

The Midden

Wildflowers by Patty Trimmingham

Galveston Bay Area Chapter - Texas Master Naturalists

December 2018

Table of Contents

Wetland Wanderings	2
Prairie Ponderings	3
Coastal Corner	3
Archeology AT	4
Behind the Scenes: Outreach Committee	5
Heritage Book Study - Review	6
Save the Date: GISP Nature Walk-About	7
Big Picture: Trash - Marker of the Anthropocene	7
Remembering Odie Asscherick	9
State Meeting Award Winning Photos	10
Guppies from Julie	11
Dec/Jan Activities	12

President's Corner by George Kyame, President 2018

Greetings fellow naturalists.

Well here we are nearing the end of another fun and successful year in our GBA-TMN Chapter. I certainly hope that 2018 has been as fulfilling for you all as it has been for me. I hope all your goals have been reached and the volunteer hours have been personally rewarding and enjoyable.

On Thursday, December 6, we will have the chance to look back upon our year, together at our final 2018 chapter meeting, again being held at Walter Hall Park in League City. Our gala event will contain all the trappings of a regular chapter meeting, but filled with awards of appreciation, election of board officers, the levity of our last meeting in a winter holiday season, and always a few fun surprises! I look forward to seeing all of you there.

I recently saw quite a few of you at another large meeting. The state meeting, this year celebrating the 20th year of our Texas Master Naturalist Program, was quite a spectacle, with over 150 naturalist activities, including classroom education and outdoor field trips. Attendance topped 700, a record. There was literally something, or rather, many things, for everyone. The hard work of dedicated volunteers, staff, hosting chapters, and the state coordinators really showed during the three days I attended. Meeting and greeting other naturalists from statewide chapters is an invaluable source of new ideas and networking for future success and growth.

An especially nice treat came at Sunday's breakfast, when our GBA Chapter received 6 ribbons in the photo contest, as winners were selected by conference attendees' votes. We swept the TMNs at Work and Play category! There were first places in Wildlife and Birding categories and a second place in Flora! Congratulations GBAC photographers for submitting and winning!



Lastly, with a heavy heart, I would like to inform you of the passing of two of our friends and naturalists. We lost Ray Parker in the beginning of October. A specialist in Texas flora, Ray was a member since 2008. And at the end of last month, we lost Odie Asscherick, my 2014 mentor, while en route to the State Meeting. He received his 10,000 hour pin just last year! Odie was a member since 2000, GBAC since 2001. They will both be dearly missed.

I'm looking forward to seeing you all soon, in the prairies, wetlands, beaches, and our December Chapter Meeting.

Next Chapter Meeting

December 6th

Annual Awards
Celebration
and
Officer Election

6:15pm

Walter Hall Park

Wetland Wanderings: Early Outreach with Books by Lana Berkowitz

In addition to getting children outdoors to appreciate nature, books are good way to engage kids' imaginations. The Environmental Protection Agency has lists of books about wetlands recommended for pre-kindergarteners through high school students.

Looking at the list for our youngest aspiring naturalists, you find classics we grew up reading.

Remember *Make Way for Ducklings* (1941) by Robert McCloskey? Mr. and Mrs. Mallard pick a Boston-area island to hatch Jack, Kack, Lack, Mack, Nack, Ouack, Pack and Quack. The charming story inspired the statue in Boston Public Garden commemorating the ducklings' city outing.

There's also *Old Mother West Wind* by naturalist Thornton W. Burgess. The 1910 book introduces Peter Rabbit (briefly known as Peter Cottontail), Jimmy Skunk, Reddy Fox and other characters found in the series.

Dr. Seuss' *The Lorax* (1972), which spawned a 1970s TV special and 2012 film, makes the list with Hans Christian Anderson's *The Ugly Duckling* (1843).

Also recommended by the EPA for pre-kindergarten through Grade 2:

- *Box Turtle at Long Pond* (1989) by William T. George and Lindsay Barrett George. A day in the life of a box turtle is a good introduction to pond ecology.
- *Come Out, Muskrats* (1989) by Jim Arnosky. At dusk the muskrats emerge from their homes at the pond to swim, eat and interact other nocturnal creatures.
- *Dragonflies* (1982) by Cynthia Overbeck. Part of the Lerner Natural Science Book series, this book uses photos to explain the metamorphosis of dragonflies and damselflies.
- *Fish Eyes* (2001) by Lois Ehlert. A counting book with bold graphics that even toddlers will enjoy.
- *Were You a Wild Duck, Where Would You Go?* (1990) by George Mendoza and Jane Osborn-Smith. With a sense of sadness, a mallard searches through a polluted environment for a home.
- *The Noisy Counting Book* (2010) by Susan Schade and Jon Butler. Ga-dunk! says the frog. Repetition is part of the fun in this book about the sounds of animals that a boy hears on his way to a fishing pond.

