



The Texas Master Naturalist program activities are coordinated by Texas A&M AgriLife Extension Service and Texas Parks and Wildlife. Texas Master Naturalist and Extension programs serve all people regardless of socioeconomic level, race, color, sex, religion, disability or national origin.



*Celebrating and sharing our experiences along "the roads" we take through nature.*

Award Winning Newsletter of the El Camino Real Chapter  
Milam County Texas Master Naturalist Winter 2014

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**Prairie Tracks by Katherine Bedrich**

**What I Saw...**

SACRED SMOKE

On October 23<sup>rd</sup>, 2013 I had the privilege of being invited to a prescribed burn on a restored prairie. The prairie is located in Bell County, owned by a couple who for 30 years collected native plant seeds from roadsides, ditches, and other prairie remnants.

Not too long ago, 140 million acres defined the American Prairie; stretching from southern Canada to the Gulf of Mexico. In a minute time period, this habitat has changed dramatically; and less than 3% of prairie remains today.

Part of the prairie diversity included fire. Fires could be initiated by nature or humans. Burning helps to clear areas, heat from the fire generates seed germination and fire helps release nutrients for plants and animals. These factors increase plant diversity and improve wildlife habitat for those species adapted to fire and fire ecology.



This burn was managed by The Nature Conservancy which emphasizes the use of burning on plant and animal communities that need fire to persist. Properties with rare and endangered species, and rare and underserved plant communities, are considered for a possible burn. Prescribed burns also help to reduce the risk of possible uncontrolled fires.



Watching the "fire crew", the fire, and the smoke was a truly unique experience. The "fire crew" prepares for every aspect of the burn. They were a team of one. Chris Harper, USF&W biologist, and one of our training instructors were a part of the crew. The fire



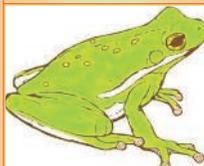
burned very fast and very low. It was not a fire to fear. The smoke, to me, was the most amazing. I watched the smoke rise into the clear blue sky, straight upwards. It was not invading the sky, it was sending a message. The smoke said: "I am fresh, I am

*(Continued on page 2)*

**Our Motto**

- Look
- Learn
- Teach
- Conserve

Our Mascot  
The Green Tree Frog



**Did You Know?**

What's the deadliest life form on earth?



See last page for the answer.

clean, I am sacred. I am sending up all the sweetness of this land."

Sacred Smoke... that is what I saw that day....

#### CLEANSING RAIN...

A week after being at the prescribed burn, I was at the flooded creek bottom. On the night of October 30 it rained, all night. We woke up to a field of water. Rubber boots were



needed to just go outside. Deciding to head to town, I saw how high Big Elm Creek was before I arrived at FM 2269. It had been quite a while since the creek had been this high. In fact, it had been years since the

creek had been over the road.

The "Road Closed" signs were up. I decided to drive down to the bridge, just to take a look. Again, it had been many years since I had seen this much water flowing. I got out and took some photos. I



was looking for some life, besides the water, and at first saw nothing but all the water. Then, there was some sort of movement on a floating mass of debris in the

water. Thinking it was a bird, I focused the camera and realized it was a mammal.

As I was looking closer to the edge of the road, where the water was pushing itself closer and closer, I saw another furry animal. It was a field mouse or cotton rat; *Sigmodon hispidus*. It was very wet and just sitting in its place. I then notice another one, and as I looked closer, I saw several in the grass and on the road. Some were huddled together; not any ran as I moved closer. Was it the stress from the turmoil going on in their habitat?

I know mice/rats are not very likable. But at that time, I saw an animal trying to survive. A small furry creature; lost, wet, frightened, confused; sensing what it needed to do. Get out of the water and survive.

I was drawn to some other movement. A brownish red shimmering mass was in the water. Fire ants. A moving body of hundreds, thousands, millions; clinging together, climbing, floating. A mesmerizing ship daring anything or anyone to stop it from surviving.



Watching the water rush through the land, I realized I was experiencing another one of nature's acts. There was energy in the water; it churned, it flushed; it was cleaning the dirty, unwashed, dead habitats as it moved through the land.

Cleansing Rain... that is what I saw that day...

