Narrow leaf sunflowers by Diane Humes

Galveston Bay Area Chapter - Texas Master Naturalists December 2015

Table of Contents

Next Chapter Meeting

Dec. 3rd

Annual Awards Celebration and Officer Election

6:30 p.m.

At Carbide Park Community Center

President's Corner by Maureen Nolan-Wilde, President 2015

On behalf of the GBAC-TXMN board, I would like to thank you all for making 2015 a year of treasured memories and incredible accomplishments. Your volunteer service and spirit makes this chapter one that is respected and appreciated by our partners and community.

In October at the TXMN State Conference, Jim Duron and Diane Humes were recognized for reaching the incredible 10,000 volunteer hours service milestone. Our chapter now has the honor of having four of the ten MN who have achieved this honor. *The Midden* was awarded the best newsletter for the second year in a row, while photographs by Verva Densmore and Deborah Repasz were both awarded first-place blue ribbons.

One project that I am particularly proud of this year is our transition from our former reporting system to the state-wide Volunteer Management System (VMS). Thanks to Jim Duron and his team for making this transition as seamless as possible. This could not have been possible without your support. Our process and approach are being leveraged by the State as examples for other chapters to follow.

Please know that the work that you have done and continue to do makes a difference. As a result, our chapter is being asked weekly by other organizations to assist them in their work.

I am looking forward to seeing you on the beach, at the bay, in the prairie or classroom in 2016. Enjoy the season and be safe.

Winning photos - Deborah Repasz's on left and Verva Densmore's on right.

Prairie Ponderings: Prairie Pandemonium by Diane Humes

"Much of the land in the Lower Galveston Bay watershed was covered in prairie when the first written accounts were made." (Weniger 1984)

As Marsh Mania is to the wetlands, so Prairie Pandemonium is to the prairie. As conceived at Armand Bayou Nature Center, it is a wonderful opportunity for people to experience the thrill of helping to restore the rarest habitat - coastal tallgrass prairie - at the most beautiful time of the prairie year. Just imagine 100+ people planting 2000+ plants and you will know how it got its name!

Photo by Lyman Brown

A popular event since its debut in 2007, this year's Pandemonium was held on October 17. The day dawned sunny and cool, "where never was heard a discouraging word and the skies were not cloudy all day" - prairie paradise for 117 volunteers. Prairie Friday volunteers and ABNC staff had grown the 2,250 brightly-colored flowering forbs from collected seed to robust one-gallon size and were on hand to assist their planting. After a perfect day on the prairie, all hands enjoyed a well-earned lunch provided by the Nature Center, hoping to be rewarded in future years by splashes of yellows and purples mingling with the greens and browns of prairie grasses.

Another planting event opportunity of this magnitude, Green the Prairie, will take place at Sheldon Lake State Park on November 14, where volunteers also grow up native plants until they are ready to install out in the wild. As a volunteer, you trust that all your hard work will translate to successful habitat restoration, and, happily, mostly the plants do thrive!

Prairie habitat restoration is important for wildlife and people and for improving the health of Galveston Bay. In Harris County alone, probably 500,000 acres of prairie have been lost to development. As outlined in the Galveston Bay Plan, "Two hundred years ago the vast coastal prairie supported a large, diverse food web that contained buffalo and prairie chicken as well as large predators such as red wolf, black bear, cougar, and other animals. Over time, these species were replaced by humans and their domestic species. There are still deer, coyote and bobcat, but the abundance and variety of large animals is greatly reduced."

A focus for the Galveston Bay Area Chapter - TMN is implementation of the Galveston Bay Plan; to that end our chapter members participate in many prairie (and wetland) restoration activities at Texas City Prairie Preserve, San Jacinto State Park, Galveston Island State Park, Deer Park Prairie, Katy Prairie, as well as at Armand Bayou Nature Center and Sheldon Lake State Park.

This year we have an opportunity to learn about the status of all Galveston Bay Plan efforts by attending the "10th State of the Bay Symposium: 20 Years of Successfully Preserving Galveston Bay", January 13-14, 2016 at the Moody Gardens Hotel and Convention Center in Galveston, Texas. For more information, contact the Galveston Bay Estuary Program: gbep.state.tx.us.

Wetland Wanderings: Seen a river otter, lucky you! by Lana Berkowitz

Spotting a river otter in the wild is something special.

Mark Kramer remembers the first time he saw a river otter at Armand Bayou Nature Center. "I began paddling the bayou in my youth in 1972, so when my first otter sighting occurred in 1995, it meant a great deal to me," Kramer wrote in reply to GBAC-TMN email questions. "I happened to be near the water's edge throwing a cast net when I heard a call/vocalization that I didn't recognize. I lay on my belly at the edge of the water waiting for the animals to swim past – a mother with three pups! I was so moved that I wrote an article in the ABNC newsletter about it," he said. "They are simply the most charismatic animals on the refuge." ABNC stewardship coordinator Kramer, who is on the water a lot, said he sees river otters eight to 10 times a year. He was paddling in his kayak for his last sighting.

Marissa Sipocz, who has been leading wetland restoration at Sheldon Lake State Park for the past 13 years, was excited to see a river otter a few months ago crossing Park Road 138. She has seen otters only two or three times previously. "I was totally shocked when I watched him hop across the road, thinking: 'Oh my goodness, that's an otter! How cool! So adorable!!'" Sipocz and Kramer believe the sightings indicate a healthy habitat with abundant food and a quiet place to relax and raise their young.