- *Puddles and Ponds* (1990) by Rose Wyler and Steven Petruccio. Here is a look at the plants and animals that live around ponds, with simple experiments. It is Part of the Outdoor Science Series.
- *Rain Drop Splash* (1946) by Alvin Tresselt and Leonard Weisgard. Raindrops become puddles and streams on their way to lakes, rivers and oceans through a variety of ecosystems.
- *A River Dream* (1988) by Allen Say. A boy dreams about sparkling streams and a beautiful fish.
- *River Parade* (1990) by Alexandra Day. A boy's boat ride becomes a watery encounter.

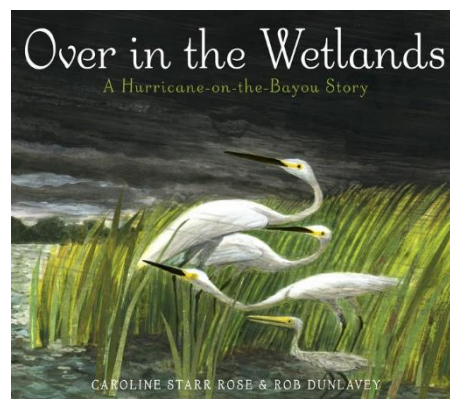
A couple of 2017 titles to check out are *Over and Under the Pond* by Kate Messner and Christopher Silas Neal and *Life* by Cynthia Rylant and Brendan Wenzel. *Over and Under the Pond* follows a boy and his mother paddling their canoe while quietly observing the interconnected wildlife. *Life* visits various habitats and reminds readers "in every corner of the world, there is something to love."

The illustrations make a splash in *Here Is the Wetland* (2007) by Madeleine Dunphy and Wayne McLoughlin, which is about the fragile relationships that exist among plants and animals. *Squish! A Wetland Walk* (1994) by Nancy Luenn and Ronald Himler describes a child's walk through a wetland habitat.

For something that hits closer to home, consider *Over in the Wetlands: A Hurricane-on-the-Bayou Story* (2015) by Caroline Starr Rose and Rob Dunlavey. Published for the 10th anniversary of Hurricane

Katrina, the read-aloud book follows animals as they prepare for the storm and cope afterward. It is more heartwarming than scary and a good conversation starter for a discussion about our changing landscape.

Find the EPA reading lists for all ages at www.epa.gov/wetlands/wetlands-reading-list-pre-kindergarten-through-grade-12



Prairie Ponderings: Farm Bill 2018 by Diane Humes

North American grasslands - known as prairies - once comprised huge swaths of the landscape from Texas into Canada and Illinois west to the Rocky Mountains. Today everywhere you look, you can find evidence of prairies, although only about 1 percent of the original grassland remains. Most of it has been repurposed: fields of corn, soy, and wheat; ranches and feedlots; cities; roads; all the trappings of modern civilization, with little bits of grassland here and there.

Fall is the best time to view a prairie. The bluestem grasses mature into a distinctive and beautiful rusty brown color, easily visible even when traveling along the highway, especially along the Prairie Corridor between Texas and Minnesota. Keep your eyes open, because prairie remnants are all around - all the way from here to Lake Superior.

Texas, a great prairie state, once had 20 million acres of prairie, of which about 6.5 million acres were our coastal tallgrass prairies. Minnesota had nearly as much prairie - up to 18 million acres, of which about 250,000 acres remain today. Minnesota is a great farming state and seems to me to be much more rural than Texas - probably because I spend most of my time in suburban Houston-Galveston. But, in Minnesota I traveled through mostly very small towns surrounded by farms with acres of corn and soybeans. Everybody seemed to be a farmer.

So it was interesting to hear talk of the Farm Bill 2018 - a big deal in farm country. The Farm Bill, enacted by Congress since the Great Depression, has a myriad of components, some of which have been amended over the years. As you might imagine, the bureaucracy has changed and grown, and also adapted to changing times since 1930. Basically, a lot of issues vital to farmers - crop insurance, commodity prices, agricultural research, rural development, horticulture, markets - are addressed by the Department of Agriculture.

It seems that the Farm Bill of 2014 has just expired without congressional action. Let's hope Congress works

it out soon; meanwhile, farmers are dealing with uncertainty as best they can. A main stumbling block to renewal seems to be dissension over the SNAP program (food stamps). So, what does this have to do with us or prairies?

The Farm Bill 2014 had a "Sod Savers" provision, providing incentives for farmers to keep their remaining untouched prairie acres out of production. But it only applied to six states; in the proposed Farm Bill 2018, the American Prairie Conservation Act expands the "Sod Saver" incentives to ALL states. This act is a bipartisan effort that will greatly benefit farmers, ranchers, and prairie enthusiasts. When farmers benefit, we all benefit; after all, we all like to eat food.

And it is always much easier to conserve a prairie than to try to grow or restore one.



