistant at Texas State University. Ms. Cordani was assisted by Jacob Rogers, also with TSU.

Common misconceptions about bats include that they may be flying rodents, vampires, blind or rabid. Bats are mammals in the Order Chiroptera, which is the second largest Order of mammals currently in existence. Bats evolved 52 million years ago and are the only existing flying mammals.

The various types of bats (genera) are numerous as are their means of sustenance, appearance and habitats. They can be herbivorous, carnivorous, insectivorous, sanguivorous, frugivorous or piscivorous. Their habitats are equally diverse, including under bridges, in house attics and other structures, trees, caves/rocks. Bats generally give birth to 1 to 2 pups per year and can live from 20 - 35 years. Generally, bats do not thrive in cold weather and some species are migratory.

While being a vigorous group, bats fall prey to "White Nose", a fungal condition which spreads quickly in a colony. They have also suffered from habitat loss and the effects of climate change. The production of wind energy through turbines is also a threat to the bat population. With Texas being the United States' largest producer of wind energy, Ms. Cordani is conducting research into the exact causes of bats being drawn to these turbines and their subsequent mortality. She and her colleagues are currently collecting data in Starr County.

Ms. Cordani encouraged everyone to be an advocate for bats by volunteering or donating to an organization such as Bat Conservation International, Bat Friendly - University of Mexico The Tequila Project or Bracken Cave Preserve. Approximately ten bat specimens were available to examine their differences and similarities.

Following a brief business meeting, **The Community Naturalist Award for 2018** was presented to Headwaters at the Comal, accepted by Ms. Nancy Pappas and Ms. Lauren Strack.

Master Naturalist Certification, Recertification and Volunteer Hours were also awarded. Many thanks to our hosts & hostesses for an abundant buffet. Also, thanks to those who stayed after the meeting to rearrange tables and chairs and clean the meeting room.

L > R: Lauren Strack, Nancy Pappas, Rich Nielson



February 21, 2019 Meeting

"Upland Birds of the Texas Hill Country"

Craig Hensley, Natural Resources Specialist III TPWD
Wildlife Biologist, Comal & Kendal Counties

By Carmen Horn, Editor

The speaker for the February LMN Meeting was TPWD's Craig Hensley, LMN Chapter Advisor and Wildlife Biologist for Kendall and Comal Counties. Craig delivered a program on Upland Game Birds of the Texas Hill Country - complete with a fascinating collection of photos captured by both amateurs and professionals with TPW. He also discussed the musical calls of the birds and demonstrated the cacophony that can be created by groups of the birds in excited 'conversation' all at once!

These birds are known as "Gallinaceous" and referred to as "Galliformes" which means "chicken-like". There are 22 species of these generally ground-dwelling birds in North America and they forage for insects and seeds/vegetation. They typically have rounded wings with most males having ornamentation around the head. An interesting fact about the entire species that they are "precocial" - the young are capable of flight within 10 days after birth.

The Galliformes found in Texas are the Chachalaca, Wild Turkey, Ring-Necked Pheasant, Attwater's Prairie Chicken, Scaled Quail, Gambel's Quail, Montezuma Quail and Northern Bobwhite.

These birds were seriously threatened with extinction in the early part of the 20th century. However, due to efforts by conservation agencies such as TPW as well as laws preventing over-hunting and efforts toward habitat management, the Wild Turkey population has largely stabilized. However, while improving, the quail population remains threatened, with large scale recovery efforts currently underway to preserve the Northern Bobwhite.



"Galliformes ("chicken-like") found in Texas are the Chachalaca, Wild Turkey, Ring-Necked Pheasant, Attwater's Prairie Chicken, Scaled Quail, Gambel's Quail, Montezuma Quail and Northern Bobwhite."



(L) Photo of female & male turkeys by Nancy Hammack. (R) Photo of Gambel's Quail by Joyce & Jim Doyle.



March 21, 2019 Meeting
"Bird Song: Nature's Sweet Tweets"
Patsy & Tom Inglet, Ornithologists

By Carmen Horn, Editor

Patsy and Tom Inglet Demonstrate "Birdsong - Nature's Sweet Tweets"

"Birdsong - Nature's Sweet Tweets" was an apt title for the delightful program of birdsong presented by Patsy and Tom Inglet at the Lindheimer Master Naturalist March Meeting. Since their respective retirements (Patsy was an educator and Tom an engineer) the Inglets have worked as "professional volunteers" as Master Naturalists with a passion for birding.

**"Birding is good for you
physically, mentally and
spiritually. You get outside.
You use your brain.
And it's about something
bigger than you!"
Patsy Inglet**



The Inglets have banded birds in the field, monitored birds in the nest and taught many kids and adults the basics of birding.

They also teach teachers how to incorporate birds into their lesson plans in the Flying Wild Program. They are members of the Alamo Chapter of Texas Master Naturalists, Docents, Board Members and Outdoor Classroom Instructors with Cibolo Nature Center and with Lake Mitchell Audubon Center. Patsy Inglet says, "Birding is good for you physically, mentally and spiritually. You get outside. You use your brain. And it's about something bigger than you!"

Well prepared with recorded bird calls of many kinds, but mostly concentrated on those birds native to our area, Patsy said that using the learning techniques she gave us in her lecture, we could be able to identify birds simply by hearing their song! She refers to the practice as "birding by ear".

Patsy also urged everyone to help with the conservation effort, by planting native plants, feeding and watering the birds, giving them shelter from predators and by making generous donations to conservation agencies such as the American Bird Conservancy. She also recommended purchasing "shade-grown" coffees.

Comal County Conservation Alliance Celebrates First Birthday
by Elizabeth Bowerman

The Comal County Conservation Alliance will be one-year-old in May and is rolling out its public education campaign, **Conserve Comal!** The primary goal of the campaign is to increase awareness of the importance of the natural resources in our area and encourage people to get involved in the effort to protect them. The blue exclamation point represents the urgency of protecting the Texas Hill Country now.

CCCA's **Conserve Comal!** campaign will partner with local groups such as LMN to present educational activities for the public. Please watch for opportunities to participate in these events and get LMN Volunteer Hour credit while you help spread the word about preserving land, water and the native flora and fauna. Check out the CCCA website at: www.comalconservation.org or contact Elizabeth Bowerman at cdrliz@satx.rr.com.

The Song Dog

by Marilyn J. McFarland

The name coyote comes from the Aztec word “coyotl” meaning “barking dog.” In traditional Native American storytelling, the coyote appears as a cultural icon endowed with supernatural abilities and revered as *God’s Dog*, *Medicine Dog*, *Song Dog* and *Old Man Coyote*, impersonating the Creator to bring fire and other gifts to humans.

Countless tales portray the coyote in a variety of ways: shapeshifting trickster, buffoon, thief, lecher and wise counselor. “The coyote is our classic totem animal in America,” says naturalist and historian Dan Flores, author of *Coyote America*. “It’s the animal that produced the oldest body of literature in North America in the form of Indian coyote deity stories from 10,000 years ago.”

Coyotes are a native species! They evolved solely in North America more than 5 million years ago and have originally inhabited the central plains and arid lands, from Canada to central Mexico. **Lewis and Clark were the first to document a sighting of coyotes in 1804.** Per the Smithsonian, “Coyotes were not known in the eastern

Coyotes are a native North American species, evolving more than 5 million years ago.

woodlands of Lewis’ native Virginia at the time of the expedition. By contrast, coyotes can be seen regularly today in the Atlantic states, and they now range from Florida to Alaska, and from Maine to Costa Rica. Coyotes are even known to eke out a living in large cities such as Los Angeles and Boston! This successful expansion has led to their victimization by humans, though without any great success in controlling this survivor’s numbers.”

The coyote’s steady continental expansion and growing numbers, along with America’s westward march, put them into conflict with Western cattle and sheep ranchers.

From 1947 to 1956, U.S. Department of Agriculture agents killed 6.5 million coyotes. By some estimates, state and federal agents, hunters and ranchers killed more than 20 million coyotes in less than a century. According to Flores, intensive poisoning caused a near regional collapse of coyote populations in the Texas Hill Country in the 1950s and ’60s. **Today, about 500,000 coyotes are killed each year in the United States.** Most states, including Texas, classify coyotes as non-game animals, with no protection or regulatory oversight. While most are killed to protect livestock, coyotes are also targeted because of their growing presence in cities and suburbs. “Coyotes are one of the most hunted species in the U.S. in the past 100 years,” says Kelly Conrad Simon, an urban wildlife biologist for the Texas Parks and Wildlife Department. “There may be a limit to coyote resilience, but we haven’t reached it.” They are listed as “least concern” for extinction; indeed, there is the opposite problem of overabundance. As humans have decimated wolves – the coyote’s natural predator – coyote populations have skyrocketed and are now widely distributed in Canada, US (all 50 states), Mexico and Central America (sighted in Panama in 2013). Coyotes are in most urban and suburban areas in the US.

The **largest concentration of coyotes is reportedly in Yellowstone Park.** When wolves were extirpated in the park and left an apex predator void, coyote populations expanded. Over the last 20 years, since wolves have been reintroduced and wolfpacks have increased, coyote populations in some areas have decreased by 50%. Wolves kill coyotes on sight. It appears that the only way to contain a coyote population is by wolfpack!

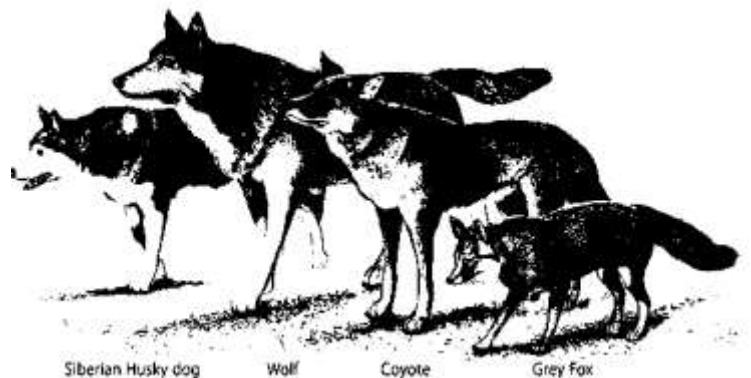
Basic Coyote Facts

The coyote, *Canis latrans*, is a member of the Family Canis, consisting of dogs, foxes, wolves, jackals and coyotes. There are **nineteen (19) subspecies of coyote** according to ITIS (Integrated Taxonomic Information System). And yes, there is a “Texas” coyote – subspecies *Canis latrans texensis*.

The average male coyote stands about 21 – 24 inches tall, is 30 – 38 inches long (excluding tail) and weighs about 20 to 50 pounds. Females are smaller and shorter. **Size is**

geographic, being smaller in the warmer southern regions.

The largest coyote on record was a male killed 82 years ago (1937) in Wyoming which measured 1.5 m (4 ft 11 in) from nose to



tail, and weighed 34 kg (75 lbs.). Coats can be gray, white tan or brown – mountain coyotes are typically darker than desert coyotes.

Coyotes are **highly varied in diet** and habitat. They are not picky eaters, but generalist omnivores that will eat fresh meat, carrion, reptiles, amphibians, bugs and vegetation, and yes, on occasion, pets. They **make do with whatever habitat is around them**, requiring formal shelter such as a den only to birth and raise their pups for the first few weeks. They have adapted well to humans, and are thriving in urban environments. Near farms coyotes commonly take livestock, especially sheep. They also can cause damage to fields of ripe watermelon, honeydew, and other market fruits. Near cities coyotes **have been known to kill and eat pets vulnerable to predation**. There are several reported cases of attacks on humans, including at least one fatality. However, such events are extremely rare and typically occur where coyotes have lost their fear of humans, such as near suburban areas, where humans either purposefully or inadvertently provide food for them. Coyotes generally fear and avoid humans, but they habituate well to human presence.



Coyotes have sharp pointed ears which never drop, a sharp pointed nose, and long bushy tails. They carry their tails down, as opposed to horizontal (fox) or up (dogs and wolves). Their eyes are **yellow** with round black pupils. The coyote is a strong swimmer, has keen eyesight, smell, and hearing, and can **run at speeds up to 40 mph**. But their most important characteristic is their intelligence. **Intelligence puts coyotes in a class by themselves**. They have learned to take advantage of man and engage in creative hunting. They have a reputation for swiftness and cunning. There are stories of coyotes creating diversions, luring prey into killing distance, or picnickers away from their lunches. There is a reason why Native Americans called coyote a trickster, and imbued the coyote with almost supernatural abilities: **they learn very fast**.

Coyote Habits and Behavior

Coyotes have flexible social lifestyles – they can be **solitary**, or live in **packs** with an alpha couple and generally young offspring. Through their lifespan, they will live both lifestyles. They team up to bring down large prey such as deer or elk. They are primarily nocturnal hunters, although to feed their pups they will hunt during the day. The closer coyotes live in proximity to humans, the more they will feed on non-wild food sources – domestic farm animals, small pets, occasionally garbage. Litters, and packs, are smaller where diets are wild. They mark their territory with both urine and scat. **Coyotes are territorial** and both members of a breeding pair defend the territory against other coyotes. Territories are marked with urine and feces, and they will vocalize to inform other coyotes of their territories. Most territories are about 4 – 15 square miles, depending upon the abundance of food.