Texas Parks and Wildlife Department's river otter specialist agrees. Gary Calkins, district leader for Piney Woods ecological area, has been on river otter watch for 12 years and collecting sightings the past nine years for a study. Our river otters (*Lutra canadensis*) are indicator species and opportunistic hunters, he said. They eat fish but especially like crawfish, frogs, tadpoles and blue crabs, which are sensitive to pollutants. They often feed at dawn or dusk.

River otters generally live in hollows near water. They can live eight to nine years in the wild. There are one to six pups in a litter. Their slender bodies with short necks and legs covered with glossy dark brown fur help make them acrobats in the water. They can hold their breath up to eight minutes underwater. Members of the weasel family, they weigh 11 to 30 pounds. They live in fresh water but will hunt in brackish water and along the coast. Calkins notes that sightings have been reported at the Kemah Boardwalk.

River otters make an impression when spotted because while they are secretive, they can appear playful and will interact with people up to a point, Calkins said. The good news is that TPWD research shows the web-footed mammals have been spreading rapidly back into their historical range in Central Texas since the 1990s. The numbers had been down due to trapping and habitat loss. Calkins has recorded sightings in the San Antonio and Wichita Falls areas, well beyond the Eastern corner of the state where many of the state's otters reside.

However Calkins says it is impossible to get accurate population numbers because otters are elusive. Biologists collect information from legal trappers, indicator surveys, road kill and signs of tracks and scat. Personally Calkins has seen only four river otters in the wild. His first sighting was in the Jasper area. "I was pretty jazzed," he said. Sharon Schmalz and staffers at the Wildlife Center of Texas get up-close with two to five river otters every year. They bite, warns Schmalz, WCT executive director. This year two young ones have arrived at WCT for rehabilitation. Each case is special, she said.

One of the river otters was found by someone who kept it for eight weeks before taking it to WCT. "At that point he was very underweight and severely malnourished and in poor condition overall. His case was a testament to why we ask people to bring animals as soon as they can for the best care possible," Schmalz said. The second one was found orphaned on a beach by a Good Samaritan who took it to the center, 7007 Katy Road in Houston. Both animals went through WCT rehab and were transferred to a rehabilitator near Tyler who will care for them about a year before releasing them into a habitat on her property.


Photo provided by TPWD

River otters are little contradictions, Schmalz said. "They are very intelligent, playful, and social; all qualities humans possess. So it's natural for those of us working with them to respond to those qualities," Schmalz said. "However otters are by no means tame. Mother otters discipline their young by nipping at them and siblings nip at each other when playing. So when handling them they have a real tendency to bite a lot. And they have very sharp teeth and strong jaws. They have these adorable faces and personalities, but their demeanor and energy level make them one of our more challenging patients. But of course, our staff and dedicated volunteers love every minute."

Beach Patrol: More Sand for Nesting Sea Turtles by Steve Alexander

With summer vacations over and kids back to school, our beaches have reached their usual fall to winter lull. But while crowds have thinned, warm sunny days still bring a scattering of beachgoers. One of the places they're flocking to is the new stretch of beach created west of 61st, the result of recent beach nourishment mentioned in the last issue of *The Midden*.


Photo by Steve Alexander

Any recent traveler along the seawall west of 61st has witnessed this beach nourishment project in action. Passers-by can see a sand and water slurry spewing out of a pipeline onto the beach. Once deposited, the new sand is moved around and leveled, the resulting wide and expansive beach looking quite attractive. And that, of course, attracts beachgoers.

This west end beach nourishment project isn't the only one to be conducted along our beachfront. Another project is planned to begin in January 2016 when beaches from 14th to 61st streets will be nourished with sand. When this stretch is finished, it's projected that come spring break, Galveston visitors will be able to enjoy seven miles of newly expanded beaches.

Will nesting sea turtles celebrate this good news along with beachgoers? T. J. Fox reported in the October 2015 issue of *The Midden* that 159 sea turtle nests were located along the entire Texas coast in 2015, and that 11 nests were found along our stretch of coast. Both numbers are up from the past two years.

So, all in all, things are looking up along our beachfront. Not only will we have longer stretches of expansive beaches, but also the possibility that greater numbers of sea turtles will be using these beaches for nesting next season.

Welder Wildlife Refuge by Cindy Croft and Chris Anastas

It was a long drive to the Welder Wildlife Refuge from Galveston County, but time flies when you have good friends to keep you company along the way. The Rob and Bessie Wildlife Foundation established in 1954 is a private, non-profit, funded by an endowment to conduct research and education in wildlife management and conservation. The Foundation annually funds up to ten fellowships to graduate students supporting research and advanced degrees. It is the largest, privately endowed wildlife refuge in the world!

Arriving at sunset Sunday evening October 11, more deer than you could count and a good number of armadillos were the official greeters, not counting TJ Fox at the gate, who organized this trip. The hub of the refuge is comprised of a number of structures - all white stucco with red tile roofs. The bunk house and the screened rotunda with its large meeting area and kitchen comprised our quarters. The museum and education buildings were within a short walking distance via paved pathways; which was a good thing because the local wild hog population had been busy tilling the surrounding ground vegetation leaving large ruts everywhere.