Of course, if you like to help restore prairies, fall is the perfect time to participate. At Armand Bayou Nature Center alone, fall prairie planting events provide opportunities for 300-plus adults and students to take ownership of the prairies by planting 8,000-10,000 native grasses and forbs. The satisfaction of planting on the prairie should not be missed; I think I am going to invite my congressmen to come out and help!

Coastal Corner: American Oystercatcher Banding by Maureen Nolan-Wilde

With the change of seasons, some of our volunteer efforts on the coast have come to an end until next year. For example, we are no longer helping to band American oystercatcher (AMOY) chicks; these little guys have all fledged and are looking after themselves now.

Chapter members have been volunteering with the Gulf Coast Bird Observatory's Dr. Sue Heath for the last few years, helping her study AMOY populations on the upper and central Gulf coasts. We have been monitoring and documenting these populations and recording sightings in a national data base. However, one of the most

popular volunteer activities has always been the banding of AMOY chicks and adults.

If you have never helped to band a chick, be aware that you need a wide range of skills. You'll need to jump out of Sue's boat as it approaches the nesting island and quickly make your way ashore, often through thick mud. You must spot the chick as it tries to run away from you and hide deep in the island's vegetation. Then you'll have to run after it and utilize your netting skills to scoop it up before it can reach the water at the end of the island. And those little guys can run pretty fast!

When you get back to the boat, you'll have to hold the bird - now safely ensconced inside an old fishing hat - while Dr. Heath bands, measures, and weighs it. Then the best part, you get to hold the newly-banded chick for the obligatory pre-release photos. At this stage the chick can't wait to re-unite with its parents to show off its new leg jewelry.

Each week, our volunteers joined Dr. Heath on her journey and each week they returned with smiles on their faces and stories about catches made and lost and, most important, with memories that will last a lifetime.



Photo by Alan Wilde

The great news is that 2018 was a stellar year for AMOY productivity. Dr. Heath identified 33 fledged chicks between Dickinson Bay and East Matagorda Bay, up from 22 in 2017 and six in 2016. Your volunteer service continues to make a difference to this wonderful bird, the American oystercatcher. We eagerly await meeting next year's nesting season!

Archeology of the Upper Texas Coast AT by Jennifer Trandell

Archeology is more than the study of objects. Did you know the archeological regions of Texas correlate to the ecological zones? The characteristics of these regional environments shaped the possibilities and limitations of past cultural groups. For example, how far people had to travel for water and the natural resources available establishes a set of expectations of the inhabitants' lifestyle in the mind of a Texas archeologist. In early September, Jason W. Barrett, Ph.D. with Texas Department of Transportation (TXDOT), presented an Advanced Training about the Archeology of the Upper Texas Coast, highlighting local McFaddin Beach artifact findings as clues to the culture of the first coastal inhabitants.

As master naturalists, our knowledge of the native species in an environmental region helps us to understand, like an archeologist, how a previous group of people may have lived. The Texas coast is divided into three archeological areas, Upper, Central and Lower. The Upper Coast begins at the Colorado River to Beaumont. Salt, shells, marine life, and birds were the major resources for all coastal inhabitants, as they are today. However, one very important material from the marshy east Texas environment was the reed used in the atlatls. Atlatls were an important spear-hunting tool formed by a long reed shaft with a Clovis or fluted projectile point attached to the end enabling the

PaleoIndians to throw the weapon with force from a distance. The Clovis point and other Paleo-aged stone artifacts have recently been found at McFaddin Beach and several areas around Houston, shifting the previous held timeline of occupation from 2000-4000 years ago to much further into the past.

We learned that archeological time periods correlate with the cultural periods of the past and have a date notation BP different from the common use of BC or AD. BP means Before Present and present begins at 1950, our current cultural period. The PaleoAmerican or PaleoIndian period dates from 13,500 BP to 8,000 BP. This includes the oldest artifact findings in Texas, as well as, the McFaddin Beach historical objects. Little is known of these cultures due to the nomadic lifestyle and little survives materially due the organic nature of the resources. The source of the objects at McFaddin is believed to be from an underwater site offshore which may possibly be one of the oldest, because the sea level was approximately 300 feet lower 18,000 years ago during the end of the Pleistocene.

During the break participants were able to view and touch various stone projectile tools brought by Dr. Barrett for demonstration. He demonstrated how the early tools were made from chert rock by chipping away flakes to reveal sharp edges. Some of the presented tools were

actual projectile points, while others were the stone objects used for chipping. A few of the stones were discarded attempts of projectile points.



Photo by Chuck Snyder

The next period is the Archaic from 8,000 BP to 1,250 BP representing a decrease in mobility through time, territoriality markers, regional specialization, diversity in tools and burial sites. Ceramic and wood vessel making begins with practical purpose, such as a water vessel, to more artistic ritual pots by the end of the archaic period. The Archaic is followed by the Late Prehistoric, around 1,250 BP to the arrival of Euro-American explorers, when village settlements and animal domestication are dominant cultural features. The bow and arrow from the Osage Orange or *Maclura pomifera* in Northeast Texas becomes an item of major commerce in the region, thus influencing the surrounding cultures including the Upper Texas Coast. Early explorer journal accounts reveal both the bow and arrow and atlatl in use upon arrival.

