



Photo by Nathan Veatch

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Spring is Here by Diane Humes, President 2011

Sunshine is delicious, rain is refreshing, wind braces us up, snow is exhilarating; there is really no such thing as bad weather, only different kinds of good weather. - John Ruskin

We have had all kinds of good weather this winter, threat of ice, snow, and sleet unfortunately causing our first-ever chapter meeting cancellation in February. Fortunately, we all stayed warm, dry, and safe. Our speaker, Chris LaChance, has re-scheduled her presentation for the June meeting, so all is now well. We look forward to all different kinds of good weather and good times for the coming year!

The new chapter training class began February 17 and continues most Thursdays into May. Check the schedule and please drop by to meet the 22 future Galveston Bay Area Master Naturalists and welcome them to our mission of preservation, restoration, and education about our natural environment. The new class members bring a wealth of experience and love of nature, most citing experiences camping and exploring the outdoors since childhood. They are already into the food, fun, and friendship!



The year 2011 marks our chapter’s 10th anniversary and plans are being formulated for a year of celebration.

This year promises challenges and interesting times - beware the Chinese curse, “May you live in interesting times,” but I am confident Master Naturalists can rise to any occasion.

See you on the prairie, in the wetland, the forest and beach, classroom and boardroom.

Look deep, deep into nature, and then you will understand everything better. - Albert Einstein

Next Chapter Meeting

April 7th

Ecology of Fire

By

Mark Kramer
Armand Bayou Nature Center

April and May Activities

ADVANCED TRAINING OPPORTUNITIES

Chapter Meeting - April 7th

Presenter: Mark Kramer, Armand Bayou Nature Center, will cover Ecology of Fire
6:30 Social, 7:00 Presentation, 8:00 business meeting
Carbide Park 1 Hour AT

Freshwater Pond Life - May 26th

Sheldon Lake State Park
TBD TBD Hours AT
Cost: Free
Fresh water pond life and how to teach it
Presenter: Tom Olson and Laura Babcock, Project lead:
Registration: Emmeline Dodd TXDODD@aol.com

Ongoing

Galveston Island State Park
Every Saturday- Beach Explorations
Every Sunday- Bay Explorations
10 am. Meet at the Welcome Center
Tours are 1 to 1 ½ hours long.
Prepare for sun and mosquitoes.
Bring water and family.

Heritage Book Study Group

First Monday of every month
Texas City Prairie Preserve
10am-Noon 2 hours AT
Contact: Elsie Smith (409)945-4731
We are currently reading:
The Book of Texas Bays by Jim Blackburn

STEWARDSHIP OPPORTUNITIES

Project of the Year:

Prairie and Wetland Restoration Horseshoe Marsh

The Project of the Year at Horseshoe Marsh will continue throughout the year. We are restoring island habitats ravaged by Hurricane Ike. If you can help

please contact Tom Solomon crandtr@sbcglobal.net

Ongoing Activities:

Mondays - Reitan Point, second and fourth, Contact:

Liz Gimmler gimmler@consolidated.net

Tuesdays -

- Sheldon Lakes State Park, Contact: Tom Solomon crandtr@sbcglobal.net
- Texas City Prairie Preserve, Contact: Marybeth Arnold mbarnold@aol.com

Wednesdays - Wetland Restoration Team, Contact:

Marissa Sipocz m-sipocz@tamu.edu

Fridays - Prairie Friday, ABNC, 9 - Noon Contact: Dick

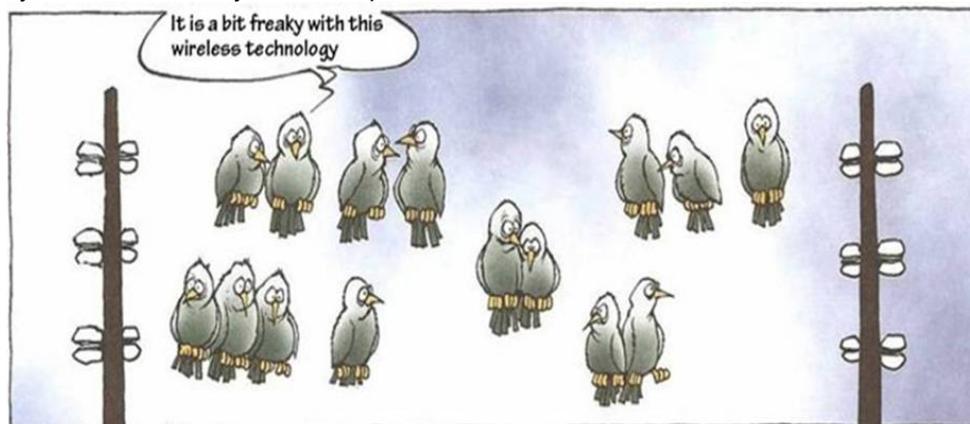
Benoit RBenoitTEX@aol.com

EDUCATION-OUTREACH VOLUNTEER OPPORTUNITIES

Bay & Island Adventures - Volunteers teach six in-class hands-on modules (water, Galveston Bay, wetlands, coastal prairies, birds, Gulf of Mexico) on a once a month basis in Dickinson and Galveston Schools. Presenters and helpers are needed for eleven 4th and 5th grade classes. Contact: Sara Snell snellsw@verizon.net.