Photo by Nancy Saint

The first evening TJ gave a presentation on the history of the lands the refuge encompasses, which is currently 7,800 acres. The first inhabitants were the native Indians living in a tall grass prairie. Welder has at least six primitive archeological sites, but the tall grass native prairie is mostly gone, having been taken over by shrubs

and invasive Old World bluestem. Research is ongoing to mitigate this problem and restore the native species.


Photo by Host

Up bright and early Monday morning, the three hour hike after breakfast took its toll on most of us. It was hotter than expected and there was very little shade. Our task was to use a dichotomous key to identify the local trees. A couple of characteristics seemed to be consistent among the various species; most had thorns and small leaves, adaptive traits to keep from getting eaten and conserve water.

After lunch (donated by Bay Area Meat Market on Kirby Rd, - except chips & drinks) everyone had recovered from the morning hike and was ready to go again. On our next adventure we got to ride through the refuge to see some of the research plots which included cattle, and very pretty, but unwanted pastures of Old World bluestem. The refuge has 16 habitat types and 22 soils types within its boundaries. One area we drove through with acidic sandy soil was covered with a sea of tall silver-leaf sunflowers in bloom. Adjacent areas included low wetlands filled with water lilies, cattails, and birds. Lots and lots of birds graced the landscape. When we pulled up, a flock of red-winged blackbirds took off in unison, circled around, decided we were all right, and came back. Pink spoonbills and white egrets, plus many more hiding in the grasses, made a loud noise. Then someone said, “Look, up in the sky! It’s a kite, it’s a kestrel, and what is it anyway?” The debate was in progress as to the unknown’s identity when Don Bowman drove up. What a coincidence! He tentatively identified the bird as a Collared Forest Falcon which set off a buzz of excitement among the avid birders present. Mitch Philpott had captured a photograph of the bird in flight and took on the task of having the bird verified. The bird was eventually identified as a juvenile Cooper’s hawk after we returned home. But what a day! The sun was heading down, shining through the silver-leaf sunflowers, when we headed back to the bunkhouse.

It was after supper and dark when the lucky thirteen GBAC members attending this field trip headed over to the education building to hear a talk on the Conservation of the Whooping Cranes. Ray Kirkwood’s presentation took us from the discovery of the flock that was left after its decimation from hunting to current day efforts to save the species. Habitat and food requirements seem to be the main limiting factors for the continued recovery of the whoopers. They require 300 acres of land to support a breeding pair and chick along our Gulf Coast. The Whooping Cranes’ main food source, the blue crab, is abundant, but threatened as more fresh water is diverted from rivers and streams that flow into the areas they inhabit. Higher salinities mean fewer blue crabs. Fewer blue crabs translate into less food for the Whooping Cranes. There is currently a pending lawsuit to suspend fresh water diversion of the Guadalupe River. Hopefully, the cranes and crabs will win this fight.


Photo by Nancy Saint

Our last day, Tuesday morning dawned and found the lucky 13 packing and cleaning and getting ready to head back home, but our fun wasn’t over yet. We still had the library, museum and private collection to visit. The library is a unique step back in time with lighted wooden book cases filled with books donated from private collectors and a card catalog. The museum features dioramas of local wildlife in their habitat. Collections include bird eggs, a herbarium, Don Bowman’s birds and bird skins, some dating into the 1800s. The Bowman collection contained specimens of 2 extinct birds, the passenger pigeon and the heath hen. A surprise was learning that one of our own, Martha Richeson, had collected specimens for the herbarium in the late 1960’s! If we ever have an opportunity to go back as a group, the trip is worthwhile. Check out their website for future events and tours at www.welderwildlife.org.

Instructors for our visit included Dr. Selma Glascock, Asst. Director, and Ray and Kris Kirkwood, members of the Mid-Coast Chapter TMN - TJ's former stomping ground. Many thanks, TJ, for arranging this great trip!

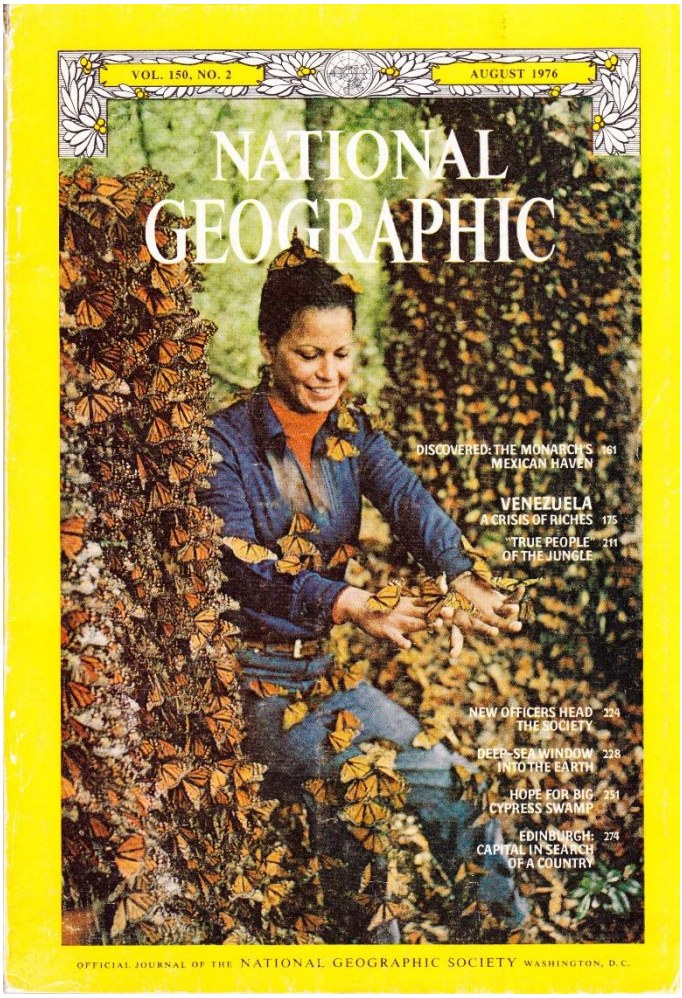
Texas Pollinator PowWow by Madeleine K. Barnes

