

The Midden

by Diane Humes

Galveston Bay Area Chapter - Texas Master Naturalists

December 2013

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Reflections and Looking Forward by Sara Snell, President 2013

Thank you for providing me the opportunity to serve as chapter president for the year 2013. The chapter accomplishments for the year are most impressive and I continue to be amazed at the energy and commitment of our members. Many hands make great things happen.

The Education Outreach effort is ramping up with Stennie Meadours at the helm. Partnerships with several schools have resulted in a renewed effort for Bay/Island Adventures and Jr. Naturalist activities. If you have any interest in helping with the education outreach efforts, please contact Stennie.

Beach and Bay Exploration continues each weekend at Galveston Island State Park from March until November. There will be an opportunity to learn more about how to conduct these activities in the early part of 2014.

Our Advanced Training Committee again surpassed expectations with wonderful continued learning events for the chapter. If interested in joining this committee, please contact one of the members for information.

Stewardship activities continue with prairie and restoration efforts all around Galveston Bay. Where there is a prairie, you can find Master Naturalists. Wetland restoration also continues and would welcome all able bodied to help.

Various monitoring activities continue and there is always a need for more people to join this effort. Many of our members are involved with water monitoring, turtle nesting, butterflies, bats, hawks, invasive species, dove banding, bees and the list continues. If you have an interest in any of the above you can contact me and I will help you connect with the member involved.

So as I depart this position, I do it with a heart full of pride and I am humbled by all that everyone accomplishes. Next year will again start off with full steam ahead as the next training class begins, AT events are presented, Education Outreach ramps up and Stewardship activities continue.

I look forward to seeing everyone at our first 2014 chapter meeting on February 6th at the AgriLife Building - or, at the prairie, marsh, or the beach.



Next Chapter Meeting

December 5th

Year-end
Celebration

At Carbide Park

Prairie Ponderings by Jim Duron

Texas City Prairie Preserve Seed Production Facility

October 15, 2013 was a monumental day for the volunteers supporting the prairie restoration efforts at the Texas City Prairie Preserve (TCPP). Four Galveston Bay Area Chapter (GBAC) Master Naturalists walked into the facility's Seed Production Facility (SPF) and gathered approximately $\frac{3}{4}$ of a gallon of Switch Grass seeds. This marks the first seeds that the facility has produced.



Aaron Tjelmeland, the current administrator of the TCPP, first proposed the idea of an SPF to the TCPP volunteers in December 2011, during the annual review of past year events and future activities at the preserve. The original plan called for the growing of grasses that were at the heart of the Coastal Tallgrass Prairies many years ago, concentrating on the growing of five main grasses of the coastal prairies. Big Bluestem, Little Bluestem, Eastern Gama, Switch and Yellow Indian grasses would be the initial set of plants in the facility. Once operational, the SPF would make available plants and seeds to support

prairie restoration efforts in the Houston/Galveston region.

Work on the facility started in the spring of 2012. The staff at the TCPP applied herbicide to the weeds multiple times, plowed the soil to soften the dirt and cultivated the area to again reduce the number of weeds present in the site. With the weeds greatly contained and the soil softened, the SPF became operational with the planting of several rows of Eastern Gama Grass on August 7, 2012. Prairie restoration volunteers continued the planting of the tallgrass prairie grasses for the remainder of the 2012 season. An assessment of the plant and seed maturity was made in late 2012 resulting in the decision to bypass any seed gathering sessions.

Despite the lack of a seeding session in 2012, TCPP volunteers were not discouraged by this event and continued to plant row after row of the grasses in 2013. Currently over 6000 grass plants have been placed into the SPF. These plants constitute approximately 60 % of the initial phase of the project. Volunteers will continue to plant the addition rows of grasses until the initial phase of the program is completed sometime in 2014.