Education and Outreach Committee - Lots of work to do and we can use your help developing a speakers bureau; responding to requests for exhibit booths, fieldtrip guides and presenters, planning Camp Wild and Treasures of the Bay; and developing a library of education-outreach materials. Contact Sara Snell snellsw@verizon.net.

Partner and Associate Programs - Many organizations sponsor guided walks and education programs or need volunteers to man their nature center. Go to www.gbamasternaturalist.org click on "Volunteer Opportunities," then click on "Partners, Sponsors and Associates" for the list, then click on their website for information and contact.



Prairie Ponderings – Top 10 Who, What, Where by Dick Benoit

Can you identify who, when, and where these images were taken?





7.



8.



9.



10.

1. 2006 San Leon Bus Trip
2. 2006 Seed Collection at Coastal Center
3. 2007 Plant Rescue Hwy 3 Jim Duron and Tom Solomon
4. 2008 ABNC "Pot Heads" from Central Michigan University
5. 2009 ABNC Collecting Texas coneflower seeds
6. 2003 George Regmund First Bluestem Rendezvous
7. 2005 ABNC Mark Kramer holding a frog
8. 2005 ABNC Laura Bradley inspecting American Aloe
9. 2006 John Thayer at ABNC
10. 2006 Sarah Patterson Jim Waligora Spreading seeds after a burn

Wetland Wanderings by Diane Humes

For those of us in the GBAC-TMN, Galveston Bay is our wetland. Much about the bay's environmental health and history is contained in the Galveston Bay Plan, an action plan to protect and restore the health of the estuary while supporting economic and recreational activities and approved by the state legislature in 1995. The Plan's implementation is continually monitored by the Galveston Bay Estuary Program, established in 1989 for that purpose. Results are discussed at the biennial State of the Bay conference; the 3rd edition of State of the Bay is due to be published this year.

So, how is Galveston Bay doing since 1989? Productivity of fisheries and oyster harvests are very high. Water quality has improved greatly; nutrient and bacterial levels are reduced, although clearly there is much more to do. The brown pelican, formerly absent from our waters, has returned and is now off the endangered species list. Saltwater marshes have increased within the watershed, watershed protection plans are being developed for most tributaries of

Galveston Bay. More people than ever are taking an interest in the environmental health of Galveston Bay.



Freshwater wetlands are still disappearing; however, projects like the wetland restoration at Sheldon Lake State Park are demonstrating that freshwater wetlands can be recovered. Another project that will greatly improve the health and safety of bay waters is the Superfund clean-up of the San Jacinto River Waste Pits, now identified as a source of dioxins leaking into the Galveston Bay system.

Important issues affect the future health of Galveston Bay. At the October chapter meeting, Scott Jones spoke about the freshwater inflows, that portion of the State's waters apportioned for the environment. Inflow standards will be set soon and have decisive impact on Galveston Bay. A related issue is the growth of the human population. The 2010 census lists two million additional Houston-area residents, mostly from elsewhere, who will need to be educated about the special environment of Galveston Bay and who will need adequate clean drinking water.

The Galveston Bay Foundation held its March 2011 meeting and those attending had the opportunity to learn about San Francisco Bay and hear a panel of experts speak about parallels with Galveston Bay. San Francisco Bay has redwoods, mountains, and earthquakes, which Galveston Bay lacks, but also a big city, industry, pollution, development, invasive species, and a lot of dedicated people who are committed to restoring their environment as well as they can and learning to live within it. On Earth Day of this year, PBS will broadcast a film series called "Saving our Bay: the Story of San Francisco Bay", which I recommend to all master naturalists.

For more information see: www.savingthebay.org or www.savesfbay.org. (Photo by Steve Upperman)

Happy Earth Day



Heritage Book Study Group by Elsie Smith

The GBA TMN Heritage Book Study Group finished discussion of *The Wilderness World of John Muir* at the March meeting. The group will begin discussion of *The Book of Texas Bays* by Jim Blackburn at the meeting

April 4 at Texas City Prairie Preserve at 10 AM. Two (2) hours of advanced training are earned at each meeting. For information, contact Elsie Smith at 409-945-4731.

14th GBAC Class by Sara Snell

Ten years and 14 classes later, twenty-two new members were welcomed by 34 chapter members representing virtually every year we have had classes. The weather even cooperated with a beautiful day.

Please attend the April 7 chapter meeting where our new members can meet many more of our chapter members - and understand what food, fun and friendship really is about.



Helle Brown



Scott Buckel



David Bulliner



Root Choyce



Michael Gilbert



Pamela Gilbert



Suzanne Groneman



Suzanne Jurek



Tom Kartrude



Arline Laughter



Beverly Lively



Tamberlyn Maggolino



Scott Manusov



Rowena McDermind



Ginger Nisbet



Maureen Nolan-Wilde



Wendy Reistle



Chatt Smith



Rose Merle Symmank



Kerry Thomas



Beth Whitley



Ron Williams

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Fishy Facts by Diane Olsen

Fishy Facts are cool! Fishy facts are fun! That's what 28 Master Naturalists found out at the Fishy Facts Advanced Training class held at the Aquarium at Moody Gardens on January 22, 2011. Julie Massey did a great job introducing the class to the basics of fish anatomy and biology. Using specimens of various body styles and shapes she demonstrated how fish are designed differently and how those designs are a function of their adaptations to the many different lifestyles. From fast moving sharks and jacks to lay and wait predators to schooling fishes and everything in between and beyond, fish are perfectly adapted to fill every possible niche the oceans or waterways have to offer.