Sexual maturity occurs at 20 – 24 months. **Coyotes mate for life and are monogamous.**

February/March is breeding season with gestation 63 – 65 days. The mother coyote seeks out a den – usually a den abandoned by another animal, although they will dig their own if need be. Litter size is 3 – 12 pups, depending upon food supply and density of coyote population. Males help with raising the litter, bringing food for the female and pups, and protecting them from predators. The mother coyote will move her pups from den to den if she suspects any danger. Pups open their eyes at about 12 days, and by 6 – 9 months are old enough to hunt for themselves. Only **about 20% - 30% of pups survive the first year**. Their numbers are decimated by predators and disease, being prone to typical canine illnesses (mange, distemper & parasites). Life expectancy in the wild is up to ten years.



Coyotes can mate with dogs, creating offspring called **"coydogs."** Coydogs are fertile, but have a small population because they tend to mate and have pups during the winter, making it harder for the pups to survive. Male coydogs do not help the females take care of the pups, which also contributes to poor survival rates.

The coyote **competes with several other carnivores**, especially in the northeast, where coyotes were previously absent. Lynx and bobcats compete for the same foods (hares and rabbits), and the success of each of these predators depends on the setting. The coyote also competes with the red fox - which it will kill upon encountering. For this reason, areas with high coyote densities often harbor few red foxes. Occasionally, larger animals such as wolves or cougars prey on coyotes. Where wolves have been reintroduced, coyote populations decline, as wolves will kill coyotes on sight.

Vocalizations

It is the complexity of the coyote's vocalizations that earn it the name of the Song Dog. Marc Beckoff, PhD, in Psychology Today (December 2017) states: "Based on extensive and detailed research that involved recording and playing back howls and yips and observing the behavior of captive and free-ranging coyotes, wildlife researcher Philip Lehner 40 years ago placed coyote sounds into three general categories:

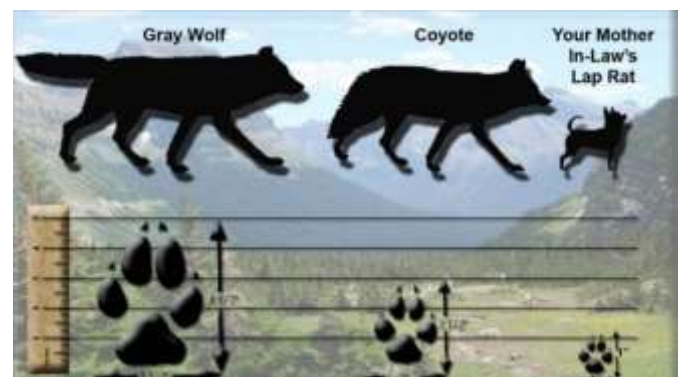
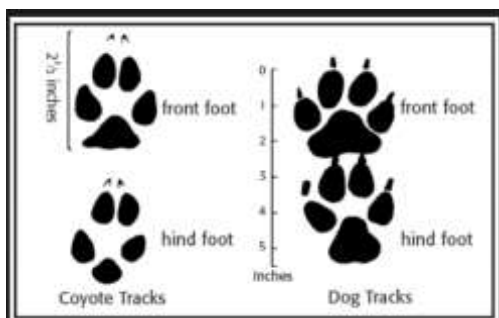
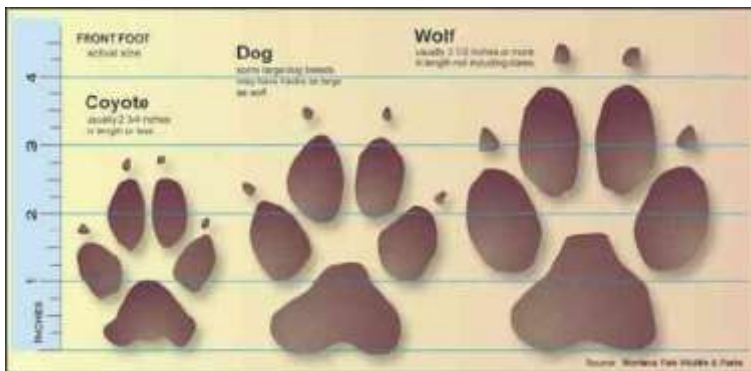
- **Greeting:** Sounds include low-frequency whining, wow-oo-wowing (often called a greeting song), and group yip-howling (when reuniting and greeting).
- **Agonistic:** These are vocalizations used during aggressive interactions and when coyotes display submission. They include woofing, growling, huffing (high-intensity threat), barking, bark-howling, yelping (submission and startle), and high-frequency whining (usually given by a subordinate coyote).
- **Contact:** Sounds include lone howling (one of the most common vocalizations), group howling (when reuniting or in response to lone or group howls or yip howls), and group yip-howling (which may announce territory occupancy and may help regulate density of population).



Howling sounds can travel about 1,000 yards and can be used by coyotes to identify who's calling, their gender and perhaps their mood. Transient coyotes don't usually vocalize as much as resident animals in order to avoid interactions. Lone howls can also announce the location of an individual separated from their group. Not all is known about their conversations; so much more to learn. Even one or two coyotes can sound like a large pack because they vary their calls. Basically, coyotes have a rich, complex, expressive language that communicates a range of emotions and information.

To hear various vocalizations, go to [youtube.com](https://www.youtube.com) and search for "coyote sounds". A number of videos will show up. Two of the best are "Coyote Pack Howl" by KB Bear (1:04 minutes) and "Back and Forth Social Coyote Communication" by Janet Wessler (2:01 minutes).

Tracks



The Urban Coyote: Adaptation and Survival

There's a new guy in town – literally. The “urban coyote” is not a myth, it is a fact. Stop thinking of the coyote as an animal out in the wild, because it is changing and adapting to humankind, and doing it smack dab in the middle of millions of us. The coyote is an extremely successful urban dweller. From the Urban Coyote Initiative comes the following “Ten Fascinating Facts About Urban Coyotes.” See the full article at

<https://urbancoyoteinitiative.com/10-fascinating-facts-about-urban-coyotes/>

1. Urban coyotes can create territories out of a patchwork of green spaces in a city.
2. Urban coyote dens are surprisingly hard to find.
3. Urban coyotes may live in a family pack or on their own at various times. Coyotes are the apex predator in a city.
4. Urban coyotes mate for life and are monogamous.
5. Urban coyotes do not routinely feast on pets and garbage; they typically stick to their natural diet if available. However, because they are opportunistic omnivores, watch your pets. A study by Urban Coyote Research Program analyzed over 1,400 scats and found that the **most common food items were small rodents (43%), fruit (23%), deer (22%), and rabbit (18%).** Only about 2% of the scats had human garbage and just 1.3% showed evidence of cats. Although coyotes will take feral cats and small dogs upon occasion, they do not rely on these for the bulk of their diet.
6. Urban coyotes **switch** from diurnal/crepuscular activity to nocturnal activity when living near humans.
7. Urban coyotes reduce the population of feral and free-roaming cats in natural spaces, helping protect songbirds in parks.
8. Urban coyotes help reduce the populations of other nuisance animals such as rodents, deer and Canada geese.
9. The easiest way for a city dweller to avoid contact with urban coyotes is to avoid feeding them. Feeding habituates coyotes and they lose their fear of humans. This leads to aggressive behavior and attacks on humans and pets.
10. Trapping/relocation and killing urban coyotes does not reduce the overall population.



The **intelligence, cunning, and persistence of the coyote**, developed over millions of years, will serve it well in a future fraught with peril and uncertainty.

REFERENCES

- Books** *The Voice of the Coyote* by J. Frank Dobie, 1947
Coyote America by Dan Flores, 2016
Coyotes: Biology, Behavior, and Management by Marc Bekoff, Editor, 1978
Coyotes: The Comprehensive Guide for Hunters, Photographers and Wildlife Observers by Michael Huff, 2015

Videos <https://www.nationalgeographic.com/animals/mammals/c/coyote/>

Internet

- Project Coyote <http://www.projectcoyote.org/carnivores/coyote/>
Texas Parks and Wildlife Department <https://tpwd.texas.gov>
Native American Stories of Coyote <https://www.indigenouspeople.net/coyote.htm>
Urban Coyote Initiative <https://urbancoyoteinitiative.com/>



Recertifications & Volunteer Hour Milestones

Thank You for Volunteering!

2019 Recertification Pin - Golden Cheeked Warbler



December 2018

Recertifications – Ocelot Pin

Nancy Hammack, Wendy Matthews, Ron Stoeck, Lynne McLemore, Sandy McLemore, Cynthis DeWitt, Marie Miller

Volunteer Hour Milestones

250 Hours

Harry Ferrell, Joe Finneran

1,000 Hours

Mary Mathey

Graduation, Mud Daubers

Brian Crews, Sharon Barclay-Rakosky

Certification, Mud Daubers

Patrick Hagan, Michael Dillingham, Robin Hagan

January 2019

Recertifications – Golden Cheeked Warbler Pin

Ellen Anderson, Susan Bogle, Brian Trock, Darlene Varga, Art Williams

Volunteer Hour Milestones

250 Hours

Jane Finneran

1,000 Hours

Jane Miller

No photo yet because we're waiting on the Golden Cheeked Warbler Pins to arrive. When they do, we'll take photos of all the recertifications & post them!

Still waiting on the pins to arrive!

February 2019

Recertifications – Golden Cheeked Warbler Pin

Don Bergquist, Edith Bergquist, Coco Brennan, Joel Dunnington, Jane Finneran, Joe Finneran, Laird Ingham, Lois Ricci, Sara Riggs

Volunteer Hour Milestones

250 Hours

Marilyn Garrison

10,000 Hours

Coco Brennan

Rock Stars Journal 2018 - 2019

An Account of the Activities of the Lindheimer Chapter Master Naturalists-in-Training Class

Rock Stars Field Trip to Canyon Lake Gorge March 9, 2019
By Erin Harrison, Rock Stars Class Reporter/Photographer

The Lindheimer Master Naturalist student class of the Rock Stars had an amazing field trip to the Canyon Lake Gorge on the weekend of March 9th. After a crazy winter blast with temps in the 20's, we were definitely warmed up with highs in the 90's down in the gorge.

Twenty-six of our classmates ventured down into the deep crevices that the 2002 Canyon Lake flood created. And what amazing discoveries were down there. We saw foot prints of a carnivorous dinosaur with a leg clearance of 7 feet under his belly. TONS of fossils of tiny shells all the way up to large shells. A lizard danced across our path a few times and stood still long enough to have his portrait taken. The waterfalls and turquoise pools with carp fish in them are extremely beautiful. Halfway through is a very nice shaded rest area complete with a restroom for those in need. A fault line runs through this gorge that's very visible with its long cracks and cross faults. We spent three hours hiking in the gorge along its mile and a half long trek.

I hope everyone visits and takes a tour there with the Canyon Lake Gorge Preservation Society. The scenery is simply beautiful and the educational talk with the docents, is very worth all three hours of it.



Rock Stars Participate in the Insect Expo, February 25 – 27, 2019

By Erin Harrison, Rock Stars Class Reporter/Photographer

The last weekend of February was jam packed with 2000 4th graders at the McKenna Children's Museum in New Braunfels! Many of the Lindheimer Master Naturalists and Rock Star students spent two days volunteering at the fun filled event! I spent my two days at the Insect Petting Zoo station with my hands full of millipedes. The girls definitely showed up the boys in bravery this day by holding the millipedes in their hands. They all realized that these harmless bugs were nothing to be afraid of. Lots of screams were heard when they met "Coco the Tarantula" though!

My second day, I spend doing something more artistic by having all the kids make their own antennae headbands. On my break, I went out to visit each of the stations. There were so many fascinating things to see and learn! Our volunteers were teaching about eating bugs, doing maggot art, holding cockroach races, and even maggot Nascar races!

There were also mysteries to solve with the ant detective game, food webs, and building your own bee! Others were doing a delicious honey tasting from various types of flowers, and being bees themselves at the pollination station! There were so many more tables and stations to visit, and these kept the kids busy for hours. We were informed by some teachers that this is their favorite field trip for their students. It's not only fun for them, but it was really fun for us to be part of. This was my second year to volunteer at it and I'll keep on volunteering at this event. It's really inspiring to see the light in kids' eyes when they're this excited about learning. These kiddos are our future!





Rock Stars Road Trip: AE Woods Fish Hatchery February 22, 2019
By Erin Harrison, Rock Stars Class Reporter/Photographer



Headwaters of the Comal: Rock Stars Field Trip January 19, 2019
By Erin Harrison, Rock Stars Class Reporter/Photographer



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 3/28/2019. Take a look at Comal County!!!

Location	Observations	Species	Identifiers	Observers
World	17,219,449	206,580	67,965	463,101
Texas	1,607,8654	17,533	12,011	32,644
Comal County	7,850	1,748	1,115	916

How to 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’s what a sample observation looks like:

Photos/Sounds	Species/Taxon	Date	Place	Date Added	Verified ID
	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.

- Upload sounds like bird songs, frog chirps, whale vocalizations and wolf howls
- 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 has been sighted? Query the database!
- If you want to be a citizen scientist, iNaturalist is the place to start!