Submitted by: Katherine Bedrich

#### A Quote from Aldo Leopold:

*"The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively, the land. This sounds simple; do we not already sing our love for and obligation to the land of the free and the home of the brave? Yes, but just what and whom do we love? Certainly not the soil, which we are sending helter-skelter downriver. Certainly not the waters, which we assume have no function except to turn turbines, float barges, and carry off sewage. Certainly not the plants, of which we exterminate whole communities without batting an eye. Certainly not the animals, of which we have already extirpated many of the largest and most beautiful species. A land ethic of course cannot prevent the alteration, management, and use of these 'resources,' but it does affirm their right to continued existence, and, at least in spots, their continued existence in a natural state."*

-- from: A Sand County Almanac

Field Trips, etc.

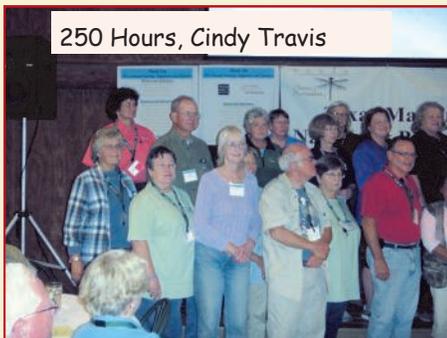
Our 2013-14 training class and some members make a field trip on November 8, 2013 to visit the S. M. Tracy Herbarium for education on Bryophytes by Herbarium Curator and Honorary Chapter Member Dale Kruse.



Oct 11, 2013 Training class visit to Lake Summerville State Park for education on wildlife, flora and fauna by Kyle Thigpen, Park Ranger.



And award and other photos from the Texas Master Naturalist State Meeting, October 25-27, 2013.



## Butterflies in My Garden by Sheri Sweet

When we moved to Lexington, from Edmond, OK, a couple of years ago, one of the things I wanted was a flower garden. So, one fine day, my husband, Wesley, got the tractor out, asked me where I wanted it and what I wanted it to look like. OK, I wanted it out from the master bedroom on the south side of the house. What shape did I want? How about a rectangle centered across the bedroom? He looked at it and thought about it - then said, "how about a semi-circle!" OK, that's fine. So we measured the size and the arc and he started digging with the tractor. In due time, the semi-circle flower bed was born. We cleared the grass, mixed in sterilized manure, and leveled the bed. He installed some green metal edging. Clara Grace Sherrill had given me numerous cannas, so I planted them. I had moved some irises from Ok along with several other plants, so in they all went - daffodils, lantana, verbenas, and zinnia seeds. With everything nicely planted, we then watered and pulled any weeds and grass that dared to come up.

The plants started growing and were very happy there. Soon, the cannas started blossoming, as did the zinnias. One fine day, I walked out to admire my flower garden, and I noticed something quite amazing! Not only did I have flowers, but I had BUTTERFLIES - lots of butterflies! Until then, it never entered my head I'd get lots of butterflies! I had stalked butterflies in my yard in OK, so I grabbed a camera and started stalking them here to photograph them. The next step then was to get some butterfly books so I could properly identify them.

This is a compilation of the various butterflies and moths I have seen in my flower gardens over the last two years. My sources for identification of these butterflies are 1) Butterflies of North America by Jeffrey Glassberg, 2) The Audubon Society Field Guide to North American Butterflies with Robert Michael Pyle, Consulting Lepidopterist, 3) Peterson Field



Guides - Eastern Butterflies by Paul A. Opler, 4) Kaufman Field Guide to Butterflies of North America by Jim P. Brock & Kenn Kaufman.

While I don't know a lot about butterflies, my husband and I are currently taking classes to become Certified Master Naturalists through the El Camino Real Chapter of the Texas Master Naturalists in Milam County. We will definitely be learning a lot more about butterflies, moths, and all other aspects of nature! We helped put in a Monarch Butterfly garden in Milano starting several months ago. It has been completed extremely successfully and was dedicated the second week in October, 2013. The Monarch Butterfly pictures are some that I took at that garden in Milano. While I had a few Monarchs, I couldn't get good pictures of them in my garden! We are also Certified Master Gardeners with the Little River Basin Master Gardeners, also in Milam County.

Wes and I will be working with permission from the Gideon Lincecum Chapter Texas Master Naturalists through the El Camino Real Chapter Master Naturalists and with the Lexington Garden Club to put in, hopefully, a butterfly garden that will successfully attract a few Monarch butterflies to a narrow flower bed along the west side of the Lexington Senior

Citizens Center in downtown Lexington. If you happen to see us working there, stop by and lend a hand for a community effort!