Seeing specimens is one way to learn but seeing the living creature is better so the class went out in to the Aquarium armed with the knowledge that they had just gained and a scavenger hunt to fill out. It was much fun exploring the Aquarium with the intent of really looking at the fish and seeing how they were designed. It was also clear that many of the questions had more than one answer and it was interesting to hear what people's answers were. It was also great to see the class participants really look at the animals and appreciate how interesting they are.

After the hunt it was on to dissection and fish printing. In groups of two, the class looked for specifics of fish anatomy such as the swim bladder and gill rakers.



Not a squeamish person in the bunch! There were many different types of fish chosen for dissection so there was a wide variety to look at. The class ended with fish printing and the artist was brought out in everyone. Many a beautiful piece of art was created that day. Though the smell of fish permeated the air it was a good time had by all and everyone gained a new appreciation of our finned friends.

“Heartbreak Turtle” still needs our help by Emily Morris

To call the Kemp's ridley sea turtle the “comeback kid” may be a little premature, but amazing strides have been made in the recovery of a species that was on the brink of extinction just four decades ago, researchers say.

Aiding the effort to protect and promote awareness of the Kemp's ridley sea turtle is just one of many ways GBAC Texas Master Naturalists can volunteer. Two Kemp's Ridley experts, Dr. Steve Alexander and Jeanine Stewart, spoke to a group of about 28 Master Naturalists in February to explain how Master Naturalists can help with the continuing restoration of the endangered turtles. With the sea turtle nesting season beginning April 1 along the Upper Texas Gulf Coast, training sessions about how to protect them will be offered during March.

During the February training session, Alexander, a GBAC Texas Master Naturalist, began the class, titled “Ridley's Believe It or Not: Sea Turtles of the Gulf of Mexico,” with a detailed discussion on how to identify the five sea turtle species that can be found in the Gulf of

Mexico. Those species are the leatherback, hawksbill, green, loggerhead and Kemp's ridley sea turtles. Of those five species that call the Gulf of Mexico home, only two, the Kemp's ridley and the loggerhead, visit Galveston Beaches, making identification of nesting turtles much easier for those of us patrolling the Upper Texas Coast. The Kemp's ridley is the most frequent visitor along Galveston Island by about 20 to 1, according to historical data.

Alexander showed slides and handed out an identification card, provided by NOAA, with pictures and descriptions of the most obvious characteristics of each species. The Kemp's ridley, for example, has a disc-shaped body, a fairly large head, is grey to olive green and is the smallest of the sea turtles, measuring 2.5 feet and weighing 75 to 100 pounds. It also nests most often on Mexico and Texas beaches. The loggerhead, a threatened species, is reddish-brown, has a heart-shaped shell, a very large, triangular head, and measures 4 feet and up to 400 pounds.

Alexander also discussed the major threats to all sea turtles in the Gulf, the ongoing conservation efforts in place to protect the turtles, and how Master Naturalists can join in these preservation efforts. He showed the video "The Heartbreak Turtle Today," an updated version of a 1979 film that detailed the plight of the endangered Kemp's ridley.

Nets or shrimp trawls, floating plastics, coastal development and oil spills historically have been and continue to be the top four threats to sea turtles. Despite a federal push for shrimpers and fishermen to use turtle excluder devices in their nets, turtles continue to get trapped and drown in the nets where the TEDs have not been installed or installed incorrectly, statistics show.

Floating plastics are a curiosity to sea turtles, Alexander said, not only because the bags or bottles look like food, but also because turtles use their mouths to "investigate," and will take bites out of an object until the turtle is either full or has decided that the object is not something it wants to consume. These few bites of plastic here and there will fill up a turtle's stomach without giving it any food value, and will cause intestinal blockages that can kill the turtle or make it very sick.



Coastal development threatens sea turtles in several ways, Alexander said. Construction on the beaches often blocks the turtles' path to the dunes where they typically like to nest; raking and "beautification" of the beach can destroy nests already in place and threaten turtles on their way to or from the nesting site; cars and pedestrians also disrupt or destroy nests and hatchlings heading out to sea; and lights from the shoreline will confuse hatchlings, which head toward the white foam of the ocean when leaving the nest.

Oil spills in the Gulf, although rare, are an obvious threat to any creature that makes its home there. With the April

2010 Deepwater Horizon blowout still fresh on everyone's mind, questions loom as to the effect the spill had and will continue to have on sea turtles attempting to make their way back to their nesting grounds during the 2011 season. In the movie "The Heartbreak Turtle Today," researchers touched on the threat of oil spills on sea turtles but did not have conclusive evidence as to the effect of the BP spill, which still had not been capped by the time the video was completed last summer, a wildlife rescue expert said.