1. Donate to Lindheimer Chapter painlessly through Amazon Smile!



How to Donate to Our Chapter Using Amazon Smile

- **What is AmazonSmile?** AmazonSmile is a simple and automatic way for you to support your favorite charitable organization every time you shop, **at no cost to you**. When you shop at smile.amazon.com, you'll find the exact same low prices, vast selection and convenient shopping experience as Amazon.com, with the added bonus that Amazon will donate a portion of the purchase price to your favorite charitable organization. You can choose from over one million organizations to support.
- **How do I shop at AmazonSmile?** To shop at AmazonSmile simply go to smile.amazon.com from the web browser on your computer or mobile device. You may also want to add a bookmark to smile.amazon.com to make it even easier to return and start your shopping at AmazonSmile.
- **Can I use my existing Amazon.com account on AmazonSmile?** Yes, you use the same account on Amazon.com and AmazonSmile. Your shopping cart, Wish List, wedding or baby registry, and other account settings are also the same.
- **How do I select a charitable organization to support when shopping on AmazonSmile?** On your first visit to AmazonSmile smile.amazon.com, you need to select a charitable organization to receive donations from eligible purchases before you begin shopping. To support us, select "Texas Master Naturalist Lindheimer Chapter."
- **How much of my purchase does Amazon donate?** The AmazonSmile Foundation will donate **0.5% of the purchase price** from your eligible AmazonSmile purchases. The purchase price is the amount paid for the item minus any rebates and excluding shipping & handling, gift-wrapping fees, taxes, or service charges.

2. Check out Lindheimer Chapter on the Web!

www.txmn.org/lindheimer/

3. Check out Lindheimer Chapter on Facebook!



There is a lot of chapter information posted on Facebook – meetings, activities, educational links and also the activities of other groups which may interest you.

We highlight chapter activities and articles, and photos taken by our members.

If you go to our website, you'll see the link for Facebook on the righthand side of the page.

Just click on it and it will take you to our site on Facebook. It's easy! Come see us! **"Like"** us! And **"Follow"** us!

The Lindheimer Quarterly

Published quarterly by the Lindheimer Chapter,
Texas Master Naturalist™

to inform, communicate and educate chapter members and the Hill Country Community. If you have an article or photo you think is of interest to naturalists, please contact LindheimerMNContact@gmail.com

The Quarterly is sent to all members by email, and also is posted on our website <https://txmn.org/lindheimer> under the Newsletter tab. Previous issues are available.



Staff

Carmen Horn, Editor
Marilyn McFarland, Design/Layout
Erin Harrison, Rock Stars Reporter & Photographer

2019 Chapter Information



2019 CHAPTER LEADERSHIP

OFFICERS

PRESIDENT Rich Nielson
VICE PRESIDENT Jim Doyle
SECRETARY Martha Bersch
TREASURER Robin Hagan
PAST PRESIDENT/TMN REP Rich Bradley
Email: LindheimerMNContact@gmail.com

STANDING COMMITTEES

Communication - Marilyn McFarland
Education - Mike Hammack & Joe Finneran
Membership & Records - Cheryl Trock
Outreach - Deb Kyroutac & Jane Schnell
Projects & Opportunities - Jeanie Springer

SUBCOMMITTEES

Communication Subcommittees

Out & About - Sara Riggs
Historian/Archivist - Recruiting
Newsletter - Carmen Horn, Editor
Publicity/FB/Webmaster - Marilyn McFarland

Outreach Subcommittees

Trunks - Deb Kyroutac & Jane Schnell
Program to Assist Landowners - Art Williams

VP Subcommittees

Community Recognition - Jim Doyle
Hospitality - Evelyn Nielson

Rock Stars Class

President - Aleta Meyer
Reporter/Photographer - Erin Harrison

CHAPTER ADVISORS

Craig Hensley
Texas Parks & Wildlife
Guadalupe River State Park

Troy Luepke
Texas A&M AgriLife
Extension Service



LMN Board Meetings
4th Monday 5:00-6:00
AgriLife Building

Chapter Meetings - 3rd Thursday

5:45 Social, 6:15 Speaker

Tye Preston Memorial Library

January 17, 2019

"Spying on Bats" Danielle Cordani

February 21, 2019

"Northern Bobwhite/Rio Grande Turkey"

- Craig Hensley

March 21, 2019

"Bird Song: Nature's Sweet Tweets" - Patsy Inglet

April 18, 2019

Business Meeting & Photo Show

May 16, 2019

"Fireflies" - Ben Pfeiffer

June 20, 2019

"Environmental Impact of Karst" - Amy Clarke

July 18, 2019

TBA

August 15, 2019

TBA

September 19, 2019

TBA

October 17, 2019 Rock Stars Graduation

November 21, 2019

TBA

December 12, 2019 (2nd Thursday)

Elections & Social Event



LMN HOSPITALITY

Many thanks to
Evelyn Nielson,
Hospitality
Subcommittee & the
LMN members
who bring such
delicious snacks!

January

Jane Schnell, Carol Dillingham, Marilyn McFarland,
Isobel Campos, Ellen Anderson, Sandra Carson

February

Sara Riggs, Sandra Carson, Glenna Dunnington, Joel
Dunnington, Nancy Fitzpatrick, Jane Schnell, Tom
Mathey, Mary Mathey, Cheryl Trock, Brian Trock

March

Joyce Doyle, Salty Brady, Jane Finneran, Nancy
Fitzpatrick, Joel Dunnington, Glenna Dunnington, Martha
Bersch, Debbie Subke

April - May - June

"Two Tailed Swallowtail on Thistle"
Darlene N. Varga



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7	Community Naturalist Award
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15	Rock Stars Journal
16	Naturalist
17	Chapter Info

LMN Member Photos

Clockwise from left:

"Squirrely" by Nancy Hammack

"Cactus Flower" by Rick Corbell

"Munchtime" by Brian Trock

"Huntsman Spider" by Richard Scarbrock
Our chapter has some great photographers!

We believe you can be one of them!

Submit your photos to:

LindheimerMNContact@gmail.com

It's Summertime!!!

By Carmen Horn, Editor



Summertime is the stuff of which dreams are made. It is the season of the year whose approach causes school children to turn from thoughts of literature and math to daydreams of picnics at the lake and lazy afternoons. It's the season when adults can drop the yoke of so much responsibility - work, school for children, driving to soccer practice and music lessons, to dream of enjoying time with family, spending time in the garden, vacations and **lots of frolicking in the out of doors!**

Each year the Summer Season is heralded in with the Summer Solstice. This year (2019), the Solstice welcomed in the season on June 21 at 10:54 for our location. South of the Equator, this same moment marked the unofficial beginning of winter. **Solstices occur because Earth's axis of rotation is tilted about 23.4 degrees relative to Earth's orbit around the sun.** This tilt is what drives our planet's seasons. From March to September, the Northern Hemisphere is tilted more toward the sun, bringing its spring and summer. From September to March, the Northern Hemisphere is tilted away, so it feels Autumn and Winter. The Southern Hemisphere's seasons are reversed.

The **Summer Solstice marks the longest day of the year**, during which the axial tilt of the Earth puts the western hemisphere closest to the Sun. For time immemorial, it has been a day of celebration for many cultures across the world. But if you were unsure of how to celebrate the Summer Solstice of 2019, here are some of the ancient rituals and celebrations practiced by our ancestors.

The word "solstice" comes from the Latin words "sol," meaning sun, and "stitium" or "sistere," meaning still or stopped. In ancient times, our ancestors likely used this day as a marker to decide when to plant crops, noticing that the sun switched from a southward to northward trajectory in the sky. But more importantly, the solstice was a time of celebration and a break from the norm. Many cultures believed that magic took place on the night of the summer solstice, with færies showing themselves to humans, while evil spirits were dispelled from their lives.

In ancient Greece, the Summer Solstice marked the start of a new year and the month-long countdown to the Olympics. The Greeks also observed the festival of Kronia, during which they worshipped Cronus, the god of agriculture.

In ancient Egypt, the Summer Solstice represented the coming of the brightest star, Sirius. Not long after, the Nile would begin to flood its banks, marking a season of abundance from the land. The Egyptians believed Sirius was responsible for the floods and considered it the start of a new year.

The ancient Romans celebrated the festival of Vestalia, in honor of the goddess of the hearth. Married women brought offerings to the temple of Vesta, hoping the goddess would bestow blessings upon their families. Vesta was the protector of married women and virginity, and was exclusively a goddess for women.

In ancient China, Summer Solstice was represented by "yin," or feminine energy, as opposed to the Winter Solstice which was represented by "yang" or masculine energy. The Chinese celebrated the Earth with a number of festivities on this day.



"Summer Sunrise" by LMN Member Sara Riggs



Midsummer was a crucial time of year for the **Vikings**, who would meet to discuss legal matters and resolve disputes around the Summer Solstice. Much of this had to do with the fact that traveling was facilitated by more hours of sunlight - but surely there were fine celebrations as well.

In Celtic areas there were both Wiccan and Christian festivities celebrating the sun, agrarian success and honoring St. John the Baptist. According to folklore St. John's Wort was often used to promote good health and to ward off evil spirits.

To this day large numbers of people from all over the globe gather at Stonehenge, England for the Solstice. Archeologists and historians have long debated the purpose and uses of Stonehenge. The site is aligned with the direction of the sunrise on the Summer Solstice - but as yet, there is no absolute explanation for by whom it was erected and for what purpose. (Anyone with additional or different information on Stonehenge or other sites, we certainly invite you to share.)



Summer is good time, it allows us to enjoy the bloom of warm experiences, fertilize fresh plantings, ideas and projects for the Fall - and to recall other Summers when life was good and "youth was mellow", as it should be every day that **we decide to make it so**.

"In the midst of winter, I found there was, within me, an invincible summer. And that makes me happy. For it says that no matter how hard the world pushes against me, within me, there's something stronger – something better, pushing right back." - Albert Camus



"Butterfly & Pride of Barbados" by
LMN Member Joel Dunnington




2018 Scrapbook

Lindheimer Chapter 2018 Scrapbook is Posted on the Website

<https://txmn.org/lindheimer/files/2019/06/2018-Annual-Archive-2.pdf>






THE VALUE OF MEMORIES

Having recently spent time looking through old scrapbooks, paper documents, and photographs of previous years of the Lindheimer Chapter, I realize how important it is to have an archive which collects and arranges Chapter memories in an orderly and concise fashion; how helpful and gratifying it is to look back at past Chapter members as they carried out the mission of the Texas Master Naturalist™ Program.

An archive provides reminders of people, places and projects, of hard work and awards. An archive allows us to evaluate progress and changes made over the years, and perhaps revive or recycle some of the successful ideas of the past.

What a plus that technology now allows us to put our "scrapbooks" online for access by everyone! The Chapter has many historical documents that are waiting to be scanned and posted on line, and it is our goal to do so. I hope you enjoy this look back at Lindheimer Chapter 2018!

Marilyn J. McFarland, Historian/Archivist




Thank you to our photographic contributors:

Edith Bergquist, Don Bergquist, Rick Corbell,
John Davis, Glenna Dunnington, Joel Dunnington,
Holly Emrie, Nancy Hammack, Mark Henderson,
Carmen Horn, Debbie Kyrouac,
Evelyn Nielson, Sara Riggs,
Dick Scarbrock, Jane Schnell, Jeanie Springer,
Brian Trock, Teresa Turko,
Darlene Varga and Cheryl Walthour!

How to Use the Electronic Version of the 2019 Annual Archive

As you browse you will notice text entries highlighted in blue:
<https://txmn.org/lindheimer/>
This is a "link" that will take you to another page - in this case, a link to a page on the Lindheimer Chapter website. If you place your cursor on the link, a hand appears. Just click. You will be taken to that page. To return back to the annual, use your back arrow.



2




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3

The Electronic Lindheimer

Place your cursor on the hyperlink, then press your ctrl button and click to follow the link.

1. Check out Lindheimer Chapter on the Web! <https://txmn.org/lindheimer/>

2. Donate to Lindheimer Chapter painlessly through Amazon Smile!



https://smile.amazon.com/gp/chpf/about/ref=smi_se_rspo_laas_aas

3. Check out Lindheimer Chapter on Facebook! <https://www.facebook.com/txmn.lindheimer/>



Have you gone to our Facebook Page?

There is a lot of chapter information posted on Facebook – meetings, activities, educational links and also the activities of other groups which may interest you.

We highlight chapter activities and articles, and photos taken by our members.

If you go to our website, you'll see the link for Facebook on the righthand side of the page. Just click on it and it will take you to our site on Facebook. It's easy!

Come see us! “Like” us! And “Follow” us!

4. See us on Pinterest!

For those of you who like Pinterest, check us out! We went live mid-June, and have 8 boards:

- *Green Living*
- *Of Interest to Naturalists*
- *Bees, Birds, Butterflies & Moths*
- *Bugs & Insects*
- *Nature Photography*
- *Flood & Tornado Preparedness*
- *Invasive Plants, Animals & Insects*
- *Texas Hill Country & Beyond*

<https://www.pinterest.com/FerdinandLindheimer/>



President's Message: The Case for Dues

Your Board spent the bulk of the May board meeting discussing the issue of imposing dues for the chapter. The decision was that we will postpone imposing dues for now. The Board decided to participate in **The Big Give SA on March 26, 2020** with a goal of netting \$2,000 after expenses. If the required funds are not generated then the Board will revisit the question of dues.