Accounts of early explorers and settlers in the 16th, 17th, and early 18th centuries help construct our understanding of the Native American lifestyle along with archeological findings in this transitional period defined as the Protohistoric. Documents include the famous, in depth, accounts by Cabeza de Vaca of the Gulf Shores and South Texas.

The biggest question in American archeology is: where did the ancient Americans originate? The Clovis projectile points found at McFaddin Beach add to the mystery. Due to the surface geology of the Texas coastal zones, artifacts are often mixed in the sediment layers. Archeologists use stratigraphy to date objects by the sedimentary layers laid down in geological time periods. In the Upper Texas Coast shifting alluvial deposits disturb the composition of rock layers. Most sites in the area have temporally mixed deposits, which also lead to poor preservation of any exposed older objects. From the recent findings at TxDOT sites in the Houston area along with the artifacts at Mcfaddin Beach, Texas archeology is becoming increasingly important to the historical narrative of the early origins of the peopling of the Americas.

Ironically, time ran out during Dr. Barrett's presentation. There was much more material to cover, including results of site-specific excavations in the area describing soil micromorphology and local stratigraphy indicating the geological time periods upon which we walk and drive every day. Dr. Jason Barrett is currently researching our modern freeways as the original native trade routes as is evidenced by the archeological sites found along the roadsides and early explorer accounts of the native trails.

Behind the Scenes: Outreach Committee by Madeleine K. Barnes

This is another installment in a series about how your chapter operates. So, come with me behind the scenes as we look at another committee. In order to give you the most current information possible, this article references the most recent bylaws and handbook updates as shown on the chapter website under Membership / Resources, <https://txmn.org/gbmn/chapter-bylaws-and-handbook/>.

The purposes and goals of the Outreach Committee are twofold: 1) to enhance existing natural resources education and outreach activities by providing natural resources training at the local level thereby developing a supply of dedicated and informed volunteers and 2) to improve public understanding of natural resource ecology and management by developing a pool of local knowledge that can be used to enhance educational efforts within the local community. This fits within the overall mission of the Texas Master Naturalist program of

developing and maintaining a corps of well-informed volunteers to provide education, outreach and service.

How does "outreach" happen? The Volunteer Service director is responsible for accomplishing these goals with a team of helpers (hint: Outreach Committee). The Outreach Committee is composed of a committee chair, Sara Snell, and five or more members. The committee works to ensure that outreach booths are staffed as planned, maintains the chapter display board as needed, coordinates activities with the webmaster for communication to the membership, assists the training committee in promoting the chapter, and assists the New Class director and Membership director as necessary.

The nuts and bolts of the work is to develop programs and train chapter members to conduct outreach activities. This includes creating learning resource boxes or bins for

use at the various outreach sites. The learning boxes may consist of modules/curriculum overview, demonstration equipment, examples, books, handouts and activities. These efforts result in a speaker's bureau or list of trained members who can deliver presentations on a variety of natural resource ecology topics. Once a request for outreach is received, it is evaluated as to the type of venue, date, topic, audience/participant details, and the availability of trained members to staff this booth or event before approval.

Outreach service examples include: Beach and Bay walks and nature center docent at GISP, teacher workshops such as Treasures of the Bay, sea turtle barn tour docent, ABNC hike/demonstration docent, Bay Day event, school science night for families, Earth Day Expo, home school groups, and beach clean-up/birding

presentation for school field trips. Each of these outreach service opportunities results in VMS impact reporting for direct/indirect contacts within the community. To give you some idea of the effect, the number of impacts for 2018 was 18,678 while the reported number for the first nine months of 2018 is 19,194. Let's keep on building our outreach efforts and continue to share our natural resource knowledge within our community.

The Outreach Committee can use your help either on the committee or with the various tasks involved. The Outreach Committee meets 1-2:30 pm the third Tuesday of the month at the *Extension Office. Check the Midden and website calendar for any changes in meeting schedule and contact Sara Snell at snellsw@verizon.net to discuss how you can help.

Heritage Book Study - Review of *Texas Tears and Texas Sunshine*

by Madeleine K. Barnes

Maybe in your childhood or later on you had the benefit of hearing actual lifetime experiences back in the day from one of your relatives. If you did, you may have been able to go back in time with them as they gave their account and visualize what living at that time was like.