The third Texas Pollinator PowWow was held on September 19-20, 2015 at Schreiner University in Kerrville. The mission of this conference is “To provide education, resources and networking opportunities to natural resource management professional and volunteers – and the community at large – and to empower them all in conserving our pollinators and their habitats across the landscape.” Birds, bats, bees, and butterflies were the talk of this two-day event attended by 246 people from 49 counties in Texas, six other states and the District of Columbia. Attendees were master gardeners and master naturalists, educators, students, landowners, farmers, and ranchers.

The twenty speakers and twenty-eight exhibitors at this conference are involved in a multitude of best practices in pollinator conservation and monitoring, seed and plant research, production and distribution, citizen science programming, natural resource and wildlife management of both private and public lands, and scientific coordination in the arena of pollination ecology. All were on hand to answer questions, provide resources, and showcase their organizations. Topics included native plants and bees, Monarch butterflies, beetles, bats, monitoring programs, seed propagation and horticulture, urban and rural land management.

One of the most interesting speakers to me was a volunteer (like us) who became an independent field assistant for Dr. Fred Urquhart. No one knew where the migrating Eastern Monarchs went for the winter once they left the U.S. and Dr. Urquhart wanted to find the site, but could not do this himself. He enlisted Catalina Aguado (Trail), who began searching for the Monarch overwintering site in 1973 and spent two years on this quest. When she found them, her picture appeared on the cover of *National Geographic,* August 1976, along with an article by Dr. Fred Urquhart, “Found At Last: the Monarchs Winter Home”, in which she said, “I gazed in amazement at the sight. Butterflies—millions upon millions of monarch butterflies! They clung in tightly packed masses to every branch and trunk of the tall, gray-green oyamel trees. They swirled through the air like autumn leaves and carpeted the ground in their flaming myriads on this Mexican mountainside. Breathless from the altitude, my legs trembling from the climb, I muttered aloud, 'Unbelievable! What a glorious, incredible sight!'"

In addition to Mrs. Trail, Dr. Rebeca Quinonez, Executive Director, Forests for Monarchs, spoke about the current status of the isolated oyamel forests in the mountains of Mexico. The rate of deforestation for these areas was 44% from 1971 to 1999 and continues today on and around the refuge. She is tasked with promoting education to protect nature, while working to ensure sustainability for both people and wildlife. The economic resources available to the local people are limited and illegal logging does provide a source of income in that area of temperate forest.



On a local Houston note, a group of students and teachers from the Green Institute at Furr High School and their principal, Dr. Bertie Simmons, presented their video and spoke about their Green Ambassador program, an initiative completely driven by at-risk youth. Students in this program educate others in their community about horticulture, conservation, and investigate sustainable practices. They also entertained the conference attendees with a rap song about the Four R’s of Recycling: Reduce, Reuse, Recycle, and Rot - composting. Furr High School, with the committed support of Principal Dr. Bertie Simmons in partnership with other organizations, has created a green model for green communities.

Other notable speakers included Dr. Merlin Tuttle, who gave an excellent presentation on bats and their highly sophisticated social systems, Mike Quinn, Texas State Entomologist, who spoke about beetles, and Dara Satterfield, PhD candidate, who spoke about the Monarch Health Project. Dr. Lincoln Brower was unable to attend; however, his video presentation on Monarch Health was available.

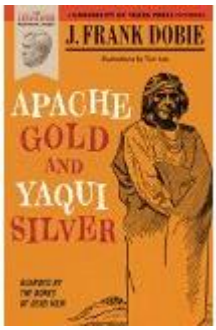
Dr. Brower and others have found that the availability of non-native tropical milkweed, *Asclepias curassavica*, can have negative consequences on the Monarch population. Winter larvae feeding on tropical milkweed have higher risks of becoming infected with OE parasites. The recommendation is to replace the tropical milkweed with native milkweeds (dormant in winter). If you already have tropical milkweed in your garden, prune the milkweed stalks to about 6 inches in height during the fall and winter months (before the migration) to discourage monarchs from establishing winter-breeding colonies*. Cutting back the milkweed will also help to eliminate OE spores that may be present on the plant. Re-cut the milkweed every few weeks as leaves re-sprout.