How did we get here, talking about dues? As you know, the bulk of the income of the chapter comes from the tuition we charge the Master Naturalists-in-Training. We generate a meager amount of additional funds from Amazon Smile and a small amount from the Lindheimer branded TMN shirts and hats that we sell at chapter meetings.

The Board decided to fully fund the training of the new class each year instead of forgoing field trips that have a fee associated with them to every other year. This means we will be spending approximately 75% of the tuition collected on the new class. This leaves approximately \$1,000 left to fund chapter activities. Only having \$1,000 per year in income means the balance in the checking account will be decreasing unless an alternative means of income is put in place. Hence the participation in **The Big Give SA** in 2020. I hope this answers some of your questions regarding the Board's decision. —Rich Nielson, President



The Big Give SA

- **What is "The Big Give"?** From The Big Give website <https://www.thebiggivesa.org/>: "The Big Give is South Central Texas' 24-hour online day of online giving fueled by the power of generous donors, creative nonprofits, social media, collaboration, and you! The goal of the Big Give is to support our local nonprofits that are committed to making South Central Texas a great place to live, work, and play. Since 2014, 188,937 donors have given over \$20 million dollars to over 2,000 nonprofits through the Big Give, making it one of the most successful giving days in the country."
- In 2019, The Big Give SA raised **\$4,711,934.94** from **28,104 donors** for **545 non-profit** organizations!
- The next Big Give SA is **March 26, 2020**. As a 501(c)(3), the **Lindheimer Chapter** can participate. Our **goal is \$2,000.00**. We're hoping you'll be interested in supporting our Big Give effort!
- In the coming months, you'll be hearing more about The Big Give. Stay tuned!
- To learn more now, take a look at their online information. <https://thebiggivesa.org>



What's up with the TMN Pins? From Michelle Haggarty at TMN: As you painfully know, the majority of the TMN re-certification and milestone pins stock is depleted AND the 2019 Annual Recertification pin has not been produced yet. Here is what has happened...Due to state agency changes in purchasing procedures, the TMN pins for 2019 had to be acquired through an entirely new bid process that none of us have been through before. I'll spare you the painful details, but after a couple of attempts (through long and drawn out processes) our first two bid attempts proceeded but then failed and/or were dismissed due to errors in the new process or misunderstandings and misinterpretations from bidders. I am happy to report though, that after all of this, **the pins are finally in the process of production as of mid-July** and we are hopeful to begin receiving stock as they are completed beginning **late August**. Olivia has been keeping a tally of your orders and your needs and will ship all pins once they come in. We realize this situation is unacceptable and our Texas Master Naturalist volunteers deserve so much better than this! So... we have a plan moving forward to ensure that annual recertification pins should never be late—ever again! Thank you for your patience and understanding through this painful endeavor!



Lindheimer Chapter Texas Master Naturalist™



Call for Nominations Lindheimer Chapter Community Naturalist Award

Each year the Lindheimer Chapter of Texas Master Naturalist™ may honor a single particularly outstanding act by a business, group, organization or individual involving a property in Comal County which:

- 1) results in the preservation or restoration of an area or its flora and fauna, or
- 2) results in measurable conservation, protection, or waste reduction of an important natural resource, or
- 3) applies unique skill or creative imagination to the solution of a problem affecting our natural world.

This recognition shall be given to a non-member of Lindheimer Master Naturalist who has contributed to the achievement of the ideals of Texas Master Naturalists by aid and conservation of our natural resources including, but not limited to water, native plants, animals, birds, insects, and land.



Previous award recipients have been *Headwaters of the Comal* in 2018, *New Braunfels Parks and Recreation* in 2017 and *Bat Conservation International* in 2014.

To make a nomination, or obtain more information, please use the online submission form on the LMN website under **'Chapter Info – Community Naturalist Award.'**

Jim Doyle is requesting **your** help to recognize those in the community who further the mission of Texas Master Naturalist™! Thank you very much.

For questions, email LindheimerMNContact@gmail.com.



Texas Wildlife: The North American Porcupine

By MJ McFarland, Assistant Editor

Having lived in the Texas Hill Country for eight years, I was unaware that porcupines (*Erethizon dorsatum*) inhabited the same space – until I came upon a road-killed porcupine on the south side of Canyon Lake. As I passed it, my first thought was – is that a porcupine? They're hard to mis-identify alive or dead, but...I circled around, parked on the road and got some photos to prove it.

The carcass was decomposing in the heat (I've spared you the photo of the deceased). Many of its quills had detached and were laying on the roadside. I estimated it weighed about 10 – 12 pounds; definitely an adult. It was saddening to see it as roadkill. I checked iNaturalist to see if any other porcupines had been reported in Comal County - a total of eight, including mine. There are 397 total *Erethizon* sightings in Texas to date in iNaturalist. As you can see from the iNaturalist map, most sightings are central to west Texas. That could mean a number of things: 1) not many porcupines in Texas; 2) porcupines are difficult to catch on camera; or 3) not many people taking photos of porcupines where porcupines live.



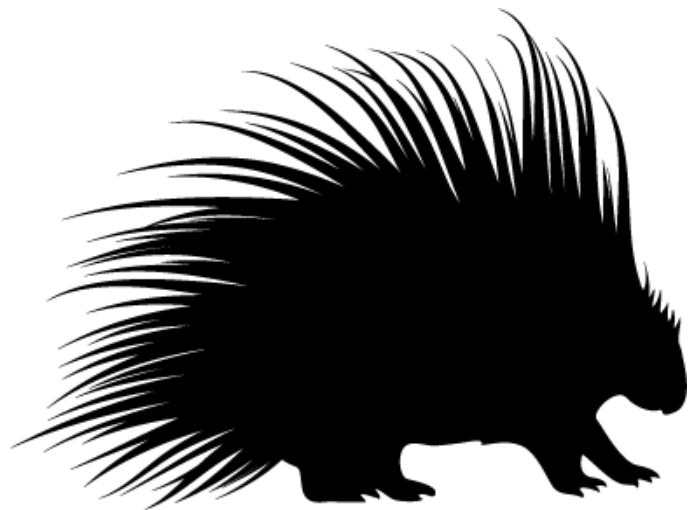
Porcupines are fat, bowlegged, pigeon-toed, five fingered, sharp clawed, nocturnal herbivorian rodentian mammals with teeth that grow continually. They are really slow on the ground - move about as fast as I do in the morning. They would be a very vulnerable prey animal – if they weren't protected by “diabolical hair” (my term). What's that, you ask? Prepare to be amazed!

Porcupines – or “prickly pigs” - are covered with a protective armor of needle-sharp quills, which are really only modified hairs. It's estimated that a **porcupine has about 30,000 quills** all over its body. Only the nose, legs and underside are unprotected. The quills have a topical antibiotic in the tip (in case the porcupine accidentally sticks itself) and **each quill has about 700 - 800 overlapping barbs at the tip** (that's why it's so hard to remove). Here's

why I call it “diabolical hair”: Once the quills are stuck into flesh, every muscle movement causes the quill to pierce further into the muscle. Unless removed, **the quills can migrate through muscle, into organs and through blood vessels**, causing severe damage. Most authorities agree the best way to remove a quill is with a quick jerk as soon as possible to prevent any further inward movement.

Just like all hair, the porcupine sheds quills, which are replaced by new ones which grow a millimeter every two days. The porcupine has muscular control over each quill. **There's no doubt about when a porcupine feels threatened** – its quills are raised (just like when you encounter something fearful and the hair stands up on your arms). It will waggle its tail as an additional warning. Then it will quickly turn until its backside is facing the threat. Chattering loudly, and flicking its tail violently, it will back into the perceived threat. It doesn't “throw” its quills, but at the slightest touch, the quills are released into the closest body part of its enemy.

Mating season is usually October/November. The female will advertise her availability; the males will violently fight each other. **Gestation is about seven months** at which time the mother gives birth to **one “porcupette” weighing about a pound, with soft quills** (to make the birth easier on the mom) which harden after a few days. Porcupettes hide like baby deer, and wait for their mothers to come to them. It nurses for about 10 weeks, and leaves its mom at about 6 months. They reach sexual maturity at two years and can live up to about



10 years. Adults are solitary, but have quite a vocal repertoire, with mumbles, murmurs, moans, grunts & whines, and even sings during mating season! It **mumbles to itself as it rambles**, much like an absent-minded professor!

The porcupine is an **excellent tree climber** – much faster going up a tree than walking on the ground. They go up a tree head first but back down. The porcupine has **poor vision, but an excellent sense of smell** and will sniff its food carefully before eating. **Porcupines love salt**, including the salt from human perspiration, and will nibble on anything that has the slightest bit of salt – canoe handles, clothing, hats and the like. They love salt licks, and will wander into inhabited areas to find one. In the summer, porcupines will eat low growing vegetation such as shoots of trees and shrubs. In the winter, it will eat the inner bark of trees, and can cause widespread damage to forests. The **average meal for a porcupine is bark the size of a piece of paper**. In spring they return to the ground and tender vegetation. They prefer trees, or areas where there are natural den sites and resting places, but **can adapt to a variety of habitats**.

Coloring Page from TPWD



North American Porcupine
"Color Me" from TPWD

<https://tpwd.texas.gov/education/kids/fun-stuff/color-your-world/porcupine>

<https://www.nationalgeographic.com/animals/mammals/group/porcupines/>

<https://www.theiwrc.org/kids/Facts/Mammals/porcupine.htm>

<https://licensed.storyful.com/videos/222285> (Great 31 second video of a baby porcupette following mom up a tree)

Texas Wildlife: The Alligator Gar

TEXAS PARKS & WILDLIFE FACT SHEET

NAMES

Scientific: *Atractosteus spatula*; Gator Gar

DESCRIPTION

Regulated nongame species. Gars are easily distinguished from other freshwater species by their long, slender, cylindrical bodies, long snouts, and diamond-shaped interlocking (ganoid) scales. The tail fin is rounded. Dorsal and anal fins are placed well back on the body and nearly opposite each other. Alligator gar is the largest of the gar species. It can grow up to 8 feet long and weigh more than 300 pounds. Adults have two rows of large teeth on either side of the upper jaw. Coloration is generally brown or olive above and lighter underneath. The species name *spatula* is Latin for "spoon", referring to the creature's broad snout.

LIFE HISTORY

Alligator gar can live for many decades. They grow very fast when young, but growth slows with age. In general, for every additional foot the fish grows, its age doubles. A 3-foot gar is typically about 2.5 years old; a 4-foot gar about 5, and a 7-foot trophy catch might be 40 years old. The world record, caught in

Mississippi in 2011, weighed 327 pounds and was probably at least 95. Alligator gar are slow to mature; they usually don't spawn until they are about 10 years old. Spawning typically takes place in shallow areas of flooded vegetation when springtime water temperatures exceed 68 degrees. In Texas, this generally occurs in April and May. Eggs hatch within a couple of days. Young fish feed on larval fishes and insects. Adults will eat whatever they can catch, consuming primarily fish, but occasionally taking birds, mammals and other animals.



DISTRIBUTION

Alligator gar are present in the Gulf coastal plain from the Econfinia River in Florida west and south to Veracruz, Mexico. The historic range extends north in the Mississippi River basin to the lower reaches of the Missouri and Ohio rivers. In Texas, alligator gar may be found in large rivers and reservoirs, as well as in coastal bays. Recent surveys indicate the species is declining or has disappeared in many areas of the southeastern United States. Texas populations are still strong.

THREATS AND REASONS FOR DECLINE

Good conditions for spawning don't happen every year, and there may be years when alligator gar produce few if any offspring. The long life span of this species has no doubt enabled it to survive periods of drought and low river flows; however, it also means that populations could take decades to recover from effects of overfishing.

OTHER

The Texas state record is 302 pounds, caught on a trotline in 1953. Bow fishers and rod and reel anglers have landed several specimens in excess of 200 pounds. Historically considered a "rough fish," the alligator gar has recently gained popularity as a sport fish, attracting national and international attention after being featured on several television shows. Texas has one of the best remaining fisheries for this unusual freshwater fish. To help ensure that high quality, recreational fisheries remain compatible with long-term conservation of the species, Texas Parks and Wildlife Department imposed a one-per-day bag limit on alligator gar beginning in 2009.

Reference: <https://tpwd.texas.gov/>

MONTHLY MEETINGS

April 18, 2019 Meeting "State of the Chapter" President Rich Nielsen



Approximately 40 members attended to hear about "The State of the Chapter". President Rich Nielsen discussed the efforts being made to accomplish the master naturalist mission. Also discussed were expanding education programs, changes to the Chapter Operating Handbook and the budget. Board directors presented brief explanations of their committees and activities.

Mary Ann Melton from the Good Water Chapter Texas Master Naturalist in Hutto gave a presentation on their youth education program from 2010 – 2018.



Photos clockwise: President Rich Nielson; Mary Ann Melton of Good Water TMN Chapter talking about their Youth Education Program; meeting flyer; and members in attendance at the meeting.