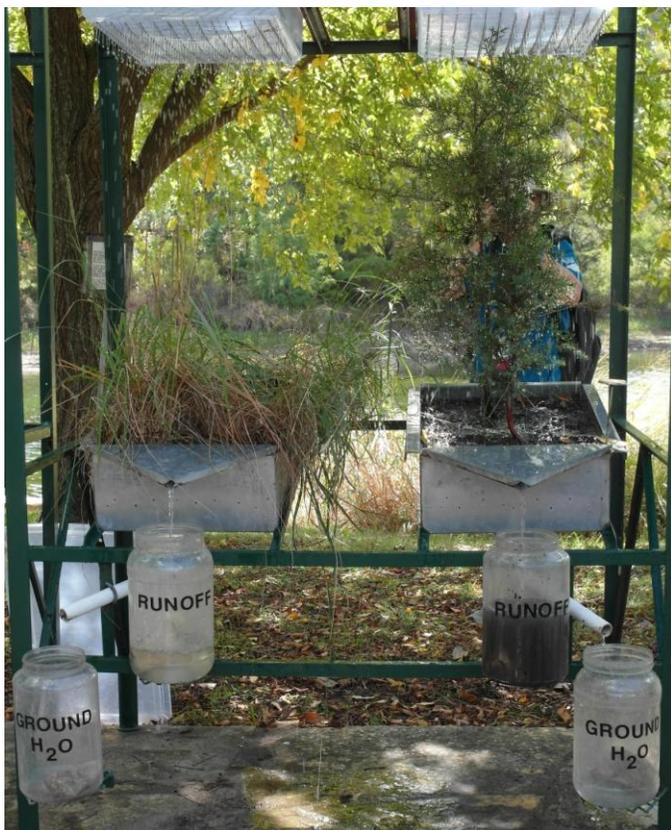
The future of the SPF shows great promise. In addition to the Switch Grass seeds already harvested, TCPP volunteers have already started to gather the first crop of Yellow Indian Grass seeds. This will be followed by the harvest of Little Bluestem and Big Bluestem seeds. All the seeds gathered in the SPF will be used by GBAC Master Naturalists to grow the seedlings that will be used in prairie restoration activities at the TCPP, Sheldon Lake State Park, San Jacinto Battleground and the Armand Bayou Nature Center.

Wetland Wanderings by Diane Humes

Imagine having no water. In 1969, J. David Bamberger bought his Hill Country ranch - now 5,500 acres - the "worst land in the county" - with the intention of restoring it to good condition. It was a dried-up, eroded property, covered with Ashe juniper, with no flowing water and no wells with reachable water that required 41 acres to support one cow, or animal unit, and had little wildlife. The deer were starving. A bird survey found fewer than 50 bird species on the property.

The first step in restoration was removal of LOTS of Ashe juniper and re-seeding the native grassland. This increased habitat; now the ranch had forest, grass, AND

edge. Within two years of restoration efforts, springs began to flow, creeks ran year-round, and lakes filled up. The lush grass now supports an "animal unit" on only 21 acres and the springs produce an average of 3 gallons of water per minute. Miller Creek runs except for times of extreme drought and fills 27 lakes and ponds, then runs into the Pedernales River. The springs provide all water needed for those living on the property. Today's deer are fat and happy and bird surveys count 216 species, including Golden-cheeked warblers and Black-capped vireos, bald and golden eagles.



During a tour of the ranch at the State Meeting, I sat by the swimming lake and watched ranch staffers demonstrate differences in water capture and runoff, as seen at Bamberger Ranch. As shown in the picture, with equal amounts of rain falling on grassland and Ashe juniper habitats, the amount of runoff is much less and water percolating to groundwater is much more, when rain falls on grassland. Compared to native grass, the Ashe juniper forest captures most of its rainwater in the tree canopy, where it evaporates; the remainder either runs off the slopes or is captured by the heavy soil litter, from which it evaporates before entering the groundwater recharge zone

Texas has been and is in a drought. As of this writing, fifty-four water companies have less than a six-month supply of water. Twenty-three of those will run out of water within ninety days, six within forty-five days, and one - Spicewood - is already dry. The Texas Water Plan 2012 is a list of 562 technological fixes, including reservoirs and inter-basin transfers, projected to cost \$53 billion, to solve our water woes, present and future. Not one addresses habitat and health of the land. Probably nobody knows exactly what the answers are, but perhaps it is time to take a deep breath and consider the lessons of the Bamberger Ranch.

