

Sessions Agenda & Descriptions



Updated Tuesday, July 11, 2023

Please Note:

All items on the agenda are tentative and subject to change prior to event registration and the final event agenda.

Please consider the environment before printing this 40+ page agenda.

T E X A S



OUR MISSION

To develop a corps of well-informed volunteers to provide education, outreach, and service dedicated to the beneficial management of natural resources and natural areas within their communities for the State of Texas.

Program State Sponsoring Agencies:



About the 2023 Annual Meeting

*Welcome to McAllen, Texas! This year marks our 24th Annual Meeting and the **25th year** of the Texas Master Naturalist Program. We have scheduled **over 100** different presentations and field sessions with a variety of topics and speakers from around the state. Outside of the classroom, we also have plenty of opportunities to meet new friends and old friends alike, some really beautiful artwork and photos entered into our annual contest, and a wide variety of chapter projects on display in the Project Fair. Enjoy this weekend of comradery and learning! Thank you for being here with us to celebrate another year of incredible conservation impacts on the land!*

KEY for Agenda

Meal

Field Session*

***Note - Current Field Session times listed include travel time. Additional information about field session time, cost and capacity will be shared in the coming weeks.**

Wednesday - October 11, 2023

7:00 AM - 5:00 PM

Field Session

Coastal Conservation Cooperative

- *Mary Jo Bogatto, Cactus Creek Ranch*
- *Nicole Ekstrom, Friends of Laguna Atascosa National Wildlife Refuge*
- *Javier Gonzalez, South Padre Island Birding and Nature Center*

During this field session, participants will get to experience the deep south Texas coast by touring four destinations specializing in conservation and education of south Texas wildlife. Destinations will include: Cactus Creek Ranch, Laguna Atascosa National Wildlife Refuge, South Padre Island Birding and Nature Center, and the South Texas Ecotourism Center. The tour will begin at Cactus Creek Ranch, a private ranch adjacent to the 110,000+ acre Laguna Atascosa National Wildlife Refuge (LANWR). Cactus Creek Ranch is owned/managed by Mary Jo Bogatto, a local conservationist with a vision to protect, preserve, and educate. Mary Jo Bogatto began Cactus Creek Ranch in 1995 when the 400 acres, which shares its eastern fence line with (LANWR) in Cameron County, was mostly barren soil with a few blades of grass, mesquite trees, and local cacti. After years of restoration, the ranch is currently serving as a model for habitat and conservation practices. The ranch has been added to the Great Texas Birding Trail, serves as a site for bird bandings, and was awarded the Texas Parks and Wildlife Department's Lone Star Land Stewards Award. The tour will continue to the Laguna Atascosa National Wildlife Refuge, where the Friends of Laguna Atascosa will lead a driving tour on the 14.2-mile Steve Thompson Wildlife Drive (STWD). This will cover Tamaulipan thornscrub, coastal prairie, and coastal wetland habitats, with views of the Laguna Madre Bay and South Padre Island. The Laguna Atascosa National Wildlife Refuge has an incredible biodiversity with more than 450 plant varieties, 417 species of birds, 130 types of butterflies, 45 mammal species, 44 reptile and amphibian varieties, and approximately 40 fish species. The tour will continue to the South Padre Island Birding and Nature Center where participants can view birds, butterflies, alligators, and natural wildlife in coastal South Texas. This site features 3,300 ft of bayfront boardwalks, five bird blinds, a five-story viewing tower, an alligator sanctuary, and guided bird walks. The final stop will be the South Texas Ecotourism Center (STEC). The mission of the STEC is to encourage the exploration of South Texas by highlighting its assets across counties. The goals of the STEC are to highlight native plants to increase biodiversity, demonstrate innovative stormwater management strategies, bolster community engagement, provide a space for community events, and have an artful design to attract and retain visitors.

7:00 AM - 11:30 AM

Field Session

The South Texas Ecotourism Center

- *Robin Gelston, Texas Master Naturalist - Rio Grande Valley Chapter*
- *Edward Meza, South Texas Ecotourism Center*

Come visit and learn about the beautiful South Texas Ecotourism Center (STEC), an information center and outdoor living museum dedicated to the awareness and education of the six ecosystems found in South Texas and the Rio Grande Valley. The Center is the only one of its kind in South Texas which showcases the unique ecosystems of the area through outdoor exhibits, interpretative hands on panels with QR codes, a look out boardwalk with telescopes and binoculars, bird blinds, ponds, outdoor classrooms, amphitheater, educational lab, and multipurpose room. The center promotes the nature centers throughout South Texas as places to experience the natural ecosystems that are interpreted. The center offers educational programs and special events. The center is a haven for bird watchers and nature lovers. Learn how the concept and vision was developed and how the center is funded.

12:00 PM - 5:00 PM

Field Session

Dive into the World of Sea Turtle Conservation at Sea Turtle, Inc.!

- *Hannah Catherman, Sea Turtle, Inc.*
- *Robin Gelston, Texas Master Naturalist - Rio Grande Valley Chapter*

Sea Turtle, Inc. is a nonprofit sea turtle and rescue rehabilitation center on South Padre Island, TX. Our four tiered mission focuses on the conservation, applied research, medical care, and education surrounding all sea turtle species. Join one of our Educators as we dive into the world of sea turtle conservation! On their guided 60 minute educational tour, participants will have the opportunity to learn about specific adaptations of sea turtles, threats that they face, current conservation efforts, and what they can do to help! Each tour will bring guests face to face with sea turtles in our Resident Hall, Education Museum, and Hospital. This interactive experience is sure to excite participants of all ages and will encourage future generations of ocean stewards.

7:00 PM - 10:00 PM

Field Session

Mothing at Bentsen-Rio Grande Valley State Park (preconference)

- *Sam Kieschnick, Texas Parks and Wildlife Department*

We've got special permission to black-light and moth at Bentsen-Rio Grande Valley State Park on the night before the conference!

Thursday - October 12, 2023

7:00 AM - 5:00 PM

Registration - Palm Lobby

Registration is being hosted by the South Texas Border Chapter and Rio Grande Valley Chapter.

7:