At this meeting, Art Williams was voted in by the membership to fill the vacancy in the Secretary's position. **Our thanks and best wishes go to Martha Bersch for ably serving as the previous secretary.**



May 16, 2019 Meeting "Fireflies of Central Texas" Ben Pfeiffer, Biologist/Researcher

Ben Pfeiffer, Firefly Expert, Speaks to May Meeting by Carmen Horn, Editor



Benjamin Pfeiffer, Firefly Expert and Lindheimer Master Naturalist, spoke to a packed house, including people who came from as far as Oregon for his presentation, at the May 16 Lindheimer Master Naturalist meeting.

Ben is quoted by Firefly.org "It was maybe 2008 when I noticed the fireflies in South Texas were disappearing. There weren't as many as I remembered when I was a kid. And then I heard a report on Firefly decline on NPR Radio that confirmed it."

A sixth generation Texan, Ben grew up in the Hill Country and South Texas and graduated from Texas State University with a degree in Biology. As a beekeeper and Naturalist, he developed a deep understanding of the state's unique ecology. So Ben began research and as he was already a website developer/designer with a background in marketing, he founded Firefly.org, a foundation and website that is all about the study of fireflies and their conservation.

Through Firefly.org, the little creatures get plenty of attention and Ben's research has been published all over the United States as well as abroad. "The website has two missions," Ben says. "To educate the public on threats to fireflies and how they can help; and to serve as a resource for scientists."

Ben's work was recently featured in Texas Monthly magazine. He explained why there are more fireflies in Central Texas than in Houston: "There are fireflies in Houston, but they are not as prevalent as they once were, and the species diversity is pretty flat. There is really no native habitat left in Houston for any of the unique species, so what you find in Houston is just the common type of firefly—Photinus pyralis. You might find some other [types] hidden away in pocket parks and stuff like that, and the hurricanes have helped fireflies out a lot—kinda cleaned out some areas and let them repopulate in some areas because it might have been too dry or overpopulated with people."

He goes on to say "A lot of my research is on documenting the state's firefly diversity. I would like to find some new things if it possible. Most fireflies in Texas were described many, many years ago by entomologists that only listed basic morphology information. Until I started taking high quality photos, documenting flash behavior, life history, etc. there wasn't much available. It took years to study and get familiar. They are not easy insects to study because you have to study the flash patterns and morphology (structure, coloration, etc.). Some fireflies mimic the flash patterns of others and two fireflies can often be different species but look entirely the same. It's been an enjoyable challenge for me. One of my favorite parts of my research is just being able to get into the field and see incredible things most people very few people get to see. It's remarkable what I uncovered once I got into it. I hope that my classes and lectures help others understand their local fireflies better so they can have those same experiences."

Ben also led a group of naturalists on an evening hike to identify the different fireflies. Thank you, Ben!

FIREFLY FACTS

Number of Species

In North America, there are an estimated 170+ species. Worldwide there is estimated 2000+ species. These numbers are going up as new Lampyridae species are described by scientists.

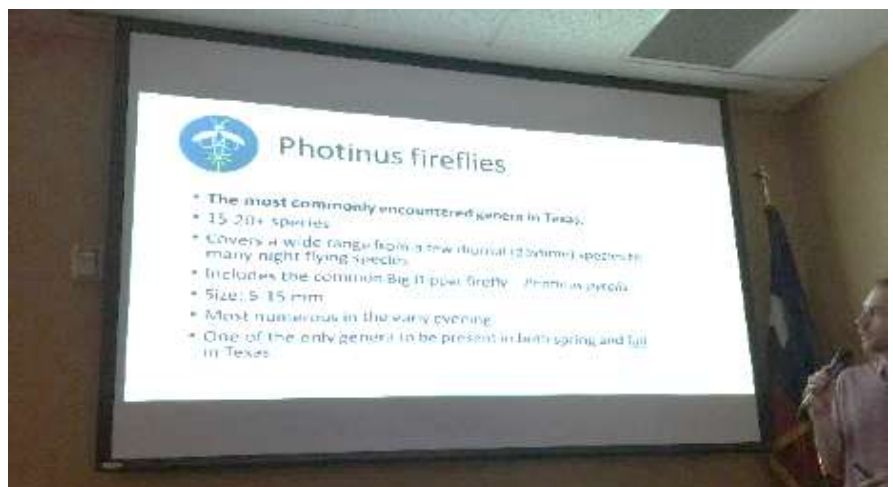
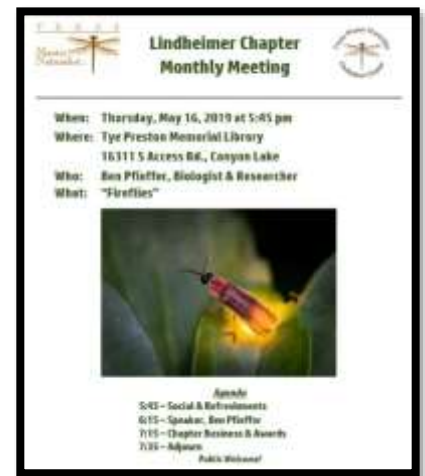
Why Blink?

The purpose of blinking is so that male fireflies can find potential mates. If you watch long enough you will be able to pick up on their unique flash pattern. Try to remember it so that next time you see a firefly flash you can identify it.

Links to Ben's websites:

<https://www.firefly.org/ben-pfeiffer>

<https://www.firefly.org/contact-us>

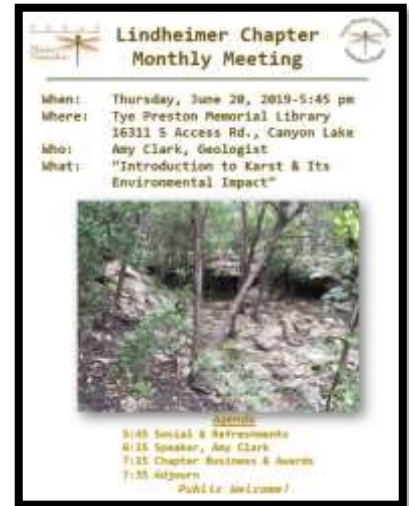


June 20, 2019 Meeting "Introduction to Karst" Amy Clark, Geologist



Amy Clark, Professional Geologist, spoke to a group of 56 LMN members & guests on karst and its significance to life in the Texas Hill Country. We learned that karst is formed when soluble rocks such as limestone and dolomite dissolve. The Texas Hill Country sits on a landscape of karst, within which are aquifers that provide water. Karst, unlike sandstone, has no ability to filter out contamination from water, and is one of the issues concerning human development over an aquifer region. Characteristics of karst are sinkholes, caves, and springs. It was a fascinating look at what's beneath the ground we walk on, and makes the case for protecting the land from contaminants.

Ms. Clark is a San Antonio native and Hill Country resident for the past seven years. She is a wife of fellow geologist Allan and a mother of six daughters. Amy has BS and MS degrees in Geology from the University of Texas at San Antonio (UTSA), specializing in environmental geology focusing on water issues. Currently she is on sabbatical.



Well known example of karst - Canyon Lake Gorge photo by Erin Harrison



Close up of karst by MJ McFarland



Art Williams ran the chapter business meeting in the absence of President Rich Nielson. Art discussed the idea of fundraising by participating in The Big Give SA in 2020 rather than implement dues. Art also presented recertifications & awards.

Recertifications & Volunteer Hour Milestones Thank You for Volunteering!

2019 Recertification Pin - Golden Cheeked Warbler



March 2019

Recertifications – Golden Warbler Pin
John Davis, Rich Bradley, Jim Jameson,
Marilyn McFarland, Harry Ferrell, Jim Doyle,
Jeanie Springer, Teresa Turko

Volunteer Hour Milestones
250 Hours - Cheryl Walthour

April 2019

Recertifications – Golden Cheeked Warbler Pin

Rich Nielson, Cheryl Trock, Pete Bryant,
Deborah Kyroutac, Jane Schnell,
Valerie Lafevre, Mike Hammack,
Judy Brupbacher, Marilyn Garrison,
Gretchen Ferrell, Ron Butts, Dottie Green,
Mary Ann Richey, Tom Mathey,
Barry Brupbacher, Evelyn Nielson,
Cathy Oberkamp, Jane Miller, Edi Finger,
Kathy Ofsdahl, Dan Madden

Volunteer Hour Milestones
500 Hours: Jane Schnell
1,000 Hours: Barry Brupbacher



May 2019

Recertifications – Golden Cheeked Warbler Pin
Mary Barr- Gilbert, Joyce Doyle, Don Epps,
Robert Gray, Henry Hahn, Jack Olivier,
David Reel, Cheryl Walthour

Volunteer Hour Milestones
500 Hours: Marietta Diehl, Joyce Doyle
1,000 Hours: Debbie Kyroutac, Marilyn McFarland

Rock Stars Journal 2018 - 2019

An Account of the Activities of the Lindheimer Chapter Master Naturalists-in-Training Class

Earthday 2019 – A Big Success!

Article by Erin Harrison



Lindheimer Master Naturalists at the 2nd Annual Earthday Festivities at the Headwaters at the Comal was a success!! Over 400 visitors came to Earthday that beautiful April day! The weather was perfect too! Our chapter had a large table display with many volunteers talking with visitors! We had a geology display with dinosaurs and fossils. We also showed our skulls and skins trunk with native Comal county animals. There was also our birds and beaks display to teach how different beak shapes help these birds survive in the wild.

Our awesome Brian and Cheryl Trock team headed the information table telling all about who and what the Lindheimer Master Naturalists are and do...along with their tempting Tootsie Rolls! Lots of fun was had that day with volunteers and visitors. We're looking forward to next year!

The 2019 Bio-Blitz: LMN + CCCA

Article and Photos by Erin Harrison, Rock Stars Class

On the last weekend of April, a handful of us Lindheimer Master Naturalists went on a BioBlitz with the Comal County Conservation Alliance down on the south trail of the Guadalupe River just below the Canyon Lake Dam.

What's a BioBlitz you ask? It's a defined period of time where we observers make as many good observations as possible in a defined place. We were also taught to use the iNaturalist app so we could record these observations as part of the world wide City Nature Challenge BioBlitz.



Our count went towards the San Antonio greater metro area's total.



We had a lot of fun, found TONS of growth and a fuzzy creature (an owlet moth caterpillar) and we also made some new great friends.

Naturalist.org: Contributing to Citizen Science

“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 7/10/2019. Take a look at Comal County!!!

Location	Observations	Species	Identifiers	Observers
World	22,992,437	215,159	86,514	632,253
Texas	2,049,428	18,970	14,317	42,323
Comal County	12,618	2,186	1,384	1,258

How to 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 Naturalist community on identification). It’s that simple!

Within Naturalist 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’s what a sample observation looks like:

Photos/Sounds	Species/Taxon	Date	Place	Date Added	Verified ID
	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 right column documents the observation’s accuracy. “Research Grade” observations can be used by scientists (and citizen scientists!) for research.

- Upload sounds like bird songs, frog chirps, whale vocalizations and wolf howls
- 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 has been sighted? Query the database!
- If you want to be a citizen scientist, Naturalist is the place to start!

2019 Chapter Information

2019 CHAPTER LEADERSHIP

OFFICERS

 **PRESIDENT** Rich Nielson
VICE PRESIDENT Jim Doyle
SECRETARY Arthur Williams
TREASURER Robin Hagan
PAST PRESIDENT/TMN REP Rich Bradley
Email: LindheimerMNContact@gmail.com

STANDING COMMITTEES

Communication - Marilyn McFarland
Education - Mike Hammack & Joe Finneran
Membership & Records - Cheryl Trock
Outreach - Deb Kyrouac & Jane Schnell
Projects & Opportunities - Jeanie Springer

SUBCOMMITTEES

Communication Subcommittees

Out & About - Sara Riggs
Historian/Archivist - Recruiting
Newsletter - Carmen Horn, Editor
Publicity/FB/Webmaster - Marilyn McFarland

Outreach Subcommittees

Trunks - Deb Kyrouac & Jane Schnell
Program to Assist Landowners - Art Williams

VP Subcommittees

Community Recognition - Jim Doyle
Hospitality - Evelyn Nielson

Rock Stars Class

President - Aleta Meyer
Reporter/Photographer - Erin Harrison

CHAPTER ADVISORS

Craig Hensley
Texas Parks & Wildlife
Guadalupe River State Park

Troy Luepke
Texas A&M AgriLife
Extension Service

The Lindheimer Quarterly

Published quarterly by the Lindheimer Chapter, Texas Master Naturalist™ to communicate, educate & inform chapter members & the Hill Country Community.

If you have an article or photo of interest to the chapter, please send email to: LindheimerMNContact@gmail.com.

The Quarterly is emailed to all members and posted on the website www.txmn.org/lindheimer.

Previous issues are available.