Dr. Sammy Ray by Steve Alexander

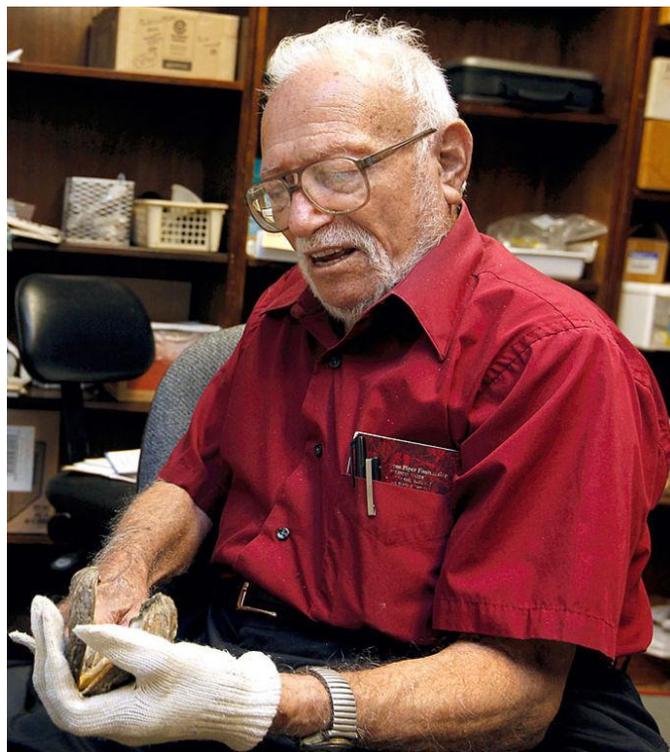
He told me he couldn't understand why a young fellow like me would want to retire. I was 62 then; he was 92.

Dr. Sammy Ray is not one to slow down or encourage others to do so. That's the way he's been as long as I've known him.

My thoughts turn to Sammy as Texas A&M University at Galveston celebrates 50 years as an institution. TAMUG exists and thrives today, in large part, because of the Galveston Marine Lab that Sammy helped to create in 1957 and because of the administrative guidance he provided during some of those early, unsteady years.

Unsteady is how I would describe myself in 1976 fresh out of LSU graduate school. Like all new graduates, I flooded the market with job inquiries and waited for replies that never came. But Sammy didn't toss my letter in the trash; instead, he passed it around to fellow colleagues to see if there was interest. There was, and I spent my first 10 years as a college professor at TAMUG.

Back then, Marine Biology faculty offices were located at Ft. Crockett in Building 311. Sammy's office was on the first floor. It was filled with bookshelves that didn't have



an inch to spare and an oversized desk filled with stacks of papers and science journals piled precariously high.

The first time I peered in, I thought, "So this is what an important scientist's office looks like." But as time passed, my thoughts became more mundane, wondering how he ever found my letter of inquiry on his desk and marveling at the miracle that kept all those tall stacks and loaded shelves from falling on him and causing his demise.

The second floor housed a spacious room with only one item: a ping-pong table. Marine Biology faculty gathered there every day, usually around lunchtime, to focus not on teaching or research, but on hitting a little white ball back and forth across a green table. That hour became a war, a struggle for supremacy. We all got pretty good at it, but no one was better than Sammy. What few skills he lacked, he made up for in tenacity. Years later when I mentioned his ping-pong prowess, Sammy told me his secret: focus on the ball. With a defiant half-smile, he told me focusing on the ball brought forth a tormentor's face.

My time at TAMUG was followed by 17 years on the biology faculty at a small college in central Texas. Not long after my arrival, the staff was tasked with moving our entire department to a new building, a task made easier by the help of a few undergraduate students.

To celebrate our new digs, we went to lunch and were joined by one of our helper undergraduates who'd been there for every day of the move. When the checks came, no one, including senior faculty members, offered to pay for the student's meal. So I asked for the student's bill and paid it myself. This was something I picked up from Sammy. I paid the bill in the same spirit of courtesy he often extended to students.

Each time I visit Sammy these days, he's leaning over a microscope with fresh oysters nearby. As the tangy aroma of oysters fills the air, he talks about the old days at TAMUG and about his bird collection at LSU, the alma mater we share.

He spent the war years alongside combat soldiers in the field, collecting South Pacific birds on behalf of the Smithsonian Institution. He talks fondly about the hundreds of birds he collected, but his life's work has been with oysters.

During his long career, he's made a number of discoveries about their trials and tribulations while growing up in our briny bays.

Yet, he's not done. On a recent visit he was thrilled by a new discovery, the possibility that he had come across something in the life of an oyster that no one else had.

Well, if it's true, I'm not surprised. If anyone can still make meaningful contributions in their ninth decade, it's Sammy.

The very day that Steve Alexander's article appeared in the Galveston Daily News, Dr. Sammy Ray passed away. Jay Cross attended the memorial service and shared reminiscences of Dr. Sammy.

I thought many Master Naturalists would like to read a few words about Sammy Ray. Sammy was an Honorary Master Naturalist who taught an oyster session for training classes, a supporter of many environmental efforts along the Gulf Coast, and an oyster scientist whose expertise and experience was valued nationally and internationally.