And now turn the page to see all my new found friends!

Sheri Sweet.





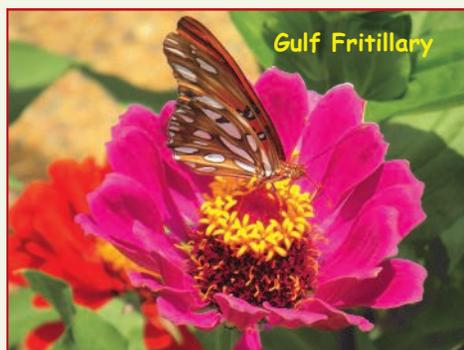
Red Admiral



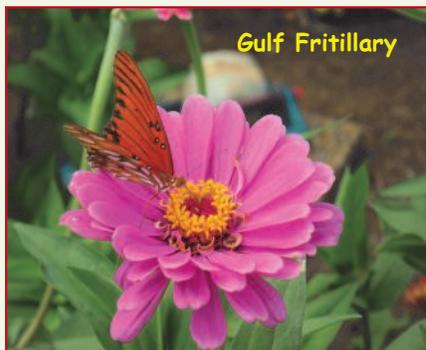
Gulf Fritillary



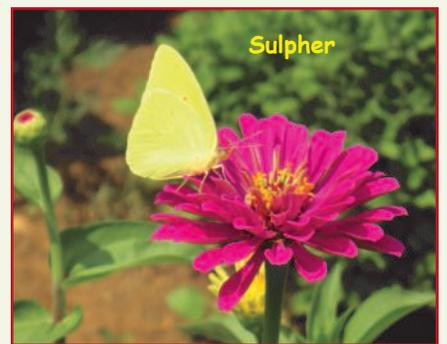
Gulf Fritillary



Gulf Fritillary



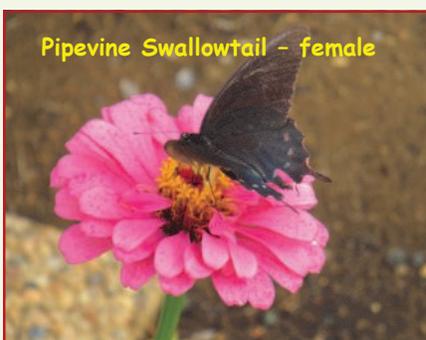
Gulf Fritillary



Sulpher



Pipevine Swallowtail - female



Pipevine Swallowtail - female



Pipevine Swallowtail - male



Pipevine Swallowtail - male



Queen



Queen



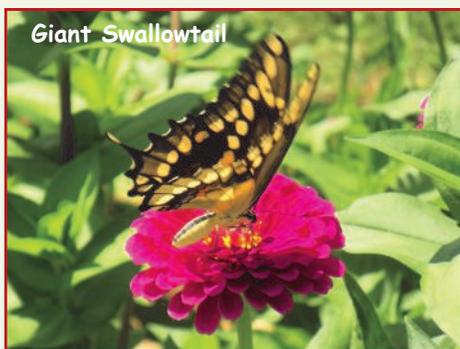
Painted Lady



Painted Lady



Skipper



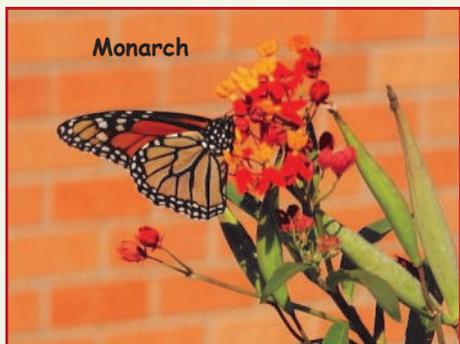
Giant Swallowtail



Giant Swallowtail



Monarch



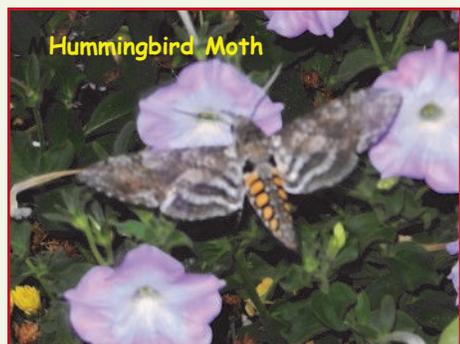
Monarch



Monarch



Monarch



Hummingbird Moth



Hummingbird Moth



Luna Moth

*Wild European Honey Bees*

by Linda Jo Conn

Wild European honeybees (*Apis mellifera*) have occupied a hive high in a tree at my brother's home in Rockdale for several years. I had seen the hive before, but never really LOOKED at it until Christmas Day.

