Texas Master Naturalist
Lindheimer Chapter

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ARTICLES IN THIS ISSUE

NEWS FROM DIANE

EXXONMOBIL GRANT TO LINDHEIMER CHAPTER

The Lindheimer Chapter, TMN, was the recent recipient of a $500.00 grant from ExxonMobil's Volunteer Involvement Program. Mr. Doug Young, a retired ExxonMobil executive, was eligible to receive this grant money due to his son's participation in volunteer work on the Guadalupe River Trail, an approved Lindheimer Chapter volunteer project. Mr. Young's son led a group of Boy Scouts in building a bridge on the Guadalupe River Trail for his Eagle Scout project. Mr. Young's son was recognized and bestowed the rank of Eagle Scout for his efforts. Retired ExxonMobil employees and family members are encouraged to contribute time in their local communities and may apply for grant monies for their efforts. The Lindheimer Chapter thanks Mr. Young for applying for the grant on behalf of our Chapter!

SAMUEL CLEMENS HIGH SCHOOL ENVIRONMENTAL FAIR

The Lindheimer Chapter, TMN, participated in the first annual Take Care of Texas Environmental Fair held on May 17 at Samuel Clemens High School in Schertz, TX. The basis for the fair was a program from the Texas Commission on Environmental Quality. The fair addressed environmental topics from a Texas perspective, focusing on what can be done here in the community to protect our planet and insure holistic quality of life for everyone in the state and beyond. The goal was to take an upbeat and positive approach to environmental stewardship, empowering and moving people to action--right here in Texas.

Susan Bogle and Diane Schaule represented the Lindheimer Chapter at the Fair, which was planned and organized by the Samuel Clemens High School Environmental Club. Our exhibit consisted of TMN program brochures, flyers, fossils, a poster board exhibiting pictures of the many Lindheimer projects, as well as information on the Canyon Lake Gorge. This event gave us an opportunity to market the Lindheimer Chapter and the Texas Master Naturalist program's mission to the public.

The Samuel Clemens Environmental Club students were enthusiastic about our Chapter's participation and very interested in our many projects. Educating and energizing our youth about their natural resource responsibilities is critical to sustaining the future of our environment.

2008 – '09 TMN class

Classes will begin on Nov 4th. Orientation is scheduled for October 27th, and applications are due by October 20th. There is a committee actively working on orientation plans.

OFFICERS - 2008

President:
Diane Schaule

Vice President:
Donna Lee

Treasurer:
Lois Ricci

Secretary:
Kim Wright

COMMITTEE CHAIRS

Education:
Ernie Lee

Membership & Records:
Art Williams

Out and About:
Judy Scott

Volunteer Projects:
Susan Bogle

Website Coordinator:
Ray Laxson

Class Representative:
Lydia Dougherty

Quarterly Newsletter:
Janet Siemssen
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Texas AgriLife Extension Service Advisor:
Glenn Avriett

Visit our Website at
TMN – Lindheimer Chapter

Remember to Report your hours to Art!

STREAM TEAM - WATER QUALITY MONITORING

John Siemssen

In the fall of 2004, a group of Texas Master Naturalists from the Lindheimer Chapter got together to begin a program of water quality monitoring in Comal County. Concerned about the health of vital water resources in our area, the team, under the leadership of Ernie Lee and Chris Summers, was trained by experts from the Texas Watch program at Texas State University, San Marcos using standardized procedures recognized by both EPA and TCEQ. After rigorous training, 9 volunteers were certified as Texas Water Quality Monitors.

The Texas Watch Program (now the Texas Stream Team) is an effort to "gather information about the natural resources of Texas and to ensure the information is available to all Texans." Monitors are trained to measure dissolved oxygen, pH, conductivity and water clarity, elements that are important to healthy aquatic life. In addition, they observe and record other water characteristics such as its color and odor, and local conditions such as air and water temperature and weather conditions.

The Lindheimer Team began testing at the end of 2004. Their test locations went from Guadalupe River State Park, to Canyon Lake, to a number of locations downstream from just below Canyon Lake Dam to the Gruene Bridge. Testing is also done at Carpers Creek, on John Knox Ranch, a tributary of the Blanco River. Each monitor goes out once a month to gather information. These data are then sent to the Stream Team in San Marcos, where they are entered into a data base that is accessible to regulators, researchers and the public.