What can you do to help conserve our native pollinators? Learn more about the conservation challenges they are facing and what they need to survive so that you can educate others. If you have a yard, include both native nectar and host plants that bloom during spring, summer, and fall seasons for pollinators. Take a training class about native bees and how to make a mason bee block, Mel Measles will be offering another workshop in 2016. Report sightings of Monarch butterflies on the Journey North website or app. Take a class with Vic Madamba and sign up to tag/sample for OE parasites in Monarchs.

For additional information, please see:
www.monarchwatch.org
www.monarchjointventure.org
www.learner.org/jnorth (Journey North website)
www.xerces.org
http://www.merlintuttle.org/
http://texasento.net/
http://tpwd.texas.gov/publications/pwdpubs/media/pwd_rp_w7000_2070.pdf
https://www.youtube.com/watch?v=g_1SR0wkDkE
http://www.greenschoolsalliance.org/featuredschoolpage/el-furr-high-school

Heritage Book Study: Review of *Apache Gold and Yaqui Silver* by Madeleine K. Barnes

The book selection for August and September 2015 was the J. Frank Dobie's investigation of lost mine dreams and tales in *Apache Gold and Yaqui Silver*.



This book chronicles Dobie's search for folktales that take you on the trail of gold and silver mines. Saddle up for a ride that explores the Southwestern mountain frontier, the native Americans who treasured the land, and the prospectors who willing gave their time, their money and for many their lives in search of elusive fortune.

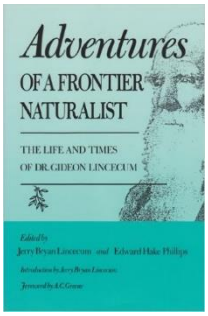
The amazing thing is that these rough and tough men would drop everything to follow some story that they half heard with little detail or direction. In the telling of the tale, they would describe the land's rugged beauty, the plants, and the wildlife that they saw and hunted. Along the way, there were wild goose chases and

2016 Heritage Book Study Selections

Jan/Feb: *Letters to A Young Scientist* by Edward O. Wilson
March/April: *Legends and Lore of Texas Wildflowers* by Elizabeth Silverthorne
May/June: *Formation and Future of the Upper Texas Coast* by John B. Anderson
July/Aug: *Sharing the Common Pool Water Rights in the Everyday Lives of Texans* by Charles R. Porter
Sept/Oct/Nov: *A Journey through Texas* by Frederick Law Olmstead (possibility of starting next book in Nov also)
Dec/Jan 2017: *The Sixth Extinction An Unnatural History* by Elizabeth Kolbert

confrontations with Native Americans where many did not come back to tell what happened. Those that did find the gold and silver were the exception and these very few either perished with it or could not find their way back to the motherlode. The tales portray a human tragedy for both Native Americans and the frontier prospectors. The book follows the trail of The Lost Adams Diggings, The Lost Tayopa Mine, and others that still inspire modern day treasure hunters to take up the dream.

Our current reading selection is the autobiography *Adventures of a Frontier Naturalist The Life and Times of Dr. Gideon Lincecum*.



We will meet on December 7th to discuss the second half of the life story of this historic naturalist. Beginning January 4th, 2016 we will be discussing the first half of *Letters To A Young Scientist* by Edward O. Wilson.

We welcome your participation each month for two hours on the first Monday of the month starting at 10:00 a.m.at the Agrilife Extension office.

We look forward to seeing you!

State of the Bay by Diane Humes

At our October chapter meeting, we heard Anja Borski from the Galveston Bay Foundation describe its recently issued Report Card for Galveston Bay, based on the parameters of water quality, coastal change, human health risks, habitat, wildlife, and pollution events and sources. The Report Card - the first - is designed to be simple for the public to understand; GBF intends to update results yearly and, hopefully, we will be able to see progress.

Although not all is dire, the overall grade for the health of Galveston Bay was a 'C' - not a grade I planned to see on my report cards! The average was brought down by 'D' grades, indicating not just lack of progress, but worsening conditions in the categories of habitat, wildlife, and pollution events and sources.


Photo by Mike Wehrman

So, why did habitat almost get a failing grade? Seagrass and freshwater wetland habitats are those in the most trouble around the bay. Many freshwater wetlands remain unprotected and many have been lost to development, despite the policy of "no net loss of wetlands", in effect since 1988 when it was enacted by President H. W. Bush. Seagrasses provide valuable habitat for juvenile fish; shellfish require clear, clean water and are indicators of good water quality. Both seagrasses and shellfish have seriously declined everywhere in Galveston Bay.

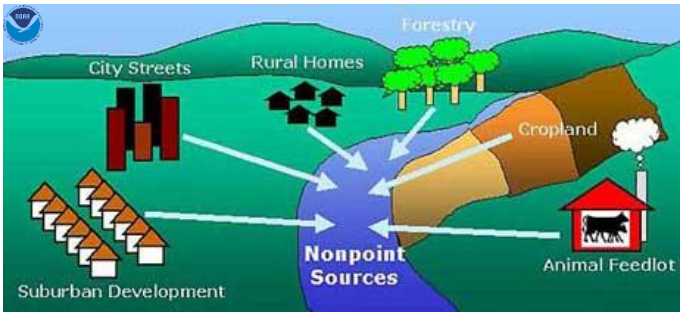
In addition to wetlands, the extent of oyster reefs in the bay is problematic and declining, but not completely known; the most recent map of their extent is from 1994 and has not been fully updated. Oysters, the bay's vital water filtration system, have been seriously affected by storm surges, drought, and over-harvesting. It remains to be seen whether oyster reef restoration has kept pace with oyster reef loss.