Note the partitions of the honeycombs the bees have built. Now I understand why bee keepers have removable panels in the wooden hives from which they harvest honey!

Since it was quite cold that day, several dead bees were on the pavement under the hive.

My brother noted that during warm months, the combs are black with buzzing honeybees. Workers will empty a hummingbird feeder in an hour or two.



No honeybees existed in the New World during human times until the introduction of *Apis mellifera* by Europeans.

*The Dirt of Milam County*

by Linda Jo Conn

Some residents of Milam County wail because their sandy land retains water like a sieve. Others moan about black gumbo that cracks in droughts and sticks to footwear when wet. Some complain about red clay suitable for making bricks. No one seems to have perfect soil, yet all El Camino Real Master Naturalists love a piece of dirt called home.

Several chapter members took soil samples to John Pruet's farm on December 10 to investigate their different soil types, distribution, and characteristics. A pH meter and microscope aided in the examination of samples.

The Milam County boundary encircles soils ranging from acidic sand to alkaline blackland. Katherine Bedrich and John Pruet live virtually across the county from each other, each on land that has been in their families for many years. Katherine lives on a former blackland prairie farm near Cameron. John cultivates blueberries on markedly acidic sand near Milano. Gross visual and microscopic examinations and pH determinations showed striking and interesting differences in their soil types.

Linda Jo Conn lives where four types of sandy loam soils converge on her small acreage. Obvious differences in the colors of her four samples were noted.



John led attendees on a tour of his blueberry orchard and shared his ambitious method of soil investigation and sampling. Using a front end loader attachment on his tractor, he had dug a pit in the deep sand and then excavated further using a two-handled posthole digger. Other attendees had not exerted such an effort to study their soils. During the meeting, definitions of various soil types were researched, soil distribution maps were studied, and the ramifications of the

effect of soil on civilization patterns in early Texas were discussed. A future training class on the soils of Texas is planned.



# Texas the State of Water

by Katherine Bedrich

El Camino Real Chapter sponsored a presentation about Texas the State of Water on November 19<sup>th</sup> in Rockdale. The focus was on groundwater and surface water interactions. Cappy Smith, Aquatic Resource Education Specialist, TPWD, demonstrated point and non point pollution and contamination using an Enviroscape coastal model.

Point pollution may include industrial plants, sewage treatment plants, and leaky underground containers. The model showed how pollution and contamination from non point sources comes from many different sources. Non point pollution may include fertilizers, herbicides, toxic chemicals, automotive oil, grease, and sediment from bare ground.

Rain and human watering activities produce runoff. Pollutants picked up by runoff are carried to lakes, rivers, wetlands, and ground waters. Drinking water, wildlife and the environment are all affected by the harmful effects of these pollutants.

Linda Ruiz McCall, Information Geologist with the Bureau of Economic Geology,

discussed the water cycle and water quality. Using Envision Aquifer model, groundwater flow was demonstrated. The use of dye showed how a pipe can carry contaminants to ground water and depending on the geology and depth of other pipes, the contaminated groundwater can flow upwards to the water on the surface.

At this point, both groundwater and surface water are contaminated. The importance of understanding surface



water and ground water are the same, is a fact needing acknowledgement.

# What's in the Water?

by John Pruett

Milam County lies within the Brazos River drainage basin, and is fortunate to have abundant riparian habitat that either runs through the county or shares its boundary. The streams in Milam County are slow moving with no rapids except in areas of sand or gravel bars where the flow may become restricted and form riffles over the shallow substrate. Milam streams include nu-



merous tributary branches, creeks and rivers. The major streams are Brushy Creek, the San Gabriel River, the Little River, and the Brazos River, a primary Texas river. In addition, the county has three major confluences of waterways, the confluence of the Brushy with the San Gabriel, the San Gabriel's confluence with the Little River, and on our eastern boundary the Little River's confluence with the Brazos.