Go to http://txstreamteam.rivers.txstate.edu/ for more information and to access the data base.
The data is also sent to GBRA's Water Quality Services Dept in Seguin. GBRA has been a partner in this program, and has supplied the chemicals and equipment needed for the testers to do their work.

In the spring of 2008 Jason Pinchback, Senior Monitoring Coordinator for the Stream Team, was asked by our group to do an analysis of the body of data that we had collected over the preceding 3 years. His results were presented to the GBRA's Guadalupe River Basin Steering Committee in March of this year.

The study involved 227 separate sampling events spread over 10 separate sites. In short, the analysis showed that the water quality measured over the range of sites was acceptable for aquatic life. Perhaps the most critical measurement, the amount of oxygen dissolved in the water, was found, as expected, to vary with the water temperature (the colder the water, the more oxygen is dissolved in it). Surprisingly, the oxygen level of the water just below Canyon Lake Dam, which comes from the deeper, oxygen poor part of the lake, was found to be very high in oxygen. This is thought to be caused by the churning of the water as it flows out from the dam, as well as an aerator at the power station below the dam. In any case, this high level of oxygen is very beneficial to aquatic life in that portion of the river.

Having reached a high level of proficiency in the basic test methods, some of the Lindheimer team members wanted to expand their test regimen to include other pollution indicators. In February of this year the Stream Team trained some of our water quality monitors to test for e-coli bacteria. EPA and other environmental organizations recognize e-coli as a general indicator of bacterial pollution. This test, which requires precise sample preparation and an incubation period of 28 hours, will give general indications of levels of bacterial activity in the water sample.

Josh Oyer of TSU, assists Earl Dittman with a water sample

As with the other water quality monitoring testing, the main purpose of this test will be to collect detailed base line data for future reference. Any abnormal findings will be reported to the appropriate authorities for follow-up.

With water supply and quality issues becoming ever more critical for Comal County and the Texas Hill Country in general, the Lindheimer Chapter is proud to be a partner with the Texas Stream Team and GBRA in monitoring and collecting vital water quality data for our area.

OUR OWN NATURE CENTER IN NEW BRAUNFELS!

Elizabeth Bowerman

Friday, May 23, was a big day for New Braunfels and nature lovers in the area, as RavenStar Outdoor Education opened a nature center in beautiful Torrey Park. The event was marked by a ribbon cutting and welcoming ceremony, attended by Mayor Boyer, Stacey Laird, Director of the City Parks and Recreation Department, County Commissioners Jan Kennady and Jay Millikan, and about 50 supporters and neighbors.

RavenStar, a 501(c) 3 nonprofit that has been providing nature education programs for schools in the area since 2000, has leased the small brick building in Torrey Park and turned it into an office and nature center.

With a motto of "No child left inside!" and a mission of stimulating students' interest in science and developing a culture of good stewardship, RavenStar is bringing nature to the people of New Braunfels. Just in time for summer, they have kicked off a series of "Saturday-in-the-Park" nature programs for children and families which will provide the community a place to go to where the whole family can enjoy being outdoors and learn about nature.

The one-hour programs will start at 10:00 every Saturday morning in Torrey Park. Shade-grown, locally roasted coffee will be ready at 9:30 and offered for free if you bring your own mug!

The Saturday programs, along with a series of Wednesday programs, will cover a wide range of natural science, environmental and conservation topics. RavenStar hopes to draw on its many partner organizations, such as Lindheimer Master Naturalists, Master Gardeners, Native Plant Society and New Braunfels Astronomy Club to provide presenters for the programs. LMNs will be in high demand and, hopefully, will sign up to share their time and talents in this great community project. RavenStar is an approved LMN project so time spent preparing, presenting and assisting with nature programs earns volunteer hours.

Torrey Park is located at the corner of Torrey Street and Gruene Road. In addition to needing program presenters, the nature center needs volunteers to help in the office, contact schools/teachers to schedule programs, prepare curricula, write nature articles for the newspaper and make handouts for programs. Artifacts and nature items of all kinds (aquariums, fossils, skulls, pelts, antlers, bugs, butterflies, rocks, field guides, etc.) are also needed to make the nature center a place where people can touch and feel and get close to some of the wonders of nature.