As befitted the man, the memorial service was outwardly simple but rich and heartfelt in detail. It was held in a gym on the TAMU Galveston campus that he had done much to grow from a marine laboratory into a full spectrum university. The perhaps 300 people who attended filled the chairs on the floor and most of the bleachers as well. Along one side of the basketball court was a dais with a podium on it and three photos of Sammy in front. One of them showed the essential Sammy, maroon shirt, Stormalong fringe of whiskers, and his usual welcoming expression. Another showed him in outreach, mentoring mode, introducing an oyster to a young girl, whom he probably hoped would become a future environmentalist. The third showed the US Marine in the South Pacific.

Many attendees had memories of Sammy. The comments made brought home how broad and deep Sammy's gifts and contributions were. Sons Charles and Jackson Ray shared memories of their father. They mentioned his thrifty use of shoes by making repairs with duct tape. But they also remembered his telling them that when they found a vocation they cared for passionately, they would never work another day in their lives.

After nearly two hours with dozens of people talking, Jackson closed the proceedings by saying, "When Dad left he forgot his shoes," and reaching into the podium, pulled out a pair of black deck shoes with the sole and uppers bound together with duct tape around the toes. Afterwards the university provided refreshments for those who wished to reminisce further.

We will miss you Sammy Ray!

State Meeting by Sara Snell

Thirteen of our members, plus Julie Massey, made the trek to New Braunfels for the 2013 Texas Master Naturalist State Meeting. Those included: Odie and Marie Asscherick, Rick and Suzanne Becker, Dick Benoit, Root Choyce, Diane Humes, Maureen Nolan-Wilde, Jo Monday, Beth Schroeder, Chatt Smith, Sara Snell, and Tom Solomon.

Members of our chapter were recognized at the State Meeting for volunteer service; Tom Solomon for 10,000 hours and Root Choyce for 1,000 hours. Of the 10,000 hour recipients, **2 out of the 3 are from our chapter.**



This year there were about 460 people who attended - 100 more than last year. Thirty-eight out of the 44 chapters were represented from the Rio Grande Valley to Amarillo and El Paso to the Orange/Port Arthur areas. Through 2013 the program has trained **8,140 volunteers**, with over **321,187 service hours** making the **cumulative total of 2,085 million hours of service**. To date, volunteers have made over **3.7 million public contacts** while spreading conservation and natural resource messages.

Our chapter provided speakers for two sessions - Maureen Nolan-Wilde and Root Choyce presented *Being Their Voice - Sea Turtles - Monitoring and Outreach*, and Diane Humes presented *Prairies: History, Ecology and the Future*. This year chapters came out in full force presenting chapter projects and we too joined in with our History of Sea Turtle Monitoring and Tours with a well-done and passionate presentation by Maureen Nolan-Wilde.



Networking with master naturalists from other chapters.

Comments from those new to attending the State Meeting:

From Maureen Nolan-Wilde: *This was my first state meeting and it was quite an adventure from choosing what advanced training to attend to just finding time to meet to chatting with so many interesting people. For me, one of the best memories was the recognition of members for their service. To a 2011 class member, to even think of making 5,000 or 10,000 hours was almost impossible to believe. However, there I was riding with two of the three 10,000 hour recipients, Dick and Tom. I would encourage everyone to attend in the future.*

Now about the ride home with Sara and team, that is another story.

From Rick Becker: *I really enjoyed my first state meeting. Experts sharing their knowledge provided lots of great learning opportunities plus the fun and fellowship made this a memorable event.*

From Suzanne Becker: *We had a great time at the TMN state meeting. I enjoyed twelve classes and was amazed at the quality of the presentations. They were really informative and well done, providing me with many new resources and ideas. I was impressed with how well organized the event was from start to finish. There is a lot to be proud of in this organization. We are glad to be members.*

We also received a preview of next year's re-certification pin - the Armadillo!!!! Also, some big news is that **next year's recognition will also include a 4,000 hour pin - a gold dragonfly with a ruby in it!!!!** Get ready for the bling to start!!!!

Dolphin Challenge 2014 Needs You! by Julie Massey

Join us on Saturday, February 1, 2014, at Texas A&M Galveston for Dolphin Challenge!

“What year was the Marine Mammal Protection Act enacted?”

“What is the approximate age of the oldest oceanic crust?”

“How many gallons of water can an oyster filter in one day?”

Can you hear the clock ticking as you try to answer these questions? Let's put a buzzer in your hand and face you off with a team of enthusiastic, determined high school students! Whew! The pressure is on!