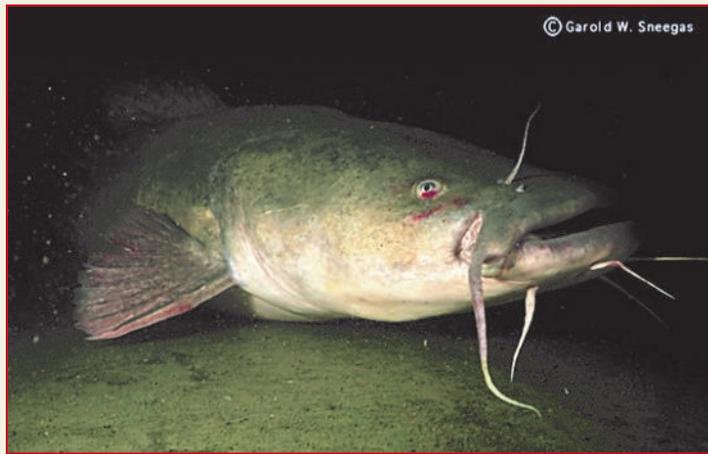
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Much of the aquatic biology of Milam County is "unexplored", although many species may have been observed, they have not been properly documented and reported. One purpose of the El Camino Real Master Naturalists project entitled "The Nature of Milam County" is to document and report the animal and plant species found in our riparian habitats to include those that call the water home.

When we think of what might be living in the water we are more than likely to think of fish, because of our past experiences with fishing. We think of all the possible kinds of fish, how large, and where they maybe found. However, most of the animal and plant species in the river are in an environment that is not accessible to our senses, as we stand on the shore gazing upon the gently flowing, often turbid, water.

In this column I will attempt to present quarterly information about the animals and plants that inhabit the streams of our county. Initially we will explore the catfishes. Most of the "river fishermen" that I know in Milam County consider the venerable "yellow catfish", *Pylodictus olivaris*, the most sought after river prize. The "yellow cat" is desired for its size potential, and its pleasing taste at celebratory fish fries.

Fish taxonomic classification places all catfishes in the scientific order Siluriformes, and currently there are 2,855 marine and freshwater catfish species. Amazingly, 1 in 4 species of freshwater fish, 1 in 10 of all fishes, and 1 in 20 vertebrate species is a catfish (Catalog of Fishes, Eschmeyer 1998). In Texas freshwaters we have a very manageable 11 species of catfish, and they all belong to the family Ictaluridae (Catfish in Texas, TPWD; <http://www.bio.txstate.edu/~tbonner/txfishes/index.htm>). Four Texas catfish species are not found in the Brazos River; therefore we would not



© Garold W. Sneegas

likely find them in our local streams. Those species include the blind catfishes, the **toothless blind catfish** (*Trogloglanis pattersoni*) and the **wide mouth blind catfish** (*Satan eurystomus*), these species are cave and artesian well inhabitants found in the Edwards Plateau, also not likely to be found in our streams are the **headwater catfish** (*Ictalurus lupus*) and the **Chihuahua catfish** (*Ictalurus sp.*). The seven remaining catfish species that we are likely to encounter in the streams of Milam County include two small madtoms, the **tadpole madtom** (*Noturus gyrinus*) and the **freckled madtom** (*Noturus noturus*); the bullheads, the **yellow bullhead** (*Ameiurus natalis*) and the **black bullhead** (*Ameiurus melas*); and those species,

which are sought by sport fisherman, the **blue cat** (*Ictalurus furcatus*), the **channel cat** (*Ictalurus punctatus*), and the prized **yellow cat** (*Pylodictus olivaris*).

*Pylodictus olivaris* (olive colored, mudfish) has many common names to include yellow cat, flathead catfish, appalooosa cat, opelousa cat, pied cat, shovelhead cat, and Mississippi cat. In the next issue of the newsletter we will begin to explore the folklore, and the

interesting biology of *P. olivaris*.

**Postscript** - These precious species require a healthy aquatic habitat to survive. Drought and the ever-increasing human and agricultural demand for surface and groundwater directly impacts the flow of our rivers. The health of our rivers is impacted by industrial and municipal effluent, and agricultural runoff. Therefore it is important for all to participate in conservation awareness and water projects that will ensure that the surface waters and the aquifers of our state remain healthy for generations to come.