This is what reading *Texas Tears and Texas Sunshine* was like, going back in time and hearing "the voices" of 16 different frontier women in their very own words of their life experiences in early Texas. The editor, Ms. Exley, selected these accounts from journals, memoirs, and letters that she

researched and edited to bring us the best parts, describing the aspects of early life on the Texas frontier from each woman's perspective. In our past reading, the authors were writing from a man's point of view with limited input as to what the women's life was like in that time, raising families and dealing with different challenges. These stories are first-hand accounts of women from those times.

While Ms. Exley does not write the book, she does piece it together like the women weaving together the fabric that gives us their stories. The accounts begin before 1836 when Texas became a republic, as pioneers began making their way into Mexican territory, building homes and farms, dealing with epidemics, Indian raids, weather disasters, cattle drives, hardships, war, through it all maintaining amazing perseverance and courage. The

book's timeline follows almost 100 years of Texas history. Ms. Exley chose the title based on these womens' stories that describe both the "sunshine and the tears" in their lives and in the events of history.

I don't want to give it all away here; I recommend you read this book. It is well worth your time. I would really like to get in the time machine and go back to take a look at those times, but "noooo" I would not get out to live it. Those women were strong in ways that are so impressive that I can only read about them and attempt to understand.

We will complete our discussion of *Texas Tears and Texas Sunshine, Voices of Frontier Women* on Monday, December 3, after reading pages 129-255. On Monday, January 7 (due to New Year's), we will meet to discuss pages 1-164 of our next reading selection, *A Texas Plan for the Texas Coast* by Jim Blackburn.



We welcome your participation each month for two hours on the first Monday of the month starting at 10 am at the Extension Office*. Please note that we welcome anyone to participate whether you are TMN certified or just want to remain a chapter member. We look forward to seeing you and let us know if you have read any good naturalist books lately. Happy trails!

HAPPY ★ NEW ★ YEAR

Save the Date: GISP Nature Walk-About by Dave Bary

On January 19th, 2019, Friends of Galveston Island State Park (FOGISP) is sponsoring a Galveston Island State Park Nature Walk-About.



Start the new year with some beautiful nature and some family-friendly fun outdoor activities. The Nature Walk-About headquarters will be at the tent sites camping area on the bay side of FM 3005. Plans are to have four trailheads available for people who want to do a walk-about. Trails range in length from 0.3 miles to 1.76 miles.

Activities include:

- Participating in the Owl Prowl Olympics!
- Making seed balls.
- Throwing seed balls into the prairie.
- Making butterfly fans and masks.
- Making pipe cleaner flowers.
- Getting your face painted.

- Learning about the coastal prairie.
- Learning why prairies are known as “upside down” plant communities.
- Learning about prairie potholes
- Learning the role fire plays in the health of our coastal prairie and how we do a prescribed burn.
- Going on a prairie walk-about and experiencing the prairie’s awesome stillness and beauty.
- Getting your Coastal Prairie Passport stamped after you’ve completed each activity.

A light breakfast will be served at 8:15am. There is no registration fee. However, for a suggested donation of \$10.00, FOGISP will give a T-shirt as a gift to the donor. Park entry fees are also waived for the event.

Since this an educational-based activity and not a fund-raising event, master naturalists who volunteer for the set-up, take-down, or day-of activities, will get MN volunteer hours for their efforts.

To volunteer, call: Nature Walk-About Director, Dave Bary @ 409-370-7107

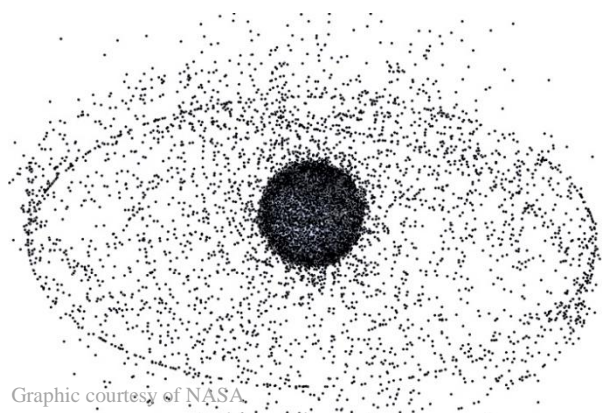
To register, go to: <https://fogisp.wordpress.com/nature-walk-about>

Big Picture: Trash - Marker of the Anthropocene by Diane Humes

Our planet is surrounded by trash - artificial objects orbiting Earth created during 50+ years of space exploration. A list of space debris items, as of July 2016, includes pliers, cameras, a toolkit, a wrench and toothbrush, garbage bags, a thermal blanket, booster rockets, broken satellites, and 1,419 operational satellites. Such objects, trackable by radar, number 17,852, but many more - 170 million - are smaller than 1 cm - mostly fragments of dust, paint flakes, bits of metal and frozen pellets of coolant, resulting from disintegration, erosion, and collisions. In addition, there may also be 670,000 debris objects in the 1-10 cm range in orbit, difficult to track.