Check out RavenStar's website at www.ravenstaroutdoors.org. For more information or to volunteer, contact Elizabeth Bowerman at (830) 629-3661 or ravenstar@satx.rr.com. Get involved!

IN FOR A PENNY, IN FOR A POND

Art Williams

There was no doubt that the pond that formed the last step in the rainwater collection system attached to the AgriLife building was in bad shape. The system was the class project of the LMN Riparians in 2005. For three years it had reliably collected rain water from the building roof, stored it in barrels and released it as required into the pond. But over that time, the pond had become heavily silted, the water murky, and the plants around the edge were over-run by Bermuda grass. A well-intentioned effort to add aquatic plants had succeeded only too well. One plant had filled the pond. It was so big; it took two men to drag it out. The other proved to be a fine host for a particularly nasty form of algae. All in all, the exhibit was neither an attraction for visitors to the Comal County offices, nor a positive statement on the virtues of rain water collection.

Lindheimer Master Naturalists don't quit. So, this past spring, TMNs Susan Bogle, Caroline Carpenter, Bart Hamill, Bob and Sarah Laird and I gathered for a pond make-over.

We bailed out the dirty water, pulled the bordering rocks back, and removed the liner. The Lairds and I spent some time scrubbing the liner to remove the algae stains and what looked like fresh water barnacles until, in a moment of collective brilliance, we realized we could accomplish the same thing with less effort by turning the liner over. Good ideas still occur to old folks, just not as soon as one might prefer.

While this was going on, Susan, Caroline and Sarah pulled much of the Bermuda grass from among the killer Yuccas that surround the pond. In the interest of physical safety, we removed one Yucca entirely.

Then we replaced the liner (clean side up!) and reassembled the rocky surround. With the rocks cleaned off and no longer half covered by old fire ant mounds, the pond was looking better already. Rock hound Susan found some perfect additions and Bart levered them into position to create a stone perimeter that a mason would envy.

We added two pumps: one for a filter and one for a very modest waterfall that would provide aeration. Connecting these pumps provided an illustration of engineering genius. In only a half hour, the men in the group connected the tubing to both pumps even though it involved tubing of two different sizes—and it worked! Well, not immediately, but soon!

Then we refilled the pond (with a hose, but don't tell) to leave it looking sparkling. And we committed to regular maintenance to prevent the pond from becoming so disreputable again. So, if you haven't done so yet, go around to the back of the meeting building the next time you're at the office and have a look at our refurbished pond. You'll be glad you did.

WILDLIFE MANAGEMENT AT JOHN KNOX RANCH - Doug Dalglish

Blanco River at John Knox Ranch

John Knox Ranch is a 300-acre camp and conference center on the northern edge of Comal County, owned by the Presbyterian Church (USA). The primary purpose of JKR is to be a camp and conference facility, but the ranch also boasts a 200-acre wildlife management area. The wildlife management area is bordered by spring-fed Carper's Creek, which then empties into the Blanco River (which also borders JKR property).

In our effort to maintain a beautiful, natural environment at the ranch, we began to work in the area of environmental education. For the last seven years, we have hosted a 5th-grade environmental education for Northeast Independent School District (San Antonio.) This is a three-day program that brings urban children out into a natural setting to learn about wildlife in an interdisciplinary program. Many of these children have never spent a night out of the city, never been in a canoe, and never taken a walk after dark to listen to the sounds of nature at night. They do all these things, while learning about nature in this hands-on program.

John Knox Ranch is always looking for volunteers to help us maintain our wildlife management area. If you have an interest in helping to maintain our grass demonstration area, doing wildlife surveys, controlling feral animals, thinning Ashe Juniper, or maintaining trails, please give us a call at 935-4568. If you would like to help with our NEISD environmental education program, please call Doug Dalglish at 964-2427.

THE IMPORTANCE OF GRASSES
Doug Dalglish

Yellow Indiangrass

Native grasses may not be the favorite plant of most naturalists, but they play a crucial role in the environment. Frank Gould documented 523 species of grass in Texas in his book, *The Grasses of Texas*. With that many species of grass around us, we might begin to suspect that grasses are important in the natural world. What part do grasses play in our Hill Country habitats?