In the wildlife category, colonial water bird and finfish populations on Galveston Bay are maintaining their numbers, but shellfish populations, especially blue crab and pink and brown shrimp, are in steep decline and also received a grade of 'D'. Shellfish population numbers are indicators of food availability for the ecosystem and of quality and quantity of suitable habitat.

Finally, Galveston Bay received a grade of 'D' for pollution events and sources, not helped by the recent oil spill of March 2014. The Galveston Bay area has legacy pollutants in the sediments contaminating the waters - industrial toxic wastes were cheaper to dump and the consequences unknown (shall we give them the benefit of a doubt?), such as the San Jacinto River Waste Pits near the mouth of the Houston Ship Channel and the Brio Superfund Site on Clear Creek. Because of heavy metals and organics in the sediments, many areas of the bay have seafood advisories about whether or how much fish it is safe to catch and eat. Also, trash and litter entering our bay are a continual pollution problem; since it is unmonitored, the extent of the problem cannot be quantified.

The health of Galveston Bay, its problems and goals toward solutions, are outlined in the Galveston Bay Plan. This document, produced by the Galveston Bay Estuary Program and approved by the governor of Texas and the

U.S. Environmental Protection Agency in 1995, is the framework guiding local environmental action, the Galveston Bay Foundation, and our chapter's mission. The Galveston Bay Plan is not the only document of its kind in the U.S. When the Cuyahoga River caught fire in 1969 - and not for the first time - the country realized it had a problem that needed solving. Our bi-partisan Congress re-wrote the Federal Water Pollution Control Act of 1948, amending it with the goal of stopping pollution of U.S. waters and making them swimmable and fishable within a decade. This legislation, known as the Clean Water Act of 1972, made it unlawful to discharge a pollutant from a pipe without a permit, provided funding for wastewater treatment plant construction, and gave the EPA authority to set and enforce surface water quality standards. President Nixon vetoed the legislation, fearing the cost of wastewater treatment plants, but our Congress immediately overrode his veto; forty years later it is almost unthinkable (and still illegal) that industrial pollutants and raw sewage should be purposefully dumped into rivers and lakes. Our waters are not all fishable and swimmable, but they are no longer flammable!



That was point source pollution; non-point source pollution has proved more difficult to curb, as it is largely unregulated. A compromise in the original legislation exempted runoff from agricultural fields and irrigation ditches from regulation. So, we still have pesticides, manure, oil, and trash in our waters, polluting our rivers, lakes, bays, and ocean. In addition, we have a much larger population, a myriad of new personal care products and medications, plus aging water treatment infrastructure, all posing new challenges to clean water.

The Clean Water Act regulates surface water pollution; groundwater contamination comes under the Safe Drinking Water Act, the Resource Conservation and Recovery Act, and the Superfund Act or Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), which gives the EPA authority to oversee clean-up of released materials deemed hazardous to public health or welfare or the natural environment, but not of contaminants not deemed hazardous. Amended several times since 1972, the Clean Water Act in 1987 stipulated creation of the National Estuary Program, a network of voluntary community-based programs to safeguard the health of 28 important coastal ecosystems - including the Galveston Bay Estuary Program, which led to the creation of the Galveston Bay Plan. It was designed to be implemented over a 20-year period with evaluations every five years. Progress has been made on all 82 actions originally identified in The Plan, but, as the Report Card shows, there is much to be done.

This is year 20, and we know we have been working hard; it is very important to learn the results of everyone's hard work. Plan to attend the State of the Bay meeting, sponsored by the Galveston Bay Estuary Program, January 13-14, 2016 at Moody Gardens Conference Center in Galveston to hear the reports and look into the future and try to understand what we need to do to get all 'A's on our next Report Card.

State Meeting by Diane Humes

The 2015 State Meeting was the biggest one ever - 475 people attended, including master naturalists and presenters, from 42 of the 44 chapters in Texas. Despite near total rain, flash flood warnings, and hurricane remnants, all 12 of our chapter members remained in high spirits. We attended classes, received milestone and other awards, bid on silent auction items, renewed acquaintances, and enjoyed meals together.

A few statistics through December 2014: 862 new master naturalists were trained in 2014 - 9,676 in total. Master naturalists spent 398,811 hours in volunteer service in 2014; cumulative volunteer hours total 2.833 million! These hours are valued at $65.16 million, meaning our labor is worth $23.00 per hour!! I think we got a raise!!!! Master Naturalists accumulated 51,431 hours of advanced training in 2014 and 446,850 hours to date. Projects with approximately 400 partnering organizations have improved 218,750 acres of habitat, 1,946 miles of interpretive trails, and made contact with 4.56 million people within the state of Texas since 1998.

Master Naturalists are a mighty force for nature and the Galveston Bay Area Chapter plays an important role - never doubt it.

Mark your calendars for the third weekend in October and await location details for the 2016 meeting. This year's meeting attendees know what the 2016 re-certification pin will be. Who will be the first to receive it!?