Welcome to the fast-paced, fun, exciting world of National Ocean Sciences Bowl! National Ocean Sciences Bowl (NOSB) is a nationally recognized and highly acclaimed high school academic competition that provides a forum for students to test their knowledge of the marine sciences including biology, chemistry, geography, physics, geology, social sciences and technology. Texas Sea Grant sponsors the National Ocean Science Bowl competitions in Texas.

We need you to make these competitions a success! Training will be provided! Volunteers are needed in every competition room for each round! Roles include:

Moderator: essentially in charge of the round; must be able to read aloud clearly and quickly and keep the competition running smoothly; those with a background in the marine sciences are preferred for pronunciation of scientific terms.

Rules Judge: must know all the Competition Rules; ensures quiet during the game and that the rules are consistently and correctly followed by everyone in the room.

Science Judge: must have a technical background (generally a graduate degree) in marine sciences and be prepared to address challenges to content by participating students.

Timekeeper: operates time clock and must know the rules that apply to timing.

Runner: runs the team challenge questions to the Judges' Appeals room to be scored.

Training for Dolphin Challenge will be conducted at the Texas A&M AgriLife Galveston County Extension Office at Carbide Park on the following dates:

January 16 - 1:30 p.m. - 4:00 p.m.

January 23 - 9:30 a.m. - noon

January 29 - 9:30 a.m. - noon

January 30 - 9:30 p.m. - noon

Dolphin Challenge volunteers will enjoy a great lunch, receive a terrific t-shirt and bask in the admiration of high school students from across Texas!

To learn more about NOSB, visit their website at <http://www.nosb.org/>. If you would like to volunteer, please contact Julie Massey at 281-309-5063 or jmassey@ag.tamu.edu.

The Great Work of Our Time by Diane Humes

My career as a Galveston Bay Area Master Naturalist, begun with the Wetland Restoration Team and the Prairie Friday group at Armand Bayou Nature Center, has given me many opportunities for learning about our environment. Both groups work to restore the land to some semblance of its former appearance and function, before modern land use - plowing up the prairie, filling in the wetlands, irrigation, farming, overgrazing, invasion by foreign species, envelopment by modern civilization. The hope is that the land will fulfill its ecological functions - flood abatement, water cleansing, wildlife habitat - better

after restoration and, at the very least, act as a living museum, a window into the not-so-distant past, and a refuge for remaining native species.

On the wetland and prairie teams, I have donned boots or waders and taken up shovels, dibbles, soil knives, bandanas and smoke goggles, and had the pleasure of attending several State of the Bay conferences, two RAE (Restoring America's Estuaries) conferences, and lots of other meetings discussing prairies, wetlands and water quality. Lately, I have gone further afield; last year I

attended the North American Prairie Conference (NAPC 2012) in Winnipeg, MB and, lately, the Society for Ecological Restoration (SER 2013) 5th World Congress in Madison, WI. I attended, as a newbie, along with 1295 others from 54 countries; only half of the participants came from the US - the rest were from Australia, Africa, Brazil, China and Europe - in fact, all corners of the globe.

At SER I heard a global perspective; we in North America and Europe are concerned with habitat loss and fragmentation, pollution and endangered and/or invasive species, but many additional problems exist across the globe. Developing nations are also dealing with desertification, land degradation and drought (DLDD). DLDD issues are severe; hungry people are not worrying about what's on sale at the supermarket, they are watching their crops shrivel and their children and animals starve.

There are incredible restoration stories from degraded areas. On China's Loess Plateau, suffering from generations of overuse and overgrazing, erosion was stopped and land improved by planting trees, terracing the land and removing grazing animals. The results are spectacular; food supplies are now secure, soil erosion from runoff is lessened and habitat is improved over a vast area; the lives of more than 2.5 million people have been improved.



In Burkina Faso, Yacouba Sawadogo has fought the spread of desert since 1980 by experimenting with an

ancient farming technique called zai and sharing his ideas with neighboring farmers. This simple method, needs only a shovel or axe to dig small holes which are filled with compost and planted with seeds - trees, millet, or sorghum. The holes catch water during the rainy season and retain it throughout the dry season. Yacouba Sawadogo's results can be seen in the documentary, "The Man Who Stopped the Desert".

<http://www.videoproject.com/manwhostde.html>



Ecological restoration is a relatively new science; the Society for Ecological Restoration was celebrating its 25th anniversary and looking to the future. The gray-haired delegates, founding members, were outnumbered by a host of younger, and amazingly capable, practitioners. The main issues of the day include methods for restoring degraded lands, control of invasive species, with much debate about "novel ecosystems" and what to do about them; that is, recognizing the cosmopolitan reach of a huge number of species, plant and animal, what should/can be done? There was much discussion of how to use and attract volunteers to restoration. I guess they never heard of Galveston Bay Area Texas Master Naturalists!