Several sea turtle experts expounded on the oil spill comments made in the movie, during a sea turtle symposium held at Galveston's NOAA offices earlier in February. They explained that by December 2010, researchers were not finding oil in the Gulf, nor in the sargassum rafts, and that fewer turtles were killed in 2010 than in previous years. One reason the turtle mortality rate may be lower is that shrimping was stopped because of the spill, resulting in fewer turtles being caught in the shrimp nets, said Rhonda Murgatroyd, owner and managing director of Wildlife Response Services, LLC.

That the shrimping ban had a positive effect on sea turtle mortality in 2010 proves that TEDs continue to be a source of debate between federal authorities and shrimpers. TEDs have proved to be an effective means to help in the conservation of sea turtles by allowing turtles to free themselves from shrimping nets. When TEDs are not installed or installed incorrectly, turtles are trapped under water and die.

Other conservation efforts that are having a positive effect on the rehabilitation of sea turtles, Alexander said, include nest-protection laws, sea turtle rehabilitation, programs to inform the public about sea turtles, and sea turtle patrols along the Texas and Mexico coastlines. Master Naturalists have the opportunity to help in several of these areas, he said. We can donate our time and money to these programs, call the sea turtle hotline at 1-866-TURTLE5 when we see a turtle on Galveston's beaches, and join one of the foot or ATV patrols, which begin April 1 and end July 15.

In "The Heartbreak Turtle Today," sea turtle experts speak about the almost miraculous recovery of the Kemp's ridley, whose dwindling population had already raised alarms by the 1960s, and by 1985 was almost extinct, with only 350 nesting females worldwide, the narrator says. The half-hour documentary gives a brief history of the Kemp's ridley and then goes on to explain its recovery through the efforts of a half dozen or so organizations that are dedicated to sea turtle conservation.

Dramatic footage from 1947 of an arribada in Rancho Nuevo, Mexico, where 42,000 sea turtles came ashore

on a single day to nest, prompts a yearning for the days before sea turtles drowned in fishing nets and were harvested for their meat, eggs and shells, and eventually depleted. However, news that the Gulf coastline has seen its largest increase in years with 8,000 nesting females, gives hope that someday those 1940s numbers will return.



The documentary also details former and future cooperative efforts between Mexico and the United States to restore the Kemp's ridley sea turtle, touts NOAA's Headstart program of the late 1970s and the ongoing rehabilitation efforts at Galveston's turtle barn, and highlights the work of Texas A&M University's Galveston campus, which established beach patrols here in 2007. Copies of the DVD "The Heartbreak Turtle Today" are available for \$5 at <http://seaturtles.org/index.php> and are well worth the cost.

Jeanine Stewart, with the Sea Turtle and Marine Fisheries Research Ecology Lab at TAMUG, described the importance of the Galveston patrols and shared statistical information about the number of nests found on our beaches in the past 20 years. With the exception of a few static years and a dip between 2009 and 2010, the number of Kemp's ridleys nesting along Galveston-area beaches has increased each year, with 15 nests recovered in 2010. Along the entire Texas coastline, 197 nests were excavated in 2009 and 140 nests excavated in 2010. Researchers suspect the cold winter affected the nesting, Stewart said, with colder water possibly disrupting the normal breeding cycle.

Kemp's ridley sea turtles reach sexual maturity around age 12 to 15 and will return to the site where they entered the water as hatchlings, Stewart said. They come ashore and head to the seclusion of dunes to dig a hole and lay their eggs. After covering up the eggs, the turtles return to the sea to let the eggs incubate unattended, which takes about 45 days. Volunteer patrollers are on the lookout for turtle tracks, the rare turtle sighting and ultimately turtle nests, which are then excavated to protect the eggs. Kemp's ridleys will lay 100 or so eggs in each clutch and can come ashore two or three times each season to lay a new clutch. When asked why the eggs are moved from the beach, Stewart explained that the eggs are vulnerable to predators, Mother Nature and unaware beachgoers. Crabs, birds, dogs and other wildlife would feast on the buried eggs, and because the eggshells are permeable, the eggs are at risk of drowning in flood tides. Eggs and hatchlings also are at risk of being disturbed or trampled by beachgoers and beach combing machines.

Stewart showed a map of the six Galveston Island patrol routes that need to be covered each weekday during the nesting season, and explained the duties involved. Of the patrols, three are foot patrols and cover the beaches between 61 Street and East Beach, and three are ATV patrols with longer routes along Bolivar, Surfside and the West End. Staffing these patrols requires about 30 volunteers each week, and GBAC Master Naturalists have been quick to join the effort.

GBAC Master Naturalists Ellen Hufft and Mel Measeles shared their own patrolling experiences and excitement about being on hand when three turtles came ashore in a single day last year. It's rare to find a nest, Hufft said, and it's even rarer to find a nesting turtle, but to find three turtles in one day on Galveston beaches was an extraordinary treat. It took the better part of the day and a host of volunteers to tag the females, release them and excavate the nests.