- Carmen Horn, Editor
- MJ McFarland, Design/Layout
- Erin Harrison, Rock Stars Photographer/Reporter

Chapter Meetings - 3rd Thursday

5:45 Social, 6:15 Speaker

Tye Preston Memorial Library

January 17, 2019

"Spying on Bats" Danielle Cordani

February 21, 2019

"Birds of Central Texas: Northern Bobwhite/Rio Grande Turkey" - Craig Hensley

March 21, 2019

"Bird Song: Nature's Sweet Tweets" - Patsy Inglet

April 18, 2019

Business Meeting & Photo Show

May 16, 2019

"Fireflies" - Ben Pfeiffer

June 20, 2019

"Environmental Impact of Karst" - Amy Clarke

July 18, 2019

"Central Texas Fishes" - Stephen Curtis

August 15, 2019

"Black Crested Titmouse" - Rebekah Rylander

September 19, 2019

"Topic TBA" - Troy Luepke

October 17, 2019

Rock Stars Graduation

November 21, 2019

"Duckology" - Patsy/Tom Inglet

December 12, 2019 (2nd Thursday)

Elections & Social Event

LMN HOSPITALITY

Many thanks to Evelyn Nielson, Hospitality, & the LMN members who bring such delicious snacks!

April

Teresa Turko, Gretchen Ferrell,
Lois Ricci, Joe Finneran,
Jane Finneran, Sandra Carson,
Jeanie Springer, Marilyn McFarland

May

John Davis, Jane Schnell, Joyce Doyle,
Darlene Varga, Robin Hagan, Dick Scarbrock

June

Laird Ingham, Brian Trock, Debbie Kyrouac,
Marilyn Garrison, Cheryl Trock, Joel Dunnington

All fish illustrations are from the Texas Parks & Wildlife Department, except for the guppy upper left.

July-August-September



LMN Members Featured Photos

Top: "Caprock Canyon Prairie Dogs" by Holly Emrie
Left: "Gulf Fritillary" by Joel Dunnington
Right: "Praying Mantis" by Peggy Haley



Page	Contents
1	Featured Photos
2	Big Give SA
3	Monthly Meetings
5	Rock Stars Journal
7	Electronic Lindheimer
8	Recertifications & Awards
9	Naturalist
10	Chapter Info

LMN MEMBERS FEATURED PHOTOS

Left: "Sunset" by Holly Emrie;
Right: "Echinacea" by Erin Harrison.



President's Message

Lindheimer Chapter will Participate in "The Big Give SA 2020"

What is "The Big Give"? From The Big Give website <https://www.thebiggivesa.org/>: "The Big Give is South Central Texas' 24-hour online day of online giving fueled by the power of generous donors, creative nonprofits, social media, collaboration, and you! The goal of the Big Give is to support our local nonprofits that are committed to making South Central Texas a great place to live, work, and play. Since 2014, 188,937 donors have given over \$20 million dollars to over 2,000 nonprofits through the Big Give, making it one of the most successful giving days in the country."



- In 2019, The Big Give SA raised **\$4,711,934.94** from **28,104 donors** for **545 non-profit** organizations!
- The next Big Give SA is **March 26, 2020**. As a 501(c)(3), the **Lindheimer Chapter** can participate. Our **goal is \$5,000.00**. We're hoping you'll be interested in supporting our Big Give effort!
- In the coming months, you'll be hearing more about The Big Give. Stay tuned!
- To learn more, check out the website <https://thebiggivesa.org>

MONTHLY CHAPTER MEETINGS



Approximately 60 members and guests attended the July chapter meeting to hear Stephen Curtis, TPWD Biologist, discuss the fishes of central Texas. It was an excellent lecture filled with little known facts on the fishes that swim in the waters of the Hill Country. Stephen agreed to let us post his Powerpoint slideshow on our webpage – go to <https://txmn.org/lindheimer/chapter-info/educational-resources/> or search the webpage under Chapter Info/Educational Resources. It is an excellent reference for all. Thank you, Stephen!

July 18, 2019
"Fishes of Central Texas"
Stephen Curtis, TPWD Aquatic Biologist



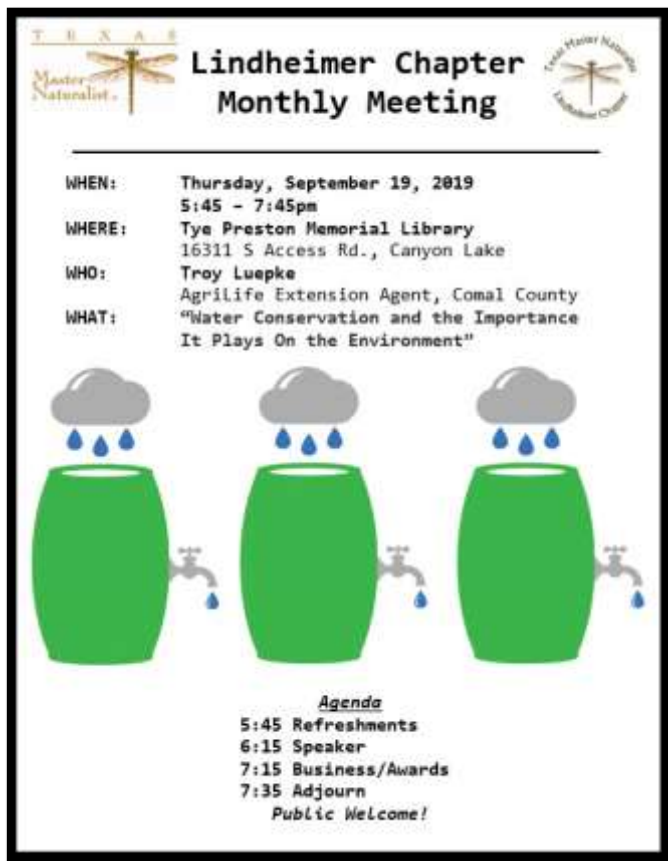
August 15, 2019
"Game of Thrones: The Unique Social Structure & Behavior of the Black Crested Titmouse"
Rebekah Rylander, Researcher



The Black-crested Titmouse is a common sight in the Texas Hill Country, but much of the information about them has been unknown – until Rebekah Rylander began researching these unique birds and brought to light their social structure. Some of the info that a large group of us learned: Pairs mate for life and return to their nesting sites consistently; use snakeskins as nest liners; have kin dynasties (flocks) composed of family – usually mom, dad & heaviest male offspring; have numerous calls expressing such things as "my turf" "where are you" "intruder" and so on. It was a fascinating look at this complex bird. Many thanks, Rebekeh!



For more information on Rebekah's bird research and studies, go to <https://communityimpact.com/austin/san-marcos-buda-kyle/editors-pick/2017/11/23/black-crested-titmouse-seeks-urban-home-san-marcos/>. Other birds Rebekah has studied can be found at <https://stories.txstate.edu/research/a-bird-in-the-hand.html> and https://gato-docs.its.txstate.edu/jcr:f773c33e-98f7-4125-9ced-c10d5bfb3e4d/Freeman_GCWA_AnnualReport.pdf



September 2019 Meeting
"Water Conservation & Its Importance"
Troy Luepke, Comal County AgriLife Extension Agent
Lindheimer Chapter Advisor



Mr. Troy Luepke Speaks at September 2019 LMN Meeting

Mr. Troy Luepke, Texas A&M Agrilife Extension Agent, spoke to 51 Master Naturalists and guests at the September 19, LMN meeting. His subject was "Water Conservation and the Environment" and addressed the very timely issues of Earth-Kind Landscaping and both commercial and domestic means of conserving our water resources and our soil as well. He explained that water and soil work together in a symbiotic relationship to promote and protect the health of our planet and all its living organisms.

Mr. Luepke mentioned desalination as a means of providing much needed fresh water and said that current methods were simply not very effective and very energy inefficient, but there are means by which the public can conserve ample water to provide much greater water resources than are currently in place. He explained that reducing run-off is a very effective tool and can be implemented by drilling holes in outdoor concrete surfaces; also avoiding planting San Augustine grass, which consumes copious amounts of water; also keeping turf in parking lots in circular areas to decrease inefficient concrete usage.

As homeowners and gardeners, we are custodians of much of our planet's water and soil and we can help with their conservation through "Earth-Kind Landscaping". Mr. Luepke explained various methods including terracing our yards and gardens, creating berms and "rain gardens" (gardens sunken, rather than built up to receive the maximum amount of natural run-off), using drip-irrigation, employing home cisterns and rain harvesting and finally, establishing watering priorities particularly in periods of drought.

"Earth-Kind Landscaping" focuses on conserving and protecting natural resources through the use of environmentally friendly practices to create beautiful, easy-care landscapes, as well as vegetable gardens and fruit plantings."

Rock Stars & Bats!

Article and Photos by Erin Harrison, Rock Stars Class

On a very hot July evening, our Rock Star class went to the Bracken Bat Preserve Cave! We learned all about BCI's purchase of the land to prevent developers from building thousands of homes in that area and to protect a maternal colony of Mexican Freetail bats that's about 20 million in number. It's known as the world's largest bat colony. Between BCI and the Nature Conservatory, they have saved 3,500 acres from development.

The emergence of bats each evening is so large, that it can be seen on the local Doppler radar and will last between three to four hours. Inside the cave, it is 650 feet long; 80 to 124 feet wide at the floor; 117 feet from floor (guano level) to ceiling at the highest point.

When you visit, there are a few different viewing points. There is great seating in front of the cave. A Tour Leader can take you to the opposite side of the cave over-look to have the bats fly over your head. Or you might get to go to The Shaft that's at the back end of the cave. This was an old mine shaft fertilizer. You cannot go into the cave the bats are present. It's filled with just fine breathing it, but we humans



used to excavate guano for because the air is very toxic when ammonia and co2. The bats are cannot.



Because I'm a docent there each week during the time that they're there, I can tell you that it's never the same. It never gets old. It's truly an amazing experience. We have visitors from all over the world that come to this cave to experience this natural wonder. You will also see other wildlife at the cave that like to hunt the bats. On the ground, you'll likely see coachwhip snakes, and maybe a rattle snake. You'll see raccoons, skunks, and opossums. In the sky, you'll see red-tailed hawks and other falcons waiting to snatch them up for dinner. When it gets



dark, there is also a pair of owls who make their presence known.

Please visit www.batcon.org to become a member and reserve your visit to this amazing place. I promise you won't regret it!

Rock Stars and Selah! Bamberger Ranch Preserve

Article & Photos by Erin Harrison, Rock Stars Class



In September, our Rock Stars class went on our final field trip. It was to Bamberger Ranch Preserve in Blanco County. I feel the Lindheimer Chapter saved the best field trip for last. It's an amazing 5500 acres huge. You can spend days here and not see everything. This place was purchased by J. David Bamberger back in 1969. He was looking for the worst piece of land he could find. He found it, and he completely restored it to its original habitat. There was no water to be found on the land. He had 7 wells drilled and all came up dry. Now, there are lakes that are several acres large. It has its own aquifer in the large hills that surround it. The amount of wildlife that returned to this land is astonishing. They removed quite a bit of the Ashe Juniper trees and planted native grasses to retain water into the ground instead of it all running off. There is so much to learn here about conservation for

many reasons and many viewpoints. The ranch is open for tours and education all year long. The beauty here is simply



phenomenal. Mr. Bamberger himself finished up our field trip with stories of how he attained the ranch and other memories. He's 91 years old, looks 65, and acts 30, and has the spirit of a teenager filled with wonder for a life ahead of him. Mr. Bamberger is truly an inspiration for so many people. May we all aspire to have his energy and dreams of protecting our planet and its natural resources.

They have named the ranch Selah. It was a word in the Christian bible meaning to stop, pause, to look around you, and reflect on everything you see. Mr. Bamberger says it gives him a chance to ask, "what's my duty as a steward of this land?" He believes it's to take care of it and to share it. "And if you don't share what you have, you're going to have a lonely life." You can find more information on their website at www.bambergerranch.org



The Electronic Lindheimer

Place your cursor on the hyperlink, then press your ctrl button and click to follow the link.

1. Check out Lindheimer Chapter on the Web! <https://txmn.org/lindheimer/>

2. Donate to Lindheimer Chapter painlessly through Amazon Smile!



https://smile.amazon.com/gp/chpf/about/ref=smi_se_rspo_laas_aas

3. Check out Lindheimer Chapter on Facebook! <https://www.facebook.com/txmn.lindheimer/>



Have you gone to our Facebook Page?

There is a lot of chapter information posted on Facebook – meetings, activities, educational links and also the activities of other groups which may interest you. We highlight chapter activities and articles, and photos taken by our members. If you go to our website, you'll see the link for Facebook on the righthand side of the page. Just click on it and it will take you to our site on Facebook. It's easy!

We've added slideshows with music highlighting our members' photos. Take a look! Come see us! **"Like"** us! And **"Follow"** us!

4. See us on Pinterest!

For those of you who like Pinterest, check us out! We went live mid-June, and have 8 boards:

<https://www.pinterest.com/FerdinandLindheimer/>

- *Green Living*
- *Of Interest to Naturalists*
- *Bees, Birds, Butterflies & Moths*
- *Bugs & Insects*
- *Nature Photography*
- *Flood & Tornado Preparedness*
- *Invasive Plants, Animals & Insects*
- *Texas Hill Country & Beyond*



Recertifications & Volunteer Hour Milestones Thank You for Volunteering!

2019 Recertification Pin - Golden Cheeked Warbler



The 2019 Golden Warbler Pins are in!
If you've recertified and didn't receive
your pin, you will in November!