Keynote speaker Paul Hawken described an astonishing list he has compiled of over 2 million groups, worldwide, currently dedicated to enhancing environmental sustainability or social justice. He likened it to a vast underground movement - amorphous, connected in unpredictable ways, the likes of which has probably never happened before our time. Everyone, it seems, wants to do their part to help. As Paul Hawken said, "nature's default mode is regeneration and ours is too".

The "great work of our time" - stopping desertification and land degradation and restoring watersheds, will take an army.

Imagine a world army of master naturalists!

Book Review - *Wilderness of the American Mind* by Madeleine K. Barnes

Wonder how we came to our current perspectives about wilderness? The Heritage Book Study explored this going back to early civilizations with Roderick Nash's *Wilderness of the American Mind*. This book is an in-depth study of the cultural beliefs about wilderness and the intervening changes along the way to the present day, examining the people, places, and the actions that changed and/or protected what is wilderness in this country. This search throughout human history led to the reasons that we as TMN's do what we do: conserve,

restore, and educate others about "wilderness". Given the challenges that we face with our natural resources, it highlights how we got to this point so that we can learn from the past and apply this to our future choices. This book is another great resource for TMN's to understand the journey to the present and the other naturalists who helped change our American mind. Come join us on January 6th at 10:00 a.m. when we discuss our next book, *Wesley the Owl*.

Drought in Texas – Why So Dry? by Chuck Snyder

How would a Master Naturalist go about answering the question: "Why are we having a severe and prolonged drought in Texas?" A trip to the library? An Internet search? The Farmer's Almanac?

As an alternative, why not go straight to horse's mouth: the National Weather Service (NWS)? That's exactly what a large group of chapter members did in mid-October, visiting the new home of the service in the Galveston County Emergency Management Center in League City, where forecasters met with us for a detailed discussion of the drought's primary causes and a tour of the facilities.



Our host was Chris McKinney, Aviation Forecaster for the NWS Houston/Galveston Office. Chris provided perspective on the position and roles of the NWS in the US Government. They are a division of the National Oceanic and Atmospheric Administration (NOAA), part of the Commerce Department. Their mission: to provide weather, water, and climate data, forecasts and warnings for the protection of life and property and enhancement of the national economy. The focus at the local office level is primarily on short-term weather forecasting; other

parts of NWS and NOAA carry out long-term climate research and modeling.

Chris then turned to the subject of our visit: the long and hard Texas drought. The bottom line: the dry conditions are not unique, appearing irregularly over decades and even centuries; and a significant portion of the periodic dry spells can be blamed on the weather phenomenon known as El Niño/La Niña.

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.

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.

Chris went deeper into the complexities of the El Niño/La Niña, explaining that it isn't simply an atmospheric

phenomenon, but rather is tied to Pacific Ocean currents that span nearly half the globe. The atmospheric and ocean current aspects are so inexorably linked that they're considered a system and have been given the name "El Niño - Southern Oscillation" or "ENSO" for short. ENSO affects weather patterns all the way to the western end of the Pacific and in both Northern and Southern Hemispheres, so it's a powerful weather-maker indeed.