Patrol recruiting has already begun and training sessions for foot and ATV duties will be in late March. If you're interested in participating in a patrol and have not signed up yet, contact Jeanine Stewart at 409-750-0124 or jeanine_stewart@yahoo.com or, and join the thrill of the hunt ... and recovery of Kemp's ridley sea turtles. (Photo by Steve Alexander and Carlos Rios)

Hook 'em Horns by Emmeline Dodd

Old McDonald may have had a farm, but the Master Naturalists had a ranch. On Friday, February 25, 20 Master Naturalists enjoyed beautiful spring-like weather at the Longhorn Ranch on NASA Johnson Space Center. They learned the genetics, physical characteristics and

history of the Longhorn cattle, had hands-on experience with the cattle, participated in laboratory exercises related to plants and animals at the Longhorn Project (mostly microscopic), and toured the gardens and greenhouse to learn what volunteer activities related to

the Project were available to MN's. Their instructors were Ollie Schwausch, Jennifer Emshoff, Gib Larson, and Emmeline Dodd.

Dusty Mead, the Trail Boss and Education Director, prepared a wonderful breakfast and a lunch of Longhorn chili for the attendees. The "hook 'em" title must have worked in that almost all the participants signed on to serve as future volunteers at the Longhorn Project. If you missed this event and think that you would like to be a part of the Project, please contact Emmeline Dodd or Gib Larson.



Texas Horned Lizards by Diane Humes

TMN re-certification pins - post oak, Lindheimer daisy, green treefrog, belted kingfisher, Texas prickly pear, grass shrimp, Texas purple sage, Texas salamander, and wood duck. What wouldn't we do for them? After waiting in suspense for the identification of the 2011 pin - this year's Holy Grail - we now know it is the Texas horned lizard, aka "horny toad" or "horned frog".



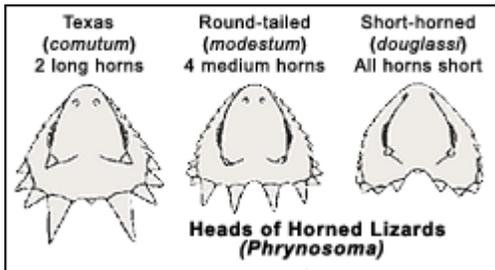
Horned lizards are an American group of spiny lizards, living mostly in desert and semi-arid habitats. Fourteen species of horned lizard are recognized from Panama to North America; eight species live in the U.S. and southern Canada and, of those, three species reside in Texas. They have broad, flat bodies, characterized by rows of spines on bodies and heads. Despite spiny appearances, horned lizards are docile, relying on their earth-tone camouflage coloration and immobility for protection from predators.

The three species of horned lizard that live in Texas are: the Texas horned lizard, *Phrynosoma cornutum*, the mountain short-horned lizard, *P. hernandesii*, formerly *P. douglassii*, and the round tail horned lizard, *P. modestum*. They are distinguished by the number and size of "horns" on the head. All three species are protected, meaning it is illegal to take, possess, transport or sell them without a special permit; the Texas horned lizard and mountain short-horned lizards are listed as threatened species.

The Texas horned lizard, *Phrynosoma cornutum*, is the most common and familiar horned lizard, found in all parts of Texas except the piney woods. It is small, about 2 1/2 to 4 inches long with a short and pointed snout, a broad, flat body and a short tail. It has a prominent crown of spines at the back of its head, with two enlarged spines in the center that give the appearance of horns. There are rows of enlarged spines on either side of the throat and two rows of spiny scales on each side of its body. It is commonly called a "horny toad" or "horned frog", although neither a toad nor a frog. (Phryno = toad, soma = body) It has been the official Texas state reptile since 1993 and is the TMN 2011 re-certification pin. The most famous "horny toad" was Old Rip, whose claim to fame may be a Texas tall tale. As the story goes, Old Rip was entombed in a time capsule in the Eastland, TX courthouse in 1897 and was still alive when the capsule was opened 31 years later in 1929! Old Rip is still on display in a velvet-lined casket at the courthouse. So they say.

It is true that Texas horned lizards hibernate through the winter and their normal life span is five to eight years. And, they can squirt blood from their eyelids, to a distance of several feet, which seems distasteful to canine predators. They can inflate their bodies with air to

twice normal size, looking like fearsome spiny balloons to their many predators - loggerhead shrikes, hawks, roadrunners, snakes, coyotes, and foxes.



Texas horned lizards are quite fecund, producing large clutches of 25 or more eggs in early to mid-summer - a reproductive strategy to produce large numbers of young when predation is high. Eggs are buried underground; hatchlings receive no parental care and must feed themselves. Texas horned lizards eat mostly harvester ants and the occasional grasshopper, isopod, small beetle, or beetle larva.

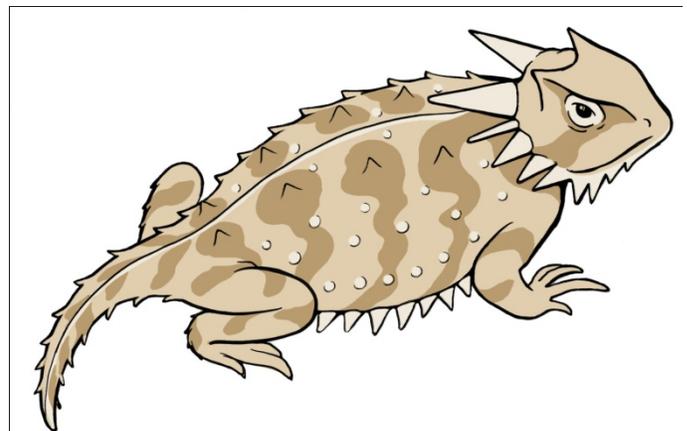
Despite its high reproductive rate, the Texas horned lizard has experienced serious population declines in the last 30 years, and is considered threatened with extinction. Causes for these declines include loss of habitat, introduction of exotic invasive species, particularly the imported red fire ant, and overharvesting for the exotic pet trade, but no one yet has the definitive explanation for the current plight of the Texas state reptile.