*"Conservation is a state of harmony between men and land. By land is meant all of the things on, over, or in the earth.*

*Harmony with land is like harmony with a friend: you cannot cherish his right hand and chop off his left. That is to say, you cannot love game and hate predators; you cannot conserve the waters and waste the ranges; you cannot build the forest and mine the farm. The land is one organism. Its parts, like our own parts, compete with each other and cooperate with each other. The competitions are as much a part of the inner workings as the co-operations. You can regulate them—cautiously—but not abolish them.*

*The outstanding scientific discovery of the twentieth century is not television, or radio, but rather the complexity of the land organism. Only those who know the most about it can appreciate how little we know about it. The last word in ignorance is the man who says of an animal or plant: "What good is it?" If the land mechanism as a whole is good, then every part is good, whether we understand it or not. If the biota, in the course of aeons, has built something we like but do not understand, then who but a fool would discard seemingly useless parts? To keep every cog and wheel is the first precaution of intelligent tinkering."* — Aldo Leopold

**“Bring Back the Monarchs” Comes to a Close** by Debbie Harris

As 2013 has come to a close, so has the Bring Back the Monarch Grant...but please, let me explain. In early 2013 we applied for and received a grant co-funded by the Native Plant Society of Texas and Monarch Watch to *“Bring Back the Monarch to Texas”*. There were several elements to qualify for this grant which included:

Grant Requirement	The Outcome
• Public Venue	☑ Milano Junction Memorial Garden
• Create a butterfly garden	☑ Created a prolific garden-see pictures below of before/after
• Involve members & the Public	☑ 185 assisted building the garden with more than 550 hours!
• Offer educational courses	☑ 8 courses; 183 people attended & 400 hours of learning!

As the grant was being closed out and reported back to the co-funders, we were requested to begin a new phase at this venue which is called the **“Milano Junction Memorial Garden Project”**.

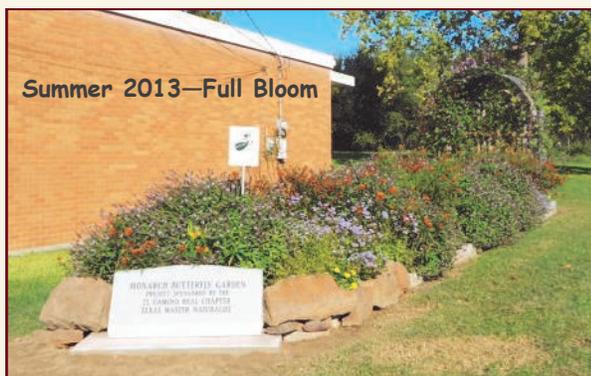
In this approved project, we will continue to maintain the Butterfly Garden, plant flowering trees in the landscape, build a sidewalk, assist with the pergola construction and the plants around it, lay the memorial tile sidewalk, create a Native Grass demonstration garden and lastly, create a new garden next to the historic Bailey Bank Building, once it has been restored.

What an amazing transformation to an old vacant city lot! Yet, hearing the many comments from area residents that have stopped by and the overwhelming number of compliments from young and old will give anyone warm and fuzzy feeling rather quickly!

Due to this projects' success, it has created a 'trickle affect', just as the grant had anticipated; many question have come forward on *'how can I do some of this in my yard and what plant is that?'*, others have learned and applied their new skills by building their own butterfly garden, area garden clubs have asked to have a Milano garden tour and lecture, many people have planted milkweed for the first time and *who* were completely unaware of its importance to the Monarch caterpillar, others have identified and watched Monarch caterpillars complete their lifecycle for the very first time, and lastly, a new community garden has been built - all of this is such a wonderful compliment to just one small grant! Oh yes, that is the simple joy of nature at its best, while all have helped those cute little Monarch butterflies along the way - Build It and They Shall Come!

As the saying goes, *“Frass Happens”* and it's due to planting an idea, knowledge, and possibilities through a seed. Yet most importantly, this project was a huge success due to all those who participated, *I sincerely thank you for all your time, energy and support. . . . you know who you are!*

We sure do hope to see you for our next phase which starts up on January 28<sup>th</sup>! For more information, feel free to e-mail: milanojunctionmemorialgarden@yahoo.com.



## Tree Identification at Ledbetter Park

by Linda Jo Conn

Members of the El Camino Real Master Naturalist Chapter met at Wilson Ledbetter Park in Cameron on October 29. Pleasant fall weather cooperated with the objective: identification of trees in the park.