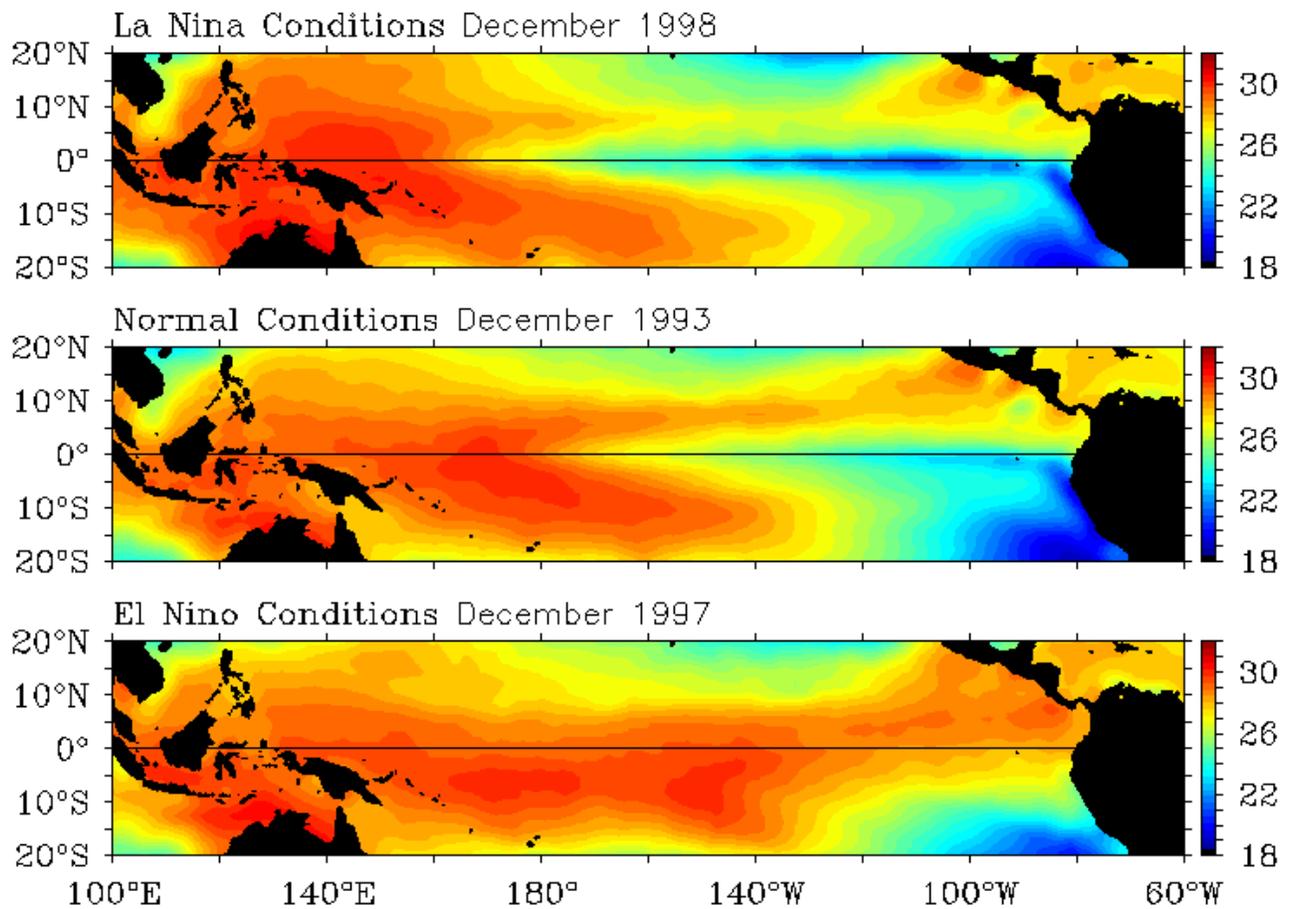
ENSO isn't the only atmospheric/ocean current system affecting worldwide weather patterns. Others, with

significantly longer cycles than ENSO, include the Pacific Decadal Oscillation and the Atlantic Multi-Decadal Oscillation. These are seen as having less impact here in Texas, but are important parts of the weather variability picture

So what does this portend for the future? El Niño/La Niña events will likely continue as they have in the past; unanswered at this point is whether climate change will impact the severity of these changes.

Stay tuned...to your weather radio!

Reynolds Monthly SST (°C)



TAO Project Office/PMEL/NOAA

Fall Flowering Plants AT by Madeleine K. Barnes

Gazing across the prairie, the focus rests on the show of fall flowering plants signaling the change of season. These plants were the topic of the AT conducted by Diane Humes and Dick Benoit on October 22nd, 2013 at Armand Bayou Nature Center.



Diane Humes described a system of plant classification known as "Coefficients of Conservatism". This system is a means to rate individual prairie remnants as to their level of disturbance. A list of plant species occurring in coastal prairie remnants was created that includes disturbance associated species and introduced species occurring in prairie restorations and degraded prairie remnants. Native species were assigned a coefficient of conservatism (C) on a scale of 0-10 based upon their degree of fidelity to remnant coastal prairies and their tolerance of disturbance. Species with high community fidelity are limited in the number of communities in which they occur and are considered indicator species. Introduced and invasive plant species are also included in this classification system, but with negative coefficients. Some introduced plants have the potential to alter their habitat, thus displacing native species.

In addition, the presentation covered plant identification focusing on plant parts, leaves and reproduction. Participants received plant identification cards for "Common and Indicator Species of the Coastal Tallgrass Prairies" containing species indexes and descriptions.

Dick Benoit led the group of participants on a prairie field study, identifying and discussing various coastal tallgrasses and forbs. A detailed examination was conducted using hand lenses to explore the leaves and flowers of both grasses and other plants during the walk.