Loss of native habitat is due primarily to conversion of grassland to cropland and/or urban sites. When the soil is disturbed by plowing, eggs and winter hibernation burrows are overturned; adults and young seldom survive this treatment. Likewise, conversion to suburban or urban plots disturbs or covers native soil and habitat to the detriment of horned lizards. In both cases, replacement of native bunch grasses, which have bare spaces between clumps, with exotic mat-forming grasses such as St. Augustine and Bermuda, makes foraging difficult for little broad-bodied lizards with their sit-and-wait strategy of hunting for ants.

The arrival of the imported red fire ant has had two important consequences for Texas horned lizard survival. The first is the ant itself which vigorously out-competes native harvester ants at gathering food; eventually the harvester ant colony starves, with repercussions for horned lizards. In addition, pesticides used to kill the despised fire ants also kill native ants, with similar deleterious effects on horned lizard survival.

Capturing horned lizards for pets, especially the exotic pet trade, has seriously affected their numbers. The fame of Old Rip may have contributed a lot to the popularity of the little lizards; many, many were collected from the wild; hopefully this habit has ended. Horned lizards make poor pets; most die within a few days.

Texas horned lizards are fascinating creatures; wear your new pin proudly and tell everyone about it. Was the tale of Old Rip a twisted Texas tall tale or a remarkable truth? Can't really say. Will a Texas Master Naturalist want a Texas horned lizard re-cert pin? Bet you won't want to wait 31 years!



Various organizations studying horned lizards include: Horned Lizard Conservation Society, www.hornedlizards.org and Texas Horned Lizard Watch, http://www.tpwd.state.tx.us/learning/texas_nature_trackers/horned_lizard/. (Photos by TPWD)

FoGISP Training by Nathan Veatch

The Friends of Galveston Island State Park hosted an Advanced Training for Master Naturalists and volunteers at the Nature Center on March 5 from 9 a.m. until noon. An early morning storm dumped 2½ inches of rain on the island and as we traveled between full ditches to reach the meeting. Thirty prospective and veteran park

volunteers attended. Most were from our chapter and one from the Gulf Coast Chapter.

Park Manager, Trey Goodman, welcomed the group and thanked us for volunteering. Since the park does not have any staff to provide interpretive activities, our participation is very important. Hans Hagland, Assistant Park Manager, covered park procedures and answered

questions regarding volunteer duties. The Nature Center is open to the public every Saturday and Sunday from March 19 to November 27.

FoGISP Board President, Steve Alexander, thanked the group for volunteering and shared goodie bags and t-shirts from the FoGISP Fun Run. Tawy Muehe outlined the procedures at the Nature Center. She also pointed out the importance of logging in the numbers of visitors to the Center and those who go on the interpretive tours. TPWD needs to document all park visitors so that more funds may be forthcoming from the Legislature. Tawy will also compile all the volunteer hours to be submitted to the state headquarters.

Bill Ashby identified the many items on the touch table so volunteers could better answer questions from park visitors.

Interpretive tours of the beach and bay shore are provided every Saturday (to the beach) and Sunday (to the bay shore). Scripts, PowerPoints, and magazine articles were provided to the group to enhance their

knowledge of these habitats. Nathan Veatch, Educational Coordinator, called for volunteers to host the 16-school fieldtrips presently scheduled at the park. Many elementary schools will bring 50- 60 5th-graders and several high school Aquatic Science classes have scheduled spring fieldtrips. Also two groups of 100 are scheduled. We try to maintain a ratio of one guide to each 10 students as an optimum educational field experience. Best of all, these students are learning about nature OUTSIDE!

If you interested in helping host school fieldtrips or doing interpretive tours at the park, visit the Nature Center any Saturday or Sunday at 10 a.m. and go on one of the guided interpretive tours. This will prepare you to help, and you may count this as Advanced Training. Contact Nathan at nveatch@swbell.net

Need a great place for a family outing for out of town visitors? Come to the park and take one of the tours. For more information, visit the FoGISP website: <http://www.fogisp.org/Activities.htm> and enjoy the videos created by Frank Bowser..

Raptor Workshop by Diane Humes

The annual Raptor Workshop, hosted by GBAC-TMN, was held March 7, 2011, at the AgriLife Office in Dickinson. As usual, the evening included food, fun, and friendship; speakers were Margaret Pickell, Diane Humes, and Dick Benoit.