Debris occupies all orbital levels; in low earth orbit, up to 400 km above the Earth, where most manned missions occur, air drag is highest, which “cleans” out the orbital space within a few years. By NASA estimates, one catalogued object per day has fallen to Earth for the last 50 years, with no damage reports. In middle and higher orbits - the graveyard orbits - space trash could persist

for millennia. Old satellites are often positioned in such orbits on purpose, so they do not return to Earth!



Graphic courtesy of NASA

The oldest space debris is the 1958 Vanguard I satellite and its upper stage rocket. Currently when launching a rocket, mission controllers perform maneuvers to avoid creating additional space debris. But, satellites have exploded in orbit - 8 of them in 2006 - creating lots of

space junk. In addition, nations, including the US, have conducted anti-satellite missile tests, that is, deliberately targeting a missile on a satellite. Most recently, in 2007, the Chinese created the greatest single space debris incident in history, with a missile test explosion that resulted in 2,300 golf-ball or larger, plus over 35,000 1 cm or larger, and one million 1 mm or larger debris pieces in the orbit most densely populated with satellites. Nobody was happy with China.

Most large debris pieces have a mass of at least 100 kg, with a total mass of trackable debris of about 5,500 tons. Any size object is dangerous to working satellites and the International Space Station, but a 1kg object slamming into a 1000 kg satellite would cause catastrophic damage AND create more debris - same as a missile attack or test. NASA scientist, Donald Kessler, in 1978, calculated that space debris could reach a critical density such that collisions became unavoidable, each one causing a chain reaction of more collisions, rendering low earth orbits unusable for many generations. Called the Kessler Syndrome, this concept has featured in exciting disaster movies, but is a serious issue.

Various organizations are testing strategies to remove debris from orbit, but costs and questions about ownership have hampered efforts. Current space law retains ownership of all satellites with their original operators - even defunct debris which endangers active missions. But, there is progress; a few weeks ago, on September 30, an experimental device called RemoveDebris successfully cast a net around a dummy satellite, simulating a technique that could one day capture space garbage. It's a start. In the meantime, the US Space Surveillance Network diligently tracks all debris orbiting Earth larger than 10 cm.

Our modern lives would take huge steps backwards without communications and weather satellites, whether due to catastrophic losses from space debris or not. But trash is a marker of human activity. For as long as people have been making, building, consuming stuff, our efforts have resulted in trash left behind. All the waste, refuse, broken, old, unwanted, valueless stuff got thrown in a pile - maybe a midden - that archeologists now excavate to study its contents for clues to our human past. What is happening now with trash down on the home planet?

Modern humans have far more stuff to discard than our ancestors and more methods to choose from. Consider the refuse trail of a typical day in our world. Suppose you begin the day with coffee, OJ, eggs, bacon, and toast while perusing the newspaper. During this morning routine, you will have dealt with coffee grounds and egg shells, which could be composted, the newspaper, butter tub or carton, jelly jar, milk jug, and bread bag, which could all be recycled, albeit sorted into different bins and, maybe, washed. The OJ can, if you used frozen concentrate, comes with metal lids (recyclable) and

cardboard tube (maybe recyclable), but you might not get them all apart, so some might go in your trash can. The cardboard egg carton is recyclable, but the Styrofoam one is not, so it goes into the trash. Your bacon generates a lot of grease, and you will have to decide whether to pour it into a can or down the drain.

Choose the can, and the grease goes to the landfill. Millions of people, worldwide, choose the drain, but that choice has indirect consequences. Eventually, the fat will clog a pipe - yours or someone's - causing blockages and backups. This recently happened in London. When neighbors complained of problems flushing their toilets, workers at Thames Water discovered a congealed 140-ton mass of food fat, disposable wipes and diapers, dubbed "fatberg", in the sewer. After three weeks spent blasting the blockage out, they needed an additional 6 weeks of sewer repair to become operational. This can happen anywhere - don't let this happen to you!

Perhaps, you take pills with your breakfast. Pill bottles are usually recyclable plastic, but leftover pills are not. All pharmaceuticals should be turned in at a Prescription Drug Take Back Program or put in the trash. Drugs - legal and illegal - flushed down the toilet enter our waterways (as do those we excrete - can't help that!) Wastewater treatment plants are not equipped to filter out all the thousands of chemicals potentially in the water. In a very interesting study conducted around Puget Sound, volunteer water monitors detected amounts of cinnamon, vanilla, allspice, thyme and rosemary spiking in the water samples between Thanksgiving and New Year's. From the water data, researchers calculated that residents might have baked enough chocolate chip cookies, gingerbread, and snickerdoodles for Seattle residents to have consumed at least two cookies each day during the holidays! We do not know what the fish thought about it.