Several trees, eastern red cedar (*Juniperus virginiana*), honey mesquite (*Prosopis glandulosa*), and Eve's necklace (*Sophora affinis*), were quickly named. Soapberry (*Sapindus saponaria*), chittamwood (*Bumelia lanuginosa*), and sugar hackberry (*Celtis laevigata*) were also identified.

Other trees with familiar shapes, bark, and foliage received less confident identifications.

Many were oaks. Which species? A member of the group declared them to be sand post oaks (*Quercus margaretta*) because of leaf shape and quick reference to a field guide in her hand. (Later, she was not so certain.)

Other trees in the park, obviously elms, were again dubbed cedar elm (*Ulmus crassifolia*) by the same member. (Again, after more investigation, she was not so adamant.)

Another tree with large lanceolate leaves was eventually pigeon-holed as Texas black walnut (*Juglans microcarpa*) by the same vocal person. (After reconsideration, she was again unsure.)



Spring 2014 will come, and with it, more knowledge, experience, and another opportunity to revisit Ledbetter Park to observe the trees complete with leaves, flowers, and fruit.

Several tree guides were consulted by the volunteers, including *Texas Trees: A Friendly Guide* by Paul W. Cox and Pat-tie Leslie, *Trees of Texas: Field Guide* by Stan Tekiela, *Trees of Central Texas* by Robert A. Vines, *Trees of Texas: An Easy Guide to Leaf Identification* by Carmine Stahl and Ria McElvaney, and a quick reference pamphlet "Trees of Central Texas: A Guide to Common Native Species" by Robert O'Brien.

Typically, the chapter outing encountered other species of interest. Katherine Bedrich demonstrated why Carolina snailseed (*Cocculus carolinus*) received its name. Other vines identified in the park were mustang grape (*Vitis mustangensis*), greenbrier (*Smilax rotundifolia*), Virginia creeper (*Parthenocissus quinquefolia*), and lantana (*Lantana urticoides*). Non-native or invasive species identified were swamp privet (*Forestiera acuminata*), Chinaberry (*Melia azedarach*), and yaupon holly (*Ilex vomitoria*). Attending ECR members were Katherine Bedrich, Sue Taylor, Don Travis, Cindy Bolch, Dorothy Meyer, and Linda Jo Conn (an instant identifier with doubtful identifications).

## Bird Identification Workshop

by Katherine Bedrich

A workshop helping birders of any skill, at McKinney Roughs Nature Park near Bastrop, was presented by nature interpreters Nicholas Cowey and Nicole Vojnovich. The Bastrop County Christmas Bird Count result of the last ten years was used to hone in on the birds in the area.

A slide show featured photos of the many local birds. Silhouettes and vocalization were used in the presentation. Here are some tricks you can learn in identify birds. Vocal up or down calls can be helpful in recognizing similar species. The winter wren can be spotted by the way it holds its tail straight up. Chipping sparrows have a black feather line going through their eye. A roadrunner's tail is used for braking and turning. Red shouldered hawks pre-



fer forested and river habitat; while the Red Tailed hawk reigns in the open spaces.

A stuffed barred owl and red shouldered hawk were used to demonstrate flight. Owls have a quiet flight, because of their fur like fringed feathers. The owl's wing span is for gliding, helping with the silent approach. The red shouldered hawk's pointed tail is used for quick turns. The wings on juvenile raptors are longer than when they become adults. Reasoning for this is thought to make flight learning easier. After juveniles molt, the flight feathers shorten.

The program was very entertaining and informative. Several chapter

(Continued on page 12)

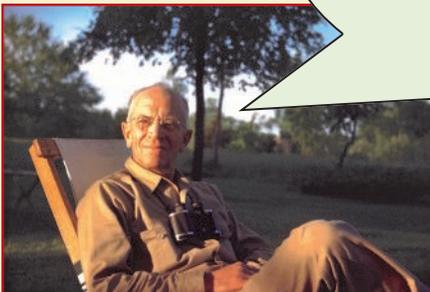
members attended and came away with new knowledge on birding. A surprise visit from the Chapters former advisor was an extra treat. Mike Mitchell was at the class. We had a nice visit after the program.