Impact of El Nino on Our Weather by Chuck Snyder

As of this writing, three weekends in a row of storms and rain - lots of rain, in fact - following an extremely wet spring with catastrophic flooding and a higher average rainfall for May than the previous 10 wettest months recorded in Texas since 1895, said John Neilson-Gammon, Texas State Climatologist. Well we might wonder what to expect next, but as you might guess, the National Oceanic and Atmospheric Association (NOAA) has a few opinions.

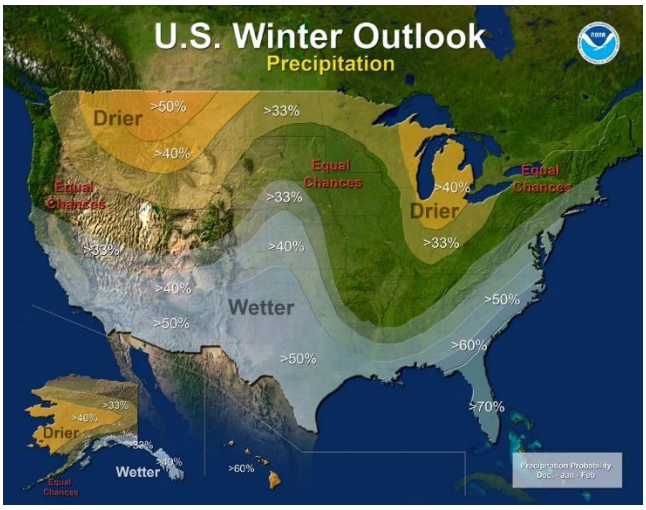
In mid-October the forecasters at NOAA's Climate Prediction Center issued the U.S. Winter Outlook, which covers December through February; based on this forecast, Houston can expect a winter 50% wetter than normal and 40% colder than normal. The culprit is El Niño.

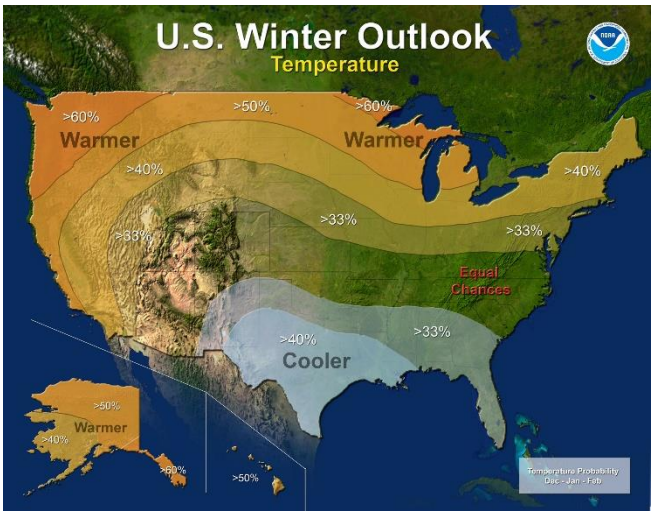
El Niño is a complex weather phenomenon that historically has occurred on approximately three to seven year cycle. The focal point of El Niño is in the eastern Pacific Ocean at the equator, just off the coast of South America, where the trade winds normally blow from east to west and sea surface temperatures (SSTs) are moderate. However, when an El Niño event settles in, the trade winds diminish, SSTs become elevated, and a significant increase occurs in the moisture content of the atmosphere over the region. The change is so intense that it affects weather patterns and precipitation almost worldwide. In Texas, we would generally see a large increase in our rainfall, particularly during the winter months where the effects of El Niño are the greatest.

We learned about weather during a trip to the NWS in fall of 2012; stay tuned for another opportunity in 2016 to visit with the weathermen and learn. In the meantime, get out the jackets and boots. And keep that umbrella handy.

The "evil twin" of El Niño is La Niña, which is characterized by a large increase in the easterly trade winds, a cooling of the SSTs in the eastern Pacific region and a substantial decrease in precipitation. La Niña is seen as the primary causative factor of the regional drought, as the dry conditions in its Pacific birthplace are propagated throughout the region. Historical temperature and rainfall data generally supports the relationship between drought periods in Texas and the appearance and duration of La Niña events. An El Niño or La Niña event may have an impact on weather patterns for several years after its occurrence.

For more information:
http://www.noaanews.noaa.gov/stories2015/101515-noaa-strong-el-nino-sets-the-stage-for-2015-2016-winter-weather.html





Guppies from Julie

I have heard from many of you recently regarding your concerns and frustrations regarding collecting data on the audiences who participate in the education and outreach programs you conduct as Texas Master Naturalists.

As you know, the Texas Master Naturalist Program is co-sponsored by Texas Parks & Wildlife Department and the Texas A&M AgriLife Extension Service. In 2015, the Texas Master Naturalist Program shifted to using the Volunteer Management System (VMS) to record your Volunteer Service hours, Advanced Training hours and Education & Outreach contacts. (Our chapter adopted this new reporting system with great success!) In addition, Texas A&M AgriLife Extension adopted to a new online reporting system that I must use to report your accomplishments. In the past, I was able to report some activities without including the metrics on the diversity of the individuals attending your education programs.

In the new AgriLife Extension reporting system, no activities can be included in monthly reports without including diversity metrics of the audiences. Therefore from an agency perspective, activities without diversity numbers cannot be utilized in mandated reports.
Why include the numbers and diversity of our audiences?