After breakfast, I get washed and dressed for the day, which, for me, entails putting my contact lenses in my eyes. I have worn glasses or hard lenses most of my life, but have transitioned to daily soft lenses. My new lenses, made from plastic, come in individual foil-sealed plastic wells, in boxes of 30, contained in boxes of 90. A 6-month supply of lenses is packaged in a bigger box, wrapped in a bigger box yet for shipping by mail. Compared to all this, the lenses are negligible, but what to do with them? I have definitely joined the disposable society. Every day I put the plastic wells and foil in the recycling bin, hoping they will be recycled. By 2019 I will have single-handedly accumulated quite a stack of little plastic wells and bits of foil - the boxes are already recycled!

One of the biggest trash headaches we face is of our own making. Natural gas is the precursor to all of the ubiquitous varieties of plastic manufactured since World War II. Lightweight, but strong, plastics become brittle

and break, but will not degrade into molecular form for, possibly, a thousand years. Plastics have floated or blown to the oceans from every continent and are working up the food chain as microplastics. They are inedible, and ultimately, threaten all life forms, except for the few bacterial species that may evolve to consume them.

Make no mistake, trash, mostly plastic, in the world's oceans, is a very large threat to the planet. People are working on it; stay tuned for results from a young Dutch inventor, Boyan Slat, and his Ocean Cleanup prototype, launched from San Francisco on September 1, heading for the Great Pacific Garbage Patch. Slat's system is a 2000' floating boom, with a 10' skirt, designed to move with wind and waves and trap plastic at or near the surface, awaiting pickup by a ship. If, successful, Slat calculates that with 60 such systems, ocean plastic could be decreased by half by 2025. Bon voyage, Ocean Cleanup!



Photo courtesy of OceanCleanup.com

Whatever each of us does for the rest of the day, I'm sure it will include an automobile, phone, computer, road, house, refrigerator, microwave, A/C, and any number of items, objects, utensils, machines that have been manufactured for our use, with their own finite lifetimes. When these items become waste, we will need to choose the appropriate resting place for each and every item. Not everyone on Earth has as much "stuff" as we do, nor as many options. Trash actually is its own system, controlled by humans - all 7.7 billion of us.

Here are a few interesting facts: China has the largest population on Earth, 1.4 billion, and India is slightly behind. The US is third with 327 million people. By 2050, India, with 1.6 billion people, will surpass China's declining 1.4 billion, Nigeria will be third with 410 million, and the US will be fourth with 389 million people. World population numbers will reach 8 billion by 2023 and 10 billion by 2055. Are more people alive now than all our ancestors added up? No; since 50,000 BC, perhaps 106 billion people have ever lived on Earth. Our current population comprises 6% of all people, ever.

But, those of us living here and now in the Anthropocene - the epoch of human control of Earth - have generated most of the trash surrounding the planet. Let's do our best to remove it from oceans and orbits.

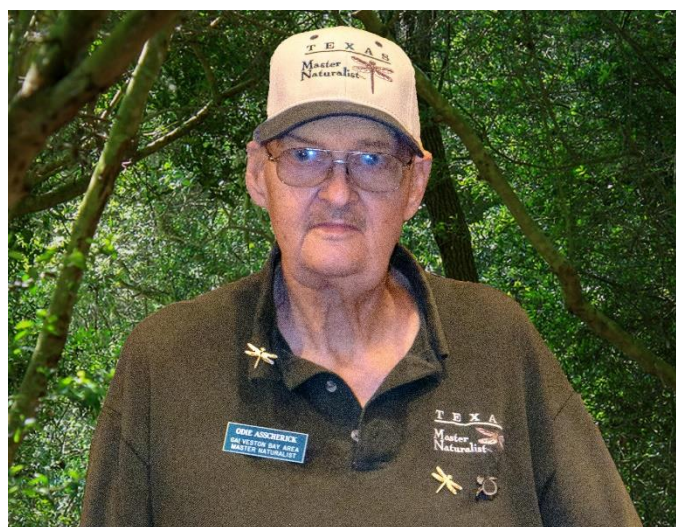
Remembering Odie Asscherick by Diane Humes

Sadly, our friend, Odie Asscherick, passed away suddenly on October 28, 2018. Odie joined the master naturalist program in the spring of 2000, attending the second training class sponsored by the Gulf Coast Chapter - the only game in town at that time - and transferred his membership to the Galveston Bay Area Chapter as soon as it was possible.

Odie retired from the U.S. Postal Service and relished all his master naturalist opportunities, usually shared with his wife Marie - presenting bat demos at the Waugh Street Bridge, birding throughout Texas, attending state meetings and chapter meetings, helping with chapter training classes. Together, Odie and Marie have also been dedicated volunteers at Armand Bayou Nature Center, leading candle making activities for thousands of children at the Martyn Farm Harvest Festival, to name only one activity.

An extremely busy volunteer and avid learner, Odie Asscherick amassed 11,813 volunteer service hours and 2,836 hours of advanced training. He loved being a master naturalist and was traveling to attend this year's

state meeting when fate decided otherwise. Please give love and support to Marie Asscherick in this time of loss.