Raptors are birds - hawks and owls - that are defined by having keen senses of sight and hearing, strong talons, and strong beaks that are large and adapted for tearing meat. Our local hawks - diurnal raptors - have their counterparts among the owls - nocturnal raptors. For example, the northern harrier fulfills the same daylight niche as the barn owl does at night, as do the red tail hawk and great horned owl, red shouldered hawk and barred owl, Harris hawk and burrowing owl, American kestrel and eastern screech owl.

Margaret Pickell spoke of her experiences with wildlife rehabilitation and education, and listed several reasons for a raptor to need assistance. For adult birds, the primary causes are electrocution, steam releases causing feather damage, various traumas, parasites and disease. For baby birds, the most usual reason is "kidnapping" or a fall from a tree, resulting in injury, or capture by a dog or cat. A surprising number of birds are trapped in backyard batting cages. Fortunately, wildlife rehabilitators like Margaret are there to care for the birds and other critters. They always need help and supplies, and may need assistance soon in building a new flight

cage. Contact them at www.wranded.org or 713-861-9453.



screech owl and peregrine falcon

Diane Humes talked about the five owls - nocturnal raptors - most likely to be encountered in our area: barn, barred, burrowing, great horned, and eastern screech owl. There are 18 owls in North America, many in the western states and far northern regions. They are generally not migratory. A few interesting websites for more information are: www.peregrinefund.org, www.hawkwatch.org, www.birds.cornell.edu,

www.lab.fws.gov/featheratlas, www.audubon.org, and <http://txtbba.tamu.edu>.

In 1972, bird watchers noted the complete absence of peregrine falcons east of the Mississippi, prompted by multiple causes including use of DDT. Since those days, their numbers have increased, and organizations and individuals have made it their business to count all raptors and track population trends. Dick Benoit described the diurnal raptors of Galveston Bay to prepare prospective and returning hawk watchers for the spring

migration count. He spoke of identification tips and challenges of counting raptors during migration. Migration begins now; birds are "all dressed up and ready to go" after the vernal equinox. The hawks take advantage of rising thermals and avoid going over bodies of water. Hawk-watch sites are Sylvan Beach for a north wind, and Little Cedar Bayou Park for a southerly wind, both in La Porte. Be there, prepared for sun, wind, cold, hot, and, perhaps, a great day with thousands of hawks overhead!

Galveston Bay Area Master Naturalists Impact Dolphin Challenge!

by Julie Massey

The Dolphin Challenge Regional Competition of the National Ocean Sciences Bowl (NOSB) was held in College Station in February. Texas Sea Grant hosted the event and the 14 teams from 10 schools that competed!

In the end, the showdown was between Langham Creek and Lubbock high schools. After two rounds in the finals, Langham Creek High won! (Below)



Master Naturalists and the Friends of Galveston Island State Park hosted field trips to GISP for Langham Creek and Dawson high schools! These field experiences really make a difference to a student's knowledge base!

In addition, Texas City High School won second place in the first Oceans Video contest held this year. The students received a flip video camera and accessories donated by the Galveston Bay Area Master Naturalists. Their teacher, Lisa Castaneda, participated in our 2010 Treasures of the Bay Educators Workshop. Lisa put what she learned in the Treasures workshop to work with her students. It was great to hear the students talk about Galveston Bay on the big screen!

Master Naturalists once again are "Making a Difference in the World!"



Dawson High School, from Pearland, won the Ralph Rayburn Sportsmanship Award!

TX AgriLife Implements Partial Cost-Recovery Program

Appropriations from federal, state and local governments have long upheld the national extension education system, representing a partnership to extend the benefits of research-based knowledge to the lives of Americans. Auxiliary funding is also essential for extension education in Texas and across the nation.

Effective March 1, 2011, the Texas AgriLife Extension Service implemented a partial cost-recovery program to stabilize and reinforce the agency's program delivery network.

Cost-recovery programs are not new to AgriLife Extension. Examples include registration fees, publication and manual sales, and fees for soil, water and forage samples. The mechanisms for cost recovery will be transparent.

For group educational meetings, if a registration fee is \$100 or less, the agency cost recovery rate is \$10 per

participant. If the registration fee is more than \$100, the minimum rate is 10% of the fee per person.

So what does this mean for Galveston Bay Area Master Naturalist? A portion of future Training Class registration fees will go to the AgriLife cost-recovery program. For example, if the training class cost is \$140 per person, \$14.00 per person will be sent by the chapter to the AgriLife cost-recovery Program. Traditionally, Master Naturalist programs and activities such as advanced trainings are free. I expect this to continue. Special circumstances may exist, such as the Trinity River Trip, which had a \$40 per person fee. The cost-recovery program fee may be implemented in these situations.

Texas AgriLife Extension Service values your contributions to the Master Naturalist Program and natural resource restoration and education! I hope you will work with me and the Chapter Board members as we implement this program.

If you have any questions, please give me a call, 281-309-5063, or drop me a line at jmassey@ag.tamu.edu.

Thank you!
Julie

Management of the Red Harvester Ant edited by Diane Humes

The most common harvester ant species in Texas is the Red Harvester Ant, *Pogonomyrmex barbatus*, a species of open grassland or arid habitats. They are fairly easily identified by their large size - up to a half inch - and their large circular nest mounds - up to 39 inches in diameter - cleared of vegetation in a circular pattern of bare ground around their nest. This is often covered with small pebbles dug from within the nest itself. Trails extend in various directions from the main mound leading to various foraging zones.