June 2019 Recertifications

Janet Hahn, Beth Jameson,
Stephen Jones, Jensie Madden

Volunteer Hour Milestones
250 HOURS: Gretchen Ferrell
1,000 HOURS: Dottie Green

L to R: Stephen Jones, Gretchen Farrell

July 2019 Recertifications

Julie Crouch, Lori Largen, Elizabeth
Bowerman, Pat Fletcher, Earl Dittman, Don
Fletcher, Richard Scarbrock

Volunteer Hour Milestones
250 HOURS: Karla Kahn; Ben Pfeiffer
15,000 HOURS: Susan Bogle



L - Ben Pfeiffer; R - Lori Largen



August 2019

Recertifications

Michael Dillingham, Carol Dillingham,
Glenna Dunnington, Sandy McLemore,
Debbie Subke, Irene Newhall,
Marietta Diehl, Nancy Hammack

Volunteer Hour Milestones
250 HOURS: Stephen Jones, Debbie Subke

L to R: Nancy Hammack, Debbie Subke, Stephen Jones

Naturalist.org: Contributing to Citizen Science

“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.



Photo of Ruby Throated Hummingbird
by Darlene Naney Varga.

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 **11/05/2019**. Take a look at Comal County!!!

Location	Observations	Species	Identifiers	Observers
World	28,793,848	242,930	103,921	810,139
Texas	2,363,681	19,550	16,233	49,571
Comal County	15,784	2,390	1,632	1,552

How to 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 Naturalist community on identification). It’s that simple!

Within Naturalist 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’s what a sample observation looks like:


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

- Upload sounds like bird songs, frog chirps, whale vocalizations and wolf howls
- 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 has been sighted? Query the database! If you want to be a citizen scientist, **Naturalist** is the place to start!

2019 CHAPTER INFORMATION

2019 CHAPTER LEADERSHIP



PRESIDENT Rich Nielson
VICE PRESIDENT Jim Doyle
SECRETARY Arthur Williams
TREASURER Robin Hagan
PAST PRESIDENT Rich Bradley
Email: LindheimerMNContact@gmail.com

DIRECTORS/COMMITTEES

Education/New Class – Mike Hammack & Joe Finneran
Membership & Records – Cheryl Trock
Outreach Committee – Deb Kyroutac & Jane Schnell
Projects & Opportunities Committee - Jeanie Springer

COMMUNICATIONS

Director - Marilyn McFarland
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Texas Parks & Wildlife Department

Troy Luepke

Comal County Extension Agent
Texas A&M AgriLife Extension Service

The Lindheimer Quarterly

Published quarterly by the Lindheimer Chapter, Texas Master Naturalist™ to communicate, educate & inform chapter members & the Hill Country Community. If you have an article or photo of interest to the chapter, please send email to: LindheimerMNContact@gmail.com. The Quarterly is emailed to all members and posted on the website www.txmn.org/lindheimer. Previous issues are available on website.

- Carmen Horn, Editor
- MJ McFarland, Design/Layout
- Erin Harrison, Rock Stars Photographer/Reporter

Chapter Meetings – 3rd Thursday

5:45 Social, 6:15 Speaker

Tye Preston Memorial Library

January 17, 2019

“Spying on Bats” Danielle Cordani

February 21, 2019

“Birds of Central Texas: Northern Bobwhite/Rio Grande Turkey” – Craig Hensley

March 21, 2019

“Bird Song: Nature’s Sweet Tweets” - Patsy Inglet

April 18, 2019

Business Meeting & Photo Show

May 16, 2019

“Fireflies” – Ben Pfeiffer

June 20, 2019

“Introduction to Karst” – Amy Clarke

July 18, 2019

“Central Texas Fishes” – Stephen Curtis

August 15, 2019

“Black Crested Titmouse” - Rebekah Rylander

September 19, 2019

“Water Conservation” – Troy Luepke

October 17, 2019

Rock Stars Graduation

November 21, 2019

To be announced

December 12, 2019 (2nd Thursday)

Elections & Holiday Dinner

LMN Board Meetings

4th Monday 5:00pm

AgriLife Building

All are welcome!

LMN HOSPITALITY

Many thanks to Evelyn Nielson, Hospitality, & the LMN members who bring such delicious snacks!

July

Erin Harrison, Pat Fletcher, Edith Bergquist,
Jane Schnell, Tom Blagg,
Midge Baugh, Jennifer Hendren

August

Rhonda Neel, Jennifer Hendren, Gail Groves,
Debbie Armijo, Sara Riggs, Joel Dunnington

September

OCTOBER - NOVEMBER - DECEMBER



1ST PLACE WINNER, PLANT CATEGORY

TEXAS MASTER NATURALIST STATE MEETING 2019

PHOTOGRAPHER - ERIN HARRISON

President's Message by Rich Nielson

By the time the newsletter is published, it will be 2020. **Happy New Year to everyone!** I pray you have been able to take a break over the holidays to recharge and rest up as 2020 is lining up to be a banner year. We will begin the next Phase of the Bird Blind, Butterfly Garden, and Wildscape (BBW) area with the Hummingbird Garden at AgriLife. We are starting the planning of our 2020 Anniversary Gala/Project (contact Art Williams) and also planning for the AgriLife Open House – renamed “AgriFest” in September (POC Evelyn and Rich Nielson).

Our normal workdays at the BBW are every Tuesday morning. We will be scheduling some Saturdays (check the Out & About Calendar) so everyone will have a chance to earn 2020 volunteer hours in the new garden for your recertification. There are a lot of rocks to clear, paths to build, cacti to remove, fences to build, plants to plant, and entrances/arbors to build. Maybe a bench or two or more so visitors can enjoy the hummingbirds in the garden. Come join us! Earn your 2020 pin, the American Bumblebee!

2020 Elected Officers

Many thanks to our newly elected officers for stepping up to a leadership role!

President *Rich Nielson*

Vice President *Art Williams*

Secretary *Erin Harrison*

Treasurer *Steve Jones*





John Muir, Naturalist

John Muir, born April 21, 1838 in Scotland, immigrated to Wisconsin, USA at age 11. He is best known as a naturalist, environmentalist, adventurer, author, activist and advocate. He is called the “Father of the National Parks System”.

In 1867, he was temporarily blinded, and upon regaining his sight, fully embraced his love of nature. He traveled extensively around the US, eventually settling in Northern California. He also traveled to Europe, Africa, Australia, South America (Amazon), Cuba, and Asia. John Muir was known for his spiritual and poetic descriptions of the earth. He had many adventures in the wild, but it remains lesser known that he pioneered the scientific study of glaciers – glaciology – during five summers spent in the Sierra Nevada mountain range. It

was Muir, amateur geologist, who proposed that it was glaciers which sculpted the mountains over eons. His theory was met with great scorn at the time. He was proven right eventually. By 1903, President Teddy Roosevelt had taken notice of Muir’s writings and joined him for a camping trip in the Yosemite. Eventually, Roosevelt created 5 national parks, 150 national forests, 18 national monuments, and the National Forest Service. Some of John Muir’s accomplishments:

- *Co-founded the Sierra Club in 1892 and served as president until his death in 1914*
- *Driving force behind creation of Yosemite and Sequoia National Parks (1890) and involved in the creation of the Grand Canyon, Kings Canyon, Petrified Forest, and Mt. Rainier National Parks*
- *Published 300 articles and 12 books, including the most popular ‘Stickeen’, about his adventures in Alaska with his dog.*

In between his frequent adventures, Muir lived in Martinez, California with wife Louie and two daughters. He died December 24, 1914 in Los Angeles of pneumonia (age 76). John Muir Day is celebrated annually on April 21. We owe John Muir our gratitude for his vision and vigor in preserving our natural lands and heritage.

Lindheimer Chapter will Participate in “The Big Give SA 2020”



What is “The Big Give”? From The Big Give website

<https://www.thebiggivesa.org/>: “The Big Give is South Central Texas’ 24-hour online day of online giving fueled by the power of generous donors, creative nonprofits, social media, collaboration, and you! The goal of the Big Give is to support our local nonprofits that are committed to making South Central Texas a great place to live, work, and play. Since 2014, 188,937 donors have given over \$20 million dollars to over 2,000 nonprofits through the Big Give, making it one of the most successful giving days in the country.”

- *In 2019, The Big Give SA raised **\$4,711,934.94** from **28,104 donors** for **545 non-profit** organizations!*
- *The next Big Give SA is **March 26, 2020**. As a 501(c)(3), the **Lindheimer Chapter** can participate. Our **goal is \$5,000.00** to support our projects. We’re hoping you’ll be interested in supporting our Big Give effort! In the coming months, you’ll be hearing more. Stay tuned!*

Recertifications & Milestones



September 2019

- *Recertifications:* Salty Brady, Sandra Carson, Rick Corbell, Craig Dillon, Nancy Gray, Robin Hagen, Karla Kahn, Linda Mondragon, Robert Trott

October 2019

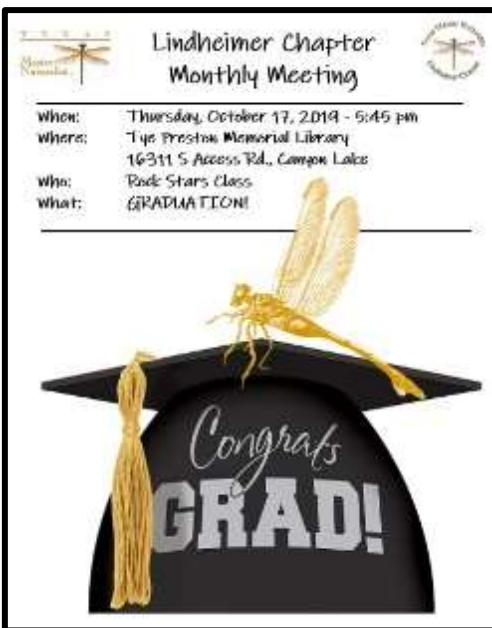
- *Recertifications:* Andrew Cummings, Gloria Glass, Wendy Mathews, Lynn McLemore, Margaret Oliver, Sherry Reel, Ashley Galloway (Double Certification)
- *Initial Year Certifications:* George Eanes (2018) (Mud Daubers); Ashley Galloway (2019) (Rock Stars)
- *Milestones:* Joe Finneran, 500 Hours

November 2019

- *Recertifications:* Jim McCullough, Denise Miner-Williams, Ben Pfeiffer, Scott Ofsdahl, Teresa St. John
- *Milestones:* Jim McCullough, 250 Hours

Chapter Meetings

October 17, 2019



Newly Certified – The Rock Stars!

Hospitality - October

Many thanks to Evelyn Nielson, Hospitality Head, and the LMN members who volunteer to feed us such delicious food this month: *Chapter Sponsored main dishes, Jane Schnell, Harry & Gretchen Ferrell, Rich Bradley, Denise Miner Williams, Nancy Hammack.*

November 21, 2019



Lindheimer Chapter Monthly Meeting

When: Thursday, November 21, 5:45 pm

Where: Tye Preston Memorial Library
16311 S. Access Rd., Canyon Lake

Who: Brett M. Parker - Parker Snake Removal
www.facebook.com/bparker/snake/removal

What: Texas Snake Identification and Safety
"Kill the fear, not the snake!"



About the Presentation:

- Facts over folklore
- Importance of snakes in our ecosystem
- What species of both non-venomous and venomous snakes live in their area of Texas and how to determine their unique differences from a safe distance.
- What to do and what NOT to do if they or someone else is bitten by a snake and much more!
- Brings native snakes and a few non-native snakes to safely allow a "close encounter" if desired.

About Brett Parker:

Brett works at Parker Snake Removal, and is a Firefighter/Paramedic at Comal County ESD No. 2 (Comet Lake Fire/LMG). He has given numerous presentations on Texas Snakes, as well as safe handling procedures, to schools, groups and communities. Brett promotes the humane removal & relocation of snakes.





Hospitality -November

Many thanks to Evelyn Nielson, Hospitality Head, and the LMN members who volunteered to feed us such delicious food this month: **Glenna Dunnington, Joyce Doyle, Lois Ricci, Debra Eames, Ellen Anderson, Sandra Carson**

December 12, 2019



Lindheimer Chapter December Chapter Meeting

When: Thursday, December 12, 2019 at 5:45 pm
(Please note the date for December is changed to the 12th from the 19th)

Where: Tye Preston Memorial Library

What: Chapter Elections and Holiday Dinner Meeting

Who: LMN Members - Welcome to bring spouse or significant other



Food - Member should bring item by letter of last name:

- A-H Appetizers
- I-Q Veggie, Salad or Potato Dish
- R-Z Dessert



Gift Exchange

Those who wish may bring a wrapped gift (total to \$15.00 + nature themed if possible) to exchange. Lots of fun!



RSVP

Sign up at the November meeting or email your RSVP to Evelyn Nielson at evelynnielson@hotmail.com no later than November 30.

Music by Pandora

2020 Elections Results	
President	Rich Nielson
Vice President	Arthur Williams
Secretary	Erin Harrison
Treasurer	Steve Jones



LMN Hospitality - December

Many thanks to Evelyn Nielson, Hospitality Head, and the LMN members who volunteer to feed us such delicious food. Food brought by Chapter Members; Ham & Turkey cooked by the Nielsons.

Events & Happenings

TEXAS MASTER NATURALIST ANNUAL STATE MEETING,
OCTOBER 18 – 20th, 2019
Rockwall, Texas

2019 Annual Meeting

Texas Master Naturalist



20th Annual Meeting

Thank you for joining us at the 20th Texas Master Naturalist Program Annual Meeting!