Native grasses provide food and shelter for many animals. Grass seeds are eaten by birds and small mammals. Tender new leaf growth is also a popular food source. No native animals remain that eat the mature grass leaves, but this was once the primary food source for vast herds of bison. Today, our livestock consume what the buffalo once ate. Tall grasses are important habitat for many ground-dwelling species including turkey and quail.

When tall, healthy native grasses cover large portions of a watershed, grasses provide the original, natural way of collecting rainfall and slowing surface flow of water. With intact native prairies, large rain events are safely received and turned into aquifer recharge and clear, spring water. When these prairie grasses are removed, that same rainfall will produce floodwater and erosion.

As we remove more and more prairie, we will see larger and more frequent floods, and our aquifers will recharge less effectively. These costs are not currently factored into the cost of development, but we will pay them anyway when the rains come.

Eastern Gamagrass Maintains a river bank

Over the long term, grasses are soil builders and stabilizers. It is probably no exaggeration to say that the wealth and stability of our nation has been built upon our amazing soil resources, and our soil was formed by the great sea of prairie grasses that once covered major portions of North America. Our grasslands provided the deep soils that fed our nation for centuries. With this stable food supply has come political stability and all the benefits that arise from that stability. Our wealth, our educational system, our social and political achievements are all built upon the rich soils of our native grasslands.

Grasses are food, shelter, water catchment and filtration, and the best soil producers we know of. As naturalists, it is important that we know our native grasses and promote their health so that they will continue to benefit the natural world and human society.

Helpful References:

Books:

Gould, Frank W. *Common Texas Grasses: An Illustrated Guide*. Texas A&M University Press. College Station. 1978.

Hatch, Stephan and Jennifer Pluhar. *Texas Range Plants*. Texas A&M University Press. College Station. 1993.

Loflin, Brian and Shirley Loflin. *Grasses of the Texas Hill Country*. Texas A&M University Press. College Station. 2006

Websites for Grasses:

Texas A&M Virtual Herbarium:
http://uvalde.tamu.edu/herbarium/index.html

Noble Foundation Plant Image Gallery:
http://www.noble.org/imagegallery/index.html

HOW ABOUT A BEE GARDEN?

Kim Peoples Bacon – Texas Bee Watchers

European Honey Bee

Quick! How many different kinds of bees can you name? Did you name honeybees? How about Carpenter bees? Surely you mentioned Bumblebees. Maybe even sweat bees? When I ask people this question, these are the usual answers I get. I hope you are sitting down because, according to Dr. Jack Neff, an expert in native bees, there are over 800 species of native bees in Texas. Betcha didn't know that! Neither did I. In spring of 2007, along with a group of interested Capital Area Master Naturalists, I started watching native bees.

That February, three of us went out on our first bee watching excursion. We located a Rosemary bush that was buzzing with bees.

We thought they might be Honeybees, but we had to admit that we weren't sure. Buzzing among the "honeybees" were occasional bees that looked different. We were not sure what they were either or even if they were bees. So we caught a few of them and headed home to look under the magnifying glass. Sure enough, we were right about the honeybees. And we were right about the other bees. They were bees!

And so began our investigation into native bees. We learned that honeybees were not native to North America. That, in fact, the European Honeybee had managed to colonize all of North America --just like those human European immigrants who brought the honeybees with them on their voyage to the new world. The other bees we had seen on the Rosemary bush were native bees.

Most of these native bees are solitary bees. They do not build colonies. Generally they nest alone in the ground. The males will emerge before the females. Once the females emerge, they will mate almost immediately. After they have mated, the hungry female will forage for pollen and nectar. Soon, however, she will start to build a nest in the ground. She hollows out an individual cell for an egg and then she leaves the nest to collect pollen and nectar. She will pack the pollen and nectar together to form "bee bread".

She places the "bee bread" in the cell she dug earlier in the ground, lays an egg on top of the "bee bread", seals off the cell, and then repeats the whole process for another egg.

When the eggs hatch, the larvae stay in their underground cell surviving on the "bee bread." They will spend the winter in the cell in a prepupal stage. As the weather warms, the larvae pupate, then change into adult bees, and emerge from their nest cavity.