Nest of red harvester ants

Near the entrance to the nest is an area called the midden - the "trash dump" for the colony. It is where the ants deposit pebbles, dead workers, unusable matter from plants and animals brought in by foragers. Below ground, tunnels and chambers inside a mature nest extend downward an average total depth of about 6 feet.

The first chamber encountered when an ant enters the nest is the sorting chamber, where foragers drop their bounty and head back out for more. Extending beneath the sorting chamber are tunnels leading to storage and brood chambers. Storage chambers contain seeds neatly

stacked and stored for consumption. Brood chambers contain young and/or the queen.

The average colony contains around 10,000 individuals, all produced by a single queen over her lifetime of 15 to 20 years. When she dies, the colony dies. She is not replaced. Alates are fertile males and females that leave the colony, mate, and begin new colonies. They do not contribute work or offspring to the colony that produced them. Workers are sterile females.

Within the worker class, there are several occupations that each will perform over the period of her one-year life - nest-maintenance worker, midden worker, forager, and patroller. Nest-maintenance workers are the youngest workers and the most numerous. They tend the queen and her young and perform routine maintenance to the nest.

Maintenance workers venture no more than a few feet into the outside world. They sort seeds from debris in the sorting chamber and transport them to the lower sections of the nest. Toward the end of her life, a maintenance worker becomes a midden worker. She takes out the "trash" and moves it to the midden. Midden workers may become foragers, when forager numbers become reduced, or when a food windfall occurs. Workers may be foragers until they die, or they may shift again and become patrollers.

Harvester ants gather seeds. Native grass seeds make up the majority of their diet, but they may also gather seeds of other plant species. They are also known to eat animal matter. Harvesters do not forage at night and may even plug the entrance to their nest.



As the sun rises, patrollers are the first individuals to emerge. They fan out in foraging zones up to 130 feet from the nest. Patrollers decide which zones to search, locate food sources, and then head straight back to the nest leaving a chemical trail to the food. Foragers are then sent to collect the food.

The queen produces sterile workers from the beginning to the end of the colony's life. At about five years of age, she begins producing alates, reproductive males and females. In springtime, on the first clear day after rain, it is thought that the first female alate reaching a suitable spot for mating will emit a chemical signal attracting all neighboring alates to that spot. They breed in a writhing mass on the ground during the afternoon.

Once a female has mated with several males, she will shake them off and fly to a seemingly random location. She will dig down about 18 inches and may never return to the surface. She will begin producing workers, and with luck she will succeed at starting a new colony.

Red harvester ants have many natural predators, the most-well known of which is the Texas horned lizard. As harvesters decline or are eliminated from an area, Texas horned lizards are eliminated as well. Many creatures prey on harvester ants, but it is not the natural predators that are causing the decline in harvester populations.

Natural predation is part of the life cycle and is not problematic.

Imported fire ants are impacting harvester ant populations by more efficiently gathering food within the harvester's foraging zone, and eventually starving the colony. Indiscriminate use of insecticides also has taken a heavy toll on harvester populations. Many people have waged war directly on harvester ant colonies, not realizing how fascinating and valuable they are. Moreover, they inadvertently do so by broadcasting insecticides intended to kill fire ants. This kills fire ants, but unfortunately it kills native ants (including harvesters) as well. Once native ants are eliminated from an area, it becomes even easier for fire ants to invade again.

Though difficult, it is possible to transplant or reintroduce harvester ants to a property where they no longer exist. By using an extremely large tree spade and removing the entire colony during the night when they are inside, some people have been successful at moving mounds. Harvester ants are fascinating and highly beneficial insects, crucial to the survival of the Texas Horned Lizard. Though there are pockets in our state where harvester ants are plentiful, the Red Imported Fire Ant is directly challenging their survival. **(NOTE: Mark Klym, TPWD, states that the spread of carpet grass is actually the culprit in eliminating red harvester ants not fire ants.)** To help harvester ants thrive, fire ant populations must first be reduced to minimal levels and then an active management strategy to benefit harvesters directly can be implemented. Harvesters are seed eaters; by planting native grasses within the forage zones of harvester ant mounds, landowners can provide long-term food supplies. A more immediate, albeit labor intensive, approach is to feed harvester colonies directly using feeding stations. If you have harvester ants on your property, appreciate them and do what you can to ensure the continued survival of this fascinating member of our native ecosystems.

Management of the Red Harvester Ant by John Davis, TPWD, edited by Diane Humes
For full text, including fire ant control methods, see: www.tpwd.state.tx.us/publications

Spring Class Collage by Mel Measeles



Croc captured in ARMAND BAYOU PRESERVE! This photo was taken in Armand Bayou near Bay Area Boulevard....



I don't think it has been computer altered - the image looks real.

Midden Editorial Team

- | | |
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The Midden

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For comments on this issue or to suggest content for future issues, please contact **Nathan Veatch** at 281-480-6985 or by e-mail at nveatch@swbell.net

The Midden Deadline
For the June Issue

May 9

If you have Advanced Training or Volunteer Opportunities, please submit information to Diane Humes treimanhumes@earthlink.net



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