This year's event took place in Rockwall, Texas, ran from **Friday, October 18th through Sunday, October 20th**. The event was hosted at the **Hilton Dallas/Rockwall Lakefront Hotel** on the shores of Lake Ray Hubbard just east of Dallas. Each year's Annual Meeting provides an opportunity for Texas Master Naturalist volunteers from around the state to gather; participate in hands-on educational seminars, and receive all of their Advanced Training requirements for the year within one weekend. It's also an opportunity for program participants and supporters to network, share new ideas/projects, and to learn from different chapters from different regions of the state. This year's meeting also included day trips and training workshops to many local, state and even national refuges/parks, many of which focused on the diversity of geography,

flora, fauna and history this unique area of Texas.



TMN State Meeting Photo Contest October 2019

Erin Harrison

*1st Place – Plant Category
“Pearl Milkweed”*



Photos Submitted by Members to the TMN State Photo Contest



Clockwise from left: Marietta Diehl,
Glenna Dunnington, Jane Schnell, Nancy
Hammock,
Joel Dunnington

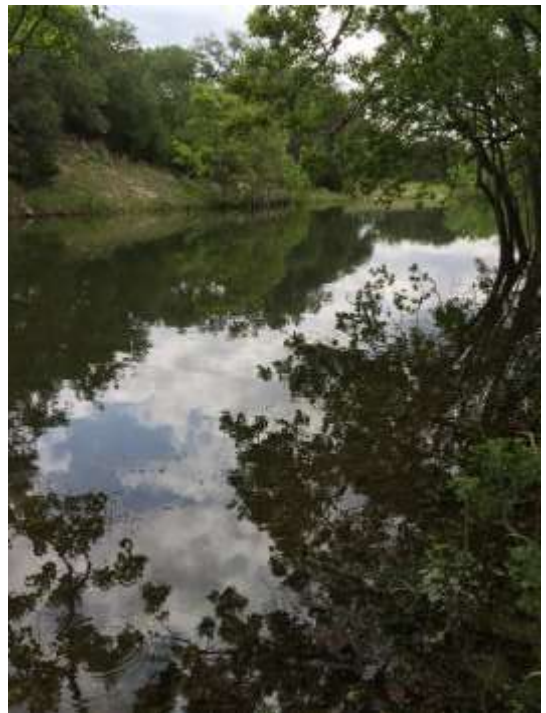


Top Row: Holly Emrie
Middle Row: Holly Emrie
Bottom Row: Peggy Haley

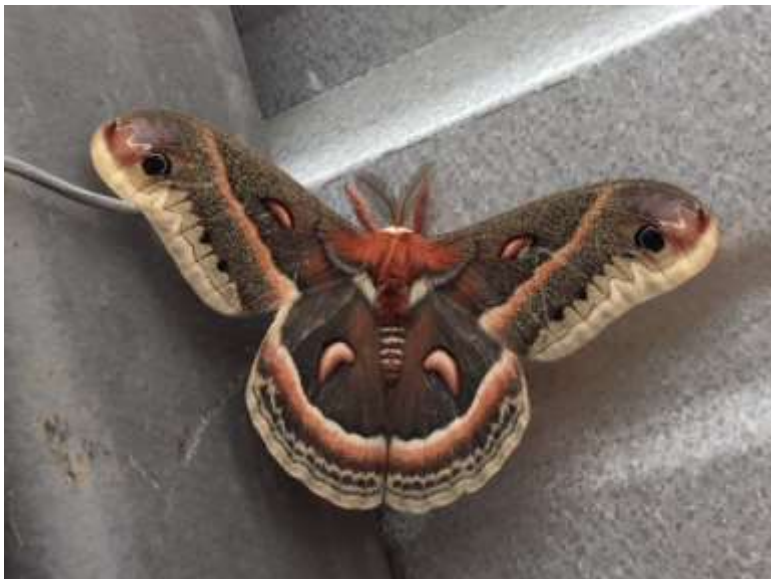




Top row: Erin Harrison, Don Mathews
Middle row: Nancy Hammack, Wendy Mathews, Erin Harrison
Bottom row: Darlene Varga



Clockwise from top left: MJ McFarland, MJ McFarland, MJ McFarland, Dick Scarbrock, Sara Riggs



Clockwise from top left: Dick Scarbrock,
Brian Trock, Jeannie Springer, Cheryl
Walthour, Teresa Turko

North Pole Village – December 2019



23RD ANNIVERSARY FOR THE CRRG
NORTH POLE VILLAGE
December 12, 13, 14, And 19, 20, 21
6:00 PM – 9:00 PM ♦ Admission \$5.00
18 months and younger FREE

Enjoy the fun and magic as Children visit the pint size North Pole Village

Community Resource & Recreational Center, Inc.
(830) 964-2324
125 MABEL JONES DR., CANYON LAKE, TX ♦ WWW.CRRCOFCANYONLAKE.ORG

Join us for breakfast with Santa on Saturday, Dec 7th
9am to 12pm - \$5 per person
18 months & Under FREE
ponies, sausage, and drink
Photo opportunities available

Members staffing the booth at the North Pole Village





See all about our new class at
<https://txmn.org/lindheimer/chapter-info/current-class/>

Members (in alphabetical order): Judy Alvis, Don Blake, Philip Brown, Vanessa Brown, Michael Buley, Heidi Case, Doug Coryell, Nancy Coryell, Adriane Costello, Jason Costello, Steven Dockal, James Dudley, Pamela Dudley, Donald Duncan, Lisa Smith, Sue Huntsman, David Jaksik, Mary Jaksik, Karen Kimbell, Judith Kovacs-Long, Rob Kyrourac, Kathy Lamon, Emily Lane, Merril Mabon, Christy Martinez, Sarah Mato, Steve Mato, Melina McLeod, Kate O'Brien, Miguelita Scanio, Lauren Schumaker, Susan Sommer, Stephen Verschoyle, Toni Wayne, Mary Williams

Class President/Board Representative
Christy Martinez

Class Photographer
Steve Dockal

DATE / TIME	ACTIVITY	INSTRUCTOR	LOCATION	BOOK UNIT (S)
24 Oct 2019 6-9 PM	New Class Orientation VMS Orientation	New Class Directors, Education Comm., Members of BOD's Cheryl Trock	Comal County Agrilife Center 325 Resource Dr.	Intro to TMN and Unit 3
5 Nov 2019 6-9 PM	Ecological Concepts	Pete Bryant (LMN)	Agrilife Center	Units 4, 5, and 6
16 Nov 2019 10 AM	Honey Creek Nature Area	Nancy Gray Friends of Honey Creek	Guadalupe River State Park	Units 5, 6 and 7
3 Dec 2019 6-9 PM	Archaeology	Clark Wernecke (GSAR)	Agrilife Center	Units 2 and 22
7 Jan 2020 6-9 PM	Botany and Taxonomy	Debbie Kyrourac (NELC, LMN, NPSOT)	Agrilife Center	Units 10 and 11
4 Feb 2020 6-9 PM	Herpetology	Craig Hensley (TPWD)	Agrilife Center	Unit 15
14 Feb 2020 9:00 AM	A.E. Wood State Fish Hatchery	Mike Matthews (TPWD)	San Marcos	Unit 14
3 Mar 2020 6-9 PM	Geology	Carter Keairns (UTSA)	Agrilife Center	Unit 7
14 Mar 2020 1-4 PM	Canyon Lake Gorge	Jaynell Kerr (GPS and GBRA)	Canyon Lake	Unit 7
7 April 2020 6-9 PM	Ornithology	Tom & Patsy Inglet (AAMN/Audubon)	Agrilife Center	Unit 12
18 April 2020 - 8 AM	Birding at Crescent Bend Park	Tom & Patsy Inglet (AAMN/Audubon)	Schertz, TX	Unit 12
5 May 2020 6-9 PM	Entomology	Craig Hensley (TPWD)	Agrilife Center	Unit 13
16 May 2020 10 AM	PAL Orientation	Art Williams (LMN)	TBD	Unit 1
2 Jun 2020 6-9 PM	Water Resources	Cinde Thomas-Jimenez (GBRA)	Agrilife Center	Unit 9
13 June 2020, 10 AM	Meadows Center	Texas State University	Spring Lake San Marcos	Units 9, 17, 18 and 19
7 Jul 2020 6- 9 PM	Mammalogy	Jonah Evans (TPWD)	Agrilife Center	Unit 16
18 Jul 2020 Dusk	Bracken Cave Bat Flight	Don and Edith Bergquist (BCI and LMN)	Garden Ridge	Unit 16
4 Aug 2020 6-9 PM	Urban Systems: Xeriscaping	Deedy Wright (NPSOT)	Agrilife Center	Unit 21
1 Sept 2020 6-9 PM	Native Grasses, and Rangeland Ecology	Doug Dalglish (LMN)	Agrilife Center	Units 17 and 20
13 Sept 2020 9 AM	Bamberger Ranch		Johnson City	Units 1 and 20
6 Oct 2020 6-9 PM	Weather & Climate	Jon Zeitler (NOAA)	Agrilife Center	Unit 8
15 Oct 2020 5:30 PM	Graduation		TPM Library	Chapter Meeting



Check us out on the internet, Amazon Smile, Facebook and Pinterest.
Place your cursor on the hyperlink, then press your ctrl button and click to follow the link.

For a painless donation, designate 'Lindheimer Chapter Texas Master Naturalist' as your charity under Amazon Smile.

Website: <https://txmn.org/lindheimer>
Amazon Smile: <https://smile.amazon.com/>
Facebook: <https://facebook.com/txmn.lindheimer>
Pinterest: <https://www.pinterest.com/FerdinandLindheimer/>
(currently off-line for maintenance)

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: "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 1/10/2020.

Take a look at Comal County!!!

Location	Observations	Species	Observers
World	30,549,191	253,292	836,292
Texas	2,475,401	19,662	51,773
Comal County	17,587	2,476	1,648

How to get started? Go to www.inaturalist.org.

2019 CHAPTER LEADERSHIP

PRESIDENT Rich Nielson
VICE PRESIDENT Jim Doyle
SECRETARY Arthur Williams
TREASURER Robin Hagan
PAST PRESIDENT Rich Bradley
Email: LindheimerMNContact@gmail.com

DIRECTORS/COMMITTEES

Education/New Class – Mike Hammack & Joe Finneran
Membership & Records – Cheryl Trock
Outreach Committee – Deb Kyroutac & Jane Schnell
Projects & Opportunities Committee - Jeanie Springer

COMMUNICATIONS

Director - Marilyn McFarland
Out & About – Sara Riggs
Historian/Archivist - Recruiting
Newsletter – Carmen Horn, Editor
Publicity/FB/Webmaster – MJ McFarland

SUBCOMMITTEES

Outreach

Trunks – Deb Kyroutac & Jane Schnell
Program to Assist Landowners – Art Williams
VP

Community Recognition – Jim Doyle
Hospitality – Evelyn Nielson

Rock Stars Class

President – Aleta Meyer
Reporter/Photographer – Erin Harrison

CHAPTER ADVISORS

Craig Hensley

Nature Tracker Biologist
Texas Parks & Wildlife Department
Troy Luepke
Comal County Extension Agent
Texas A&M AgriLife Extension Service

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2020 CHAPTER INFORMATION Page

CHAPTER LEADERSHIP

OFFICERS

PRESIDENT
VICE PRESIDENT
SECRETARY
TREASURER

Rich Nielson
Arthur Williams
Erin Harrison
Stephen Jones

COMMITTEES

Standing Committees

Education - Joe Finneran, Debra Eanes, Rick Corbell
Membership & Records – Cheryl Trock
Outreach – Debbie Kyroutac, Jane Schnell
Projects & Opportunities - Jeanie Springer

Subcommittees

Trunks – Deb Kyroutac & Jane Schnell
Program to Assist Landowners – Art Williams
Community Recognition (VP) – Art Williams
Hospitality – Recruiting
New Class – President/Board Rep, Christy Martinez
Photographer, Steve Dockal

Ad Hoc Committees

20th Anniversary Committee – Art Williams
Big Give SA – Susan Bogle, Jane Schnell, MJ McFarland

COMMUNICATIONS

Director - Marilyn McFarland
Out & About – Sara Riggs
Newsletter – Carmen Horn, Editor
Publicity - Recruiting
Historian/Social Media/Webmaster – MJ McFarland

Chapter Advisors

Craig Hensley
Texas Parks & Wildlife, Wildlife Tracker
Troy Luepke
Texas A&M AgriLife Comal County Agent

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2020 MONTHLY CHAPTER MEETINGS

January 16
'Dark Skies'
February 20
'Chimney Swifts'
March 19
'Range Grasses'
April 16
'State of the Chapter'
May 21
'Outdoor Safety for Nature Lovers'
June 18
To be announced
July 16
To be announced
August 20
To be announced
September 17
To be announced
October 15
Red-tailed Hawks Graduation
November
To be announced
December 10th or 17th
Elections & Dinner

2020 Monthly Board Meetings

Every 4th Monday at 5:45 PM
AgriLife Building

January 27
February 24
March 23
April 27
May 25
June 22
July 27
August 24
September 28
October 26
November 23
December 28