After the bee emerges, it encounters a dangerous world out there. When farmers plant monocultures from roadside to roadside, the native bees cannot find the native wildflowers needed for forage. When urban and suburban gardeners plant deserts of mowed grasses and a few exotic plants bred for their spring color rather than their nectar and pollen production, the bees face starvation.

If the lack of food isn't bad enough, the newly emerged bee will also encounter pesticides used by farmers to kill other insects and by homeowners to kill – whatever! Many of these insecticides are lethal to bees. If the pesticide is not immediately lethal, it may be taken up by the pollen and then fed to the developing bees in the nest and manage to kill the larvae.

Even if the native bee finds enough safe pollen and nectar, there's another danger lurking. Remember that that many native bees build their nests in the ground? Well, if those urban gardens are covered with inches of mulch or black plastic or weed cloth, the native bee cannot dig her nest hole. She cannot make a nest in turf either. And the nest cannot survive flooding by a farmer who practices flood irrigation.

That first summer, we spent some time looking at bees and trying to identify them by genus. Pretty hard task considering there are few to no field guides for native bees. Eventually we settled on recognizing the bees by family. We also started noticing which plants seemed most attractive to native bees.

Metallic Green Native Bee
Augochlora species

By mid-summer, we had a name for ourselves: Texas Bee Watchers. We also had a goal. We would collect scientifically valid information on native bees and the plants which they found most attractive. By the end of the 2007 season, we had compiled a short list of ten bee-friendly plants for Central Texas (available at www.beewatchers.com)

This year we have a data sheet which anyone can use to help us document bee-friendly plants that grow in Texas. The data sheet and directions for collecting data are available at www.beewatchers.com.

As our list grows, we will begin a program to convince commercial land managers and private land owners to begin to think of their yards and green spaces as food and forage sources for animals that carry out the important process of pollination.

Please know that we are asking everyone to be on the lookout for Bumblebees which have apparently become very scarce in our areas.

Please check the www.beewatchers.com website every so often as I hope to soon have news about a Bee-Friendly Demonstration Garden in the works.

LINDA'S UNWANTED HOUSE GUEST

Ray Laxson

Texas Rat Snake - an excellent climber!

A couple of years ago we had an unnerving experience with a 6' Texas rat snake. We have a patio that can be accessed from our utility room. Linda had set up a couple hummingbird feeders and a steady stream of the little hummers came to the feeders. Unknown to us, a large rat snake (about 6' long) also took note of the little hummers and decided to crawl up the patio door and catch one.

Apparently the snake was draped across the door and when Linda opened the door she inadvertently pulled the snake inside and it landed on her shoulder, fell on to the floor and scurried behind the clothes washer. Linda, who never did much care for snakes, let out a scream that could have been heard for miles. I was down in the pasture and when I heard her scream, I thought the house must be on fire.

After Linda told me that a monstrous black snake was in OUR HOUSE, and I had to either remove the snake or close off the utility room – permanently. I thought removal of the snake would be a relatively easy straightforward event – was I ever wrong.

I carefully tipped the washer over (getting water all over the floor) and carefully peered into all the washer nooks and crannies – no snake. Must be in the dryer, I thought. The dryer has an infinite number of hidden nooks and crannies that cannot be seen without taking the machine apart.

So, I took the dryer outside on the patio and began to dissemble it – being careful to not provide my hand as an easy target for an angry snake who might have been hidden somewhere. An hour later we have a disassembled dryer and STILL no snake. By this time Linda is considering moving someplace where there are no snakes – maybe the North Pole.

Long story short, I finally noticed a small hole leading underneath our built-in sink and cabinet. After prying off several boards from the cabinet I could see a very large black snake coiled up- I think the snake may have been in shock after hearing Linda's scream.

Even with the door open I was not able to coax the snake to go outside. I finally caught the snake's head in a snare and managed to pull him outside where he was released. Enough excitement for one day.

Since then we have seen many rat snakes here at the ranch. They are good climbers and note in the attached picture that one is climbing across a door. They have a reputation of being good mousers and generally live around barns and sheds. They are non venomous and seem to have an even disposition. Even so, I would not recommend having one as an inside pet – those dryers are a real pain to reassemble.