Texas A&M Agilife is a unique education agency with a statewide network of professional educators, trained volunteers and county offices. Our mission is to improve the lives of people, businesses and communities across Texas and beyond through high quality, relevant education. Funding for AgriLife Extension comes from a variety of sources include the State (Texas Legislature), local (County Commissioner Courts) and federal sources (U.S. Department of Agriculture and in my case, National Oceanic and Atmospheric Administration). All of these funding agencies require us to meet our goals as defined in AgriLife Extension's Strategic Plan. Your volunteer service and accomplishments are included in the Strategic Plan. You can review the plan at http://agrilife.org/od/accountability/texas-agrilife-extension-service-strategic-plan/

The mandate of Texas A&M AgriLife Extension is to provide educational programs open to all people. One of the most important ways for this to be demonstrated and measured is through the diversity of audiences you educate. In our reporting system, we are asked to provide the number of participants and our "Best Estimate" on the diversity of our audiences. The data matters to my agency, Texas A&M AgriLife Extension, the Texas Master Naturalist Program and our funding sources. In our case, a reduction in valid reporting, (i.e. reports without diversity metrics), may lead to reduced funding for the agency, potential loss of positions/people should another "Reduction in Force" be implemented and the loss of programs statewide, regionally or on a county basis.

I certainly want to identify ways that make it easier to capture the Master Naturalist numbers and diversity of your audiences. I know you have ideas on how to make this happen! I want your accomplishments to count for you, the Texas Master Naturalist Program, Texas A&M AgriLife Extension and Texas Sea Grant. I look forward to visiting with you to determine the best methods to document the success of your efforts!

If you have suggestions for addressing the issue, please let me know! I welcome you to come by for a visit, drop me a line or give me a call. My office number is 281-309-5063.

Many thanks! Julie

The Midden

Published bimonthly by the Galveston Bay Area Chapter - Texas Master Naturalists.

Texas AgriLife Extension Service
4102 B Main (FM 519) Carbide Park
La Marque, TX 77568

Hard copies mailed and available electronically two weeks prior to GBAC-TMN chapter meetings on chapter website: www.gbamasternaturalist.org. Archived issues also on chapter website. If you prefer to receive *The Midden* electronically only, please contact: Julie Massey, julie.massey@agnet.tamu.edu.

Comments? Suggestions? Want to join the team? Contact: Diane Humes at treimanhumes@earthlink.net.

Midden Editorial Team

Steve Alexander	Comm. Team Chair
Diane Humes	Editor
Carolyn Miles	Production Editor
Chuck Snyder	Photo Editor
Madeleine K. Barnes	Proofreading Editor

The Midden Deadline

December 28th

If you have Advanced Training or Volunteer Opportunities, please submit information to Cindy Howard, howardc@uhcl.edu

December and January Activities

ADVANCED TRAINING OPPORTUNITIES

Chapter Meeting - December 3rd
Year-end Celebration
6:30 Dinner, Social Time, Elections, Awards, Fun
Carbide Park Community Center; No AT this meeting.

Stars at Night - December 10th **Last Chance for AT**
6:30-8:30pm; 2 hours AT; Portable planetarium.
We will be outside weather permitting.
Location: Extension Office
Presenters - Diane Humes
Register with Emmeline Dodd txdodd@aol.com

Ongoing
Galveston Island State Park - will resume in March

Heritage Book Study Group
First Monday of every month. AgriLife Extension Office
10am-Noon; 2 hours AT
Contact: Elsie Smith (409)945-4731
We are currently reading: *Adventures of a Frontier Naturalist The Life and Times of Dr. Gideon Lincecum* edited by Jerry Lincecum and Edward Phillips.

STEWARDSHIP OPPORTUNITIES

Ongoing Activities:
Tuesdays -

- Sheldon Lakes State Park, Contact: Tom Solomon crandtr@sbcglobal.net
- Texas City Prairie Preserve, Contact: Jim Duron wishkad@yahoo.com
- Environmental Institute of Houston at UHCL, Contact : Wendy Reistle reistle@uhcl.edu

Wednesdays - Wetland Restoration Team, Contact: Marissa Sipocz m-sipocz@tamu.edu

Thursdays -

- Stormwater Wetland Team, every Thursday, 9 - Noon. Contact: Contact: Mary Carol Edwards mary.edwards@agnet.tamu.edu
- San Jacinto State Park, Contact: Tom Solomon crandtr@sbcglobal.net

Fridays - Prairie Friday, ABNC, 8:30 - 11:30am, Contact: Dick Benoit RBenoitTEX@aol.com

EDUCATION - OUTREACH VOLUNTEER OPPORTUNITIES

Bay & Island Adventures - Volunteers teach six in-class hands-on modules 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 Stennie Meadors Stenmead@aol.com

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.

BOARD AND COMMITTEE MEETINGS

Board Meetings - Dec. 1st, Jan. 5th
2-4p.m. at the Extension Office

Committee Meetings
Communication - Dec. 28th
9-Noon at Extension office
Advanced Training - Jan. 18th
10-Noon at Extension office
Education/Outreach - Jan 19th
10 to 11:30a.m. at Extension office.
Stewardship - Meets quarterly.

Sea Grant Texas
Science At Work For Texans
http://TexasSeaGrant.org
Master Naturalist ™

Texas A&M AgriLife Extension