Diane Humes concluded the presentation with a definition of the prairie, history, ecology, and their future,

The weather cooperated for pleasant prairie conditions and the refreshments provided were enjoyed by those who attended. This was another relevant presentation of facts and information that added to the knowledge base and experience of the chapter participants.



The following websites were utilized or referred to as resources in the training session:

<http://plants.usda.gov>
www.wildflower.org/plants/

Guppies from Julie

The Texas Master Naturalist Program founded in 1998 celebrated its 15 year anniversary at the State Master Naturalist Conference in New Braunfels. Michelle Haggerty, the program coordinator, presented a summary of accomplishments by you and your fellow Texas Master Naturalists!

- From 1998 through December 2012, 44 recognized local chapters have trained 8,140 volunteers.
- Master Naturalist volunteers dedicated over **321,187 volunteer service hours in 2012**, directed toward natural resource community projects, research, and outreach resulting in **a cumulative total of 2.085 million hours of service to date**. The Galveston Bay Area Chapter contributed **9% of the 2012 total (28,592 hours) volunteer service hours** and **11 % of the cumulative volunteer service hours (224,168 hours)**.
- The **economic impact** of Texas Master Naturalist volunteer service throughout 2012 **valued at \$6.276 million and \$40.657 million since 1998**.
- The 8,140 volunteers also obtained **47,812 advanced training hours in 2012** and over 349,152 hours to date.
- TMN volunteers **conducted over 4,469 outreach, education and technical guidance** events in 2012 with over **72%** of those events being direct contact programs where volunteers provided hands-on outreach, education or consultation to nearly **159,000 youth, adults and private landowners**.
- To date, Texas Master Naturalist volunteers have made over **3.7 million public contacts** through their volunteer service while spreading a conservation and natural resource message.
- **Volunteers have impacted or conducted projects on areas of land that involve roughly 195,700 acres of habitat** while also developing or maintaining some 1,775 miles of interpretive trails.
- **30 international, national, state and local awards have been received** for Texas Master Naturalist program, chapter and individual volunteers' efforts to date.
- **Over 70% of Texas counties (178 Counties)** are served by a recognized Texas Master Naturalist Chapter.

Congratulations on making a difference in our state's natural resources and educating the people of Texas on those wonderful resources!



The Midden

Published by Galveston Bay Area Chapter - Texas Master Naturalists.

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For comments on this issue or to suggest content for future issues, please contact Diane Humes by e-mail at treimanhumes@earthlink.net.

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The Midden Deadline for the next issue

January 6th

If you have Advanced Training or Volunteer Opportunities, please submit information to Maureen Nolan-Wilde, mnwtiki@comcast.com.

TEXAS A&M
AGRI LIFE
EXTENSION

Texas A&M AgriLife Extension programs serve people of all ages regardless of socioeconomic level, race, color, sex, religion, disability, or national origin. The Texas A&M University System, U.S. Department of Agriculture, and the County Commissioners Court of Texas cooperating.

December and January Activities

ADVANCED TRAINING OPPORTUNITIES

Chapter Meeting - December 5th

Year-end Celebration

6:30 Dinner, Social Time, Elections, Awards, Fun
Carbide Park Community Center No AT this meeting.

Coastal Texas Mammals - January 14th

10-11:30am 1.5 hours AT

Location: Extension Office

Presenters - Dennis Jones

Register with Emmeline Dodd txdodd@aol.com

GBAC Campout - January 24-26th

Up to 6 hours AT

Location: Galveston Island State Park

Presenters - Various

Register by January 10th with Tawy Muehe

tawymuehe@earthlink.net

Ongoing

Galveston Island State Park

10 am at the Welcome Center

Every Saturday- Beach Explorations

Every Sunday- Bay Explorations

Tours 1 to 1 ½ hours long. Bring water and family.

Heritage Book Study Group

First Monday of every month. AgriLife Extension Office

10am-Noon 2 hours AT

Contact: Elsie Smith (409)945-4731

In January we will start *Wesley the Owl* by Stacy O'Brien.

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 -

- Horseshoe Marsh Prairie, third Thursday of each month, 9 - Noon. Contact: Tom Solomon crandtr@sbcglobal.net
- 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 - December 3rd, January decided to be decided after elections. 2-4 at the Extension Office

Committee Meetings

Communication - January 7th 9-Noon at Extension office

Advanced Training - no December meeting, January date and location to be determined (Extension office will be closed on normal meeting date.)

Education/Outreach - Meets as needed. None currently scheduled.

Stewardship - Meets quarterly. Next meeting to be determined