Thank you, Odie, for a job well done. We will miss you.

State Meeting Award Winning Photos



Guppies from Julie

Thank you from the NNOCCI Expert Training Conference!

In mid-October, our chapter hosted the National Network for Ocean and Climate Change Interpretation Expert Training Conference. Seventeen educators from across the nation were introduced to our natural resources thanks to you! They kayaked at Galveston Island State Park, enjoyed a sunrise beach walk, learned about sea turtles, and the impacts of Hurricane Harvey, and floated along Armand Bayou.



Photo by Chuck Snyder

Because of your efforts, the educators connected to each other and you, Texas Master Naturalists, in ways unexpected by the organizers. You added fun, hope and special opportunities to their week of addressing the difficult issues of climate change.

Most of the educators wanted to adopt or be adopted by you. They all plan to come back for more Texas Master Naturalist hospitality. Thank you!

Dolphin Challenge Needs You!

Join us on Saturday, February 2, 2019, at Texas A&M Galveston for Dolphin Challenge!

"What does a refractometer measure?"

"Fishes that spend most of their lives in freshwater but migrate to saltwater are called . . .?"

"The Marine Mammal Protection Act was enacted in what year?"

Can you hear the clock ticking as you try to answer these questions? Let's put a buzzer in your hand to let you face 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 Dolphin Challenge a success! Training is required.

Volunteers are needed in every competition room for each round. Volunteers serve as competition officials such as rules judge, science judge, moderator, scorekeeper, time keeper and runner as well as hosts.

Required training for Dolphin Challenge will be held at the Texas A&M AgriLife Extension Service's Galveston County Office on the following dates:

- January 14- 10 a.m. - noon
- January 17- 10 a.m. - noon
- January 23 - 1:00 p.m. - 3:00 p.m.

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 at 281-309-5063 or julie.massey@ag.tamu.edu.

The Midden

Published bimonthly by the Galveston Bay Area Chapter - Texas Master Naturalists. The purpose of *The Midden* is to inform, communicate and educate chapter members and the community. If you have an article that contributes this purpose or want to join the team, please contact Diane Humes, treimanhumes@gmail.com.

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

The Midden is posted on the GBAC-TMN chapter website: www.gbamasternaturalist.org two weeks prior to chapter meetings. Archived issues also on chapter website. If you prefer to receive *The Midden* in hard copy and are not currently receiving it, please contact: Julie Massey, julie.massey@ag.tamu.edu.

Midden Team

Diane Humes, Managing Editor	
Madeleine K. Barnes	Lana Berkowitz
Verva Densmore	Carolyn Miles
Chuck Snyder	Jennifer Trandell

December and January Activities

ADVANCED TRAINING OPPORTUNITIES

Chapter Meeting - Year-end Celebration!

6:15 Dinner, Social Time, Elections, Awards, Fun Extension Office*; No AT this meeting.

No AT currently planned for December and January.

Ongoing

Galveston Island State Park

10am 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. Extension Office*

10am-noon; 2 hours AT

Contact: Elsie Smith (409) 392-7003

See Pg. 6 for meeting dates and books.

STEWARDSHIP OPPORTUNITIES

Ongoing Activities:

Mondays - Galveston Island State Park, Contact: Chatt Smith chattsmith@gmail.com

Tuesdays -

- Sheldon Lake 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 Llosa mllosa@tamu.edu

Thursdays -

- Stormwater Wetland Team, every Thursday, 9am - noon. Contact: Mary Carol Edwards mary.edwards@agnet.tamu.edu
- San Jacinto State Park, Contact: Jim Duron wishkad@yahoo.com

Fridays - Prairie Friday, ABNC, 8:30 - 11:30am, Contact:

Chatt Smith chattsmith@gmail.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 Sara Snell snellsw@verizon.net

Partner and Associate Programs - Many organizations sponsor guided walks and education programs or need volunteers to staff their nature center. Go to <http://txmn.org/gbmn/partners/> for the list, then click on the link to the organization's website.

BOARD AND COMMITTEE MEETINGS

(At Extension Office* monthly unless specified)

Board Meetings - usually First Tuesday, check calendar

Committee Meetings

Advanced Training - Third Monday, 10-noon

Education/Outreach - Third Tuesday, 10 to 11:30am

Stewardship - Meets quarterly

Communication - Meets quarterly, check calendar

Midden Team - no meeting in January



Texas A&M AgriLife Extension provides equal opportunities in its programs and employment to all persons, regardless of race, color, sex, religion, national origin, disability, age, genetic information, veteran status, sexual orientation, or gender identity. The Texas A&M University System, U.S. Department of Agriculture, and the County Commissioners Courts of Texas Cooperating.



The Midden Deadline for the next issue

January 2

If you have Advanced Training or Volunteer Opportunities, please submit information to Tim Long, tikibloke@yahoo.com