Aldo Leopold:

*"When we hear his call we hear no mere bird. We hear the trumpet in the orchestra of evolution. He is the symbol of our untamable past, of that incredible sweep of millennia which underlies and conditions the daily affairs of birds and men." Marshland Elegy, 1937.*

*"Conservation will ultimately boil down to rewarding the private landowner who conserves the public interest." Conservation Economics, 1934.*



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Los Caminos is a quarterly publication of the "El Camino Real Chapter of Texas Master Naturalists", a 501(c)(3) nonprofit volunteer educational organization.

## *Certifications, Etc.*

By Dorothy Mayer

New since the Fall 2013 newsletter **are in this color.**



Our 2013 Re-Certification pin was the Monarch Butterfly, Those earning their 2013 pins include: Katherine Bedrich, Cindy Bolch, Ann Collins, Lucy Coward, Dorothy Mayer, Don Travis, Sherry Colley, Linda Jo Conn, Debbi Harris, Donna Lewis, John Pruettt, Jeannette Patschke, Cindy Travis, Sandra Dworaczyk, **Barbara Cromwell, Rich Cromwell, Chuck Lindberg, Genie Lindberg, Pat Holley, Chip Colley, Paula Engelhardt, Kim Summers, Sue Taylor and Janice Johnson.**

Lifetime to date Milestone Achievement Levels earned include:

**250 Hours**—Paul Unger, Ann Collins, Katherine Bedrich, Cindy Bolch, Paula Engelhardt, Don Travis, Debbi Harris, Joy Graham, Lucile Estell, Shawn Walton, Anne Barr, Ed Burleson, Connie Roddy, Dorothy Mayer, Lucy Coward, Donna Lewis, Sue Taylor, Phyllis Shuffield, Sandra O'Donnell, Jim O'Donnell, Vivian Dixon, Sandra Dworaczyk, Cindy McDaniels, Sandra Dworaczyk, Janice Johnson, Gary McDaniels, Kim Summers, Rusty Thomas, and Cindy Travis.

**500 Hours**—Paul Unger, Ann Collins, Katherine Bedrich, Cindy Bolch, Paula Engelhardt, Don Travis, Anne Barr, Donna Lewis, Phyllis Shuffield, Lucy Coward, Debbi Harris, Dorothy Mayer, Sue Taylor and Connie Roddy

**1000 Hours**—Paul Unger, Ann Collins, Katherine Bedrich, Cindy Bolch, Don Travis, Paula Engelhardt, Debbi Harris, Donna Lewis, Connie Roddy, Sue Taylor, Lucy Coward, and Dorothy Mayer.

**2500 Hours**—Paul Unger, Katherine Bedrich, Cindy Bolch and Don Travis.

**4000 Hours**—Katherine Bedrich

Our Year-to-Date and Total Accumulated hours for Advanced Training are: **690 and 4999** respectively. Our Year-to-Date and Total Accumulated hours for Volunteer Events are: **6581 and 37,993** respectively.

*Congratulations to All.*

## Did You Know?

## What's the Deadliest Life Form on Earth?



The mosquito! Over the entire course of human history if all the deaths could be accounted for by cause, this one species would be responsible for perhaps as much as 50% of all human deaths and suffering. It has caused more misery and disease than any other creature, ever.

The common mosquito has been around for millennia, basically unchanged since the Cretaceous era, and its ancestors date back 90-100 million years. There are over 2500 different species of mosquitoes in the world. Most of them do not bother humans but the ones that do, do so with terrible consequences. A carrier of 100+ fatal and debilitating diseases, the mosquito is a main vector for most notably, malaria, yellow fever, encephalitis, and the West Nile virus. Contrary to previous concerns, the HIV/AIDS virus cannot survive in the mosquito, so it is incapable of transmitting

this virus human to human.

Both genders of mosquito drink the juices and nectar of flowers and sap. While the female does not require blood for her survival, she does require it for the production of her eggs for the protein and iron that blood contains. Attracted to sources of carbon dioxide such as the exhalation of warm air, and lactic acid in mammals, the female mosquito, when ready to produce eggs, will seek-out a source from which to procure red blood. It can be avian, equine, bovine or human. Opportunity favors the mosquito on her quest for blood.

To learn more about safety and prevention, see <http://sciencerey.com/biology/the-deadliest-lifeform-on-the-planet/#ixzz2qOaO6F1j>, the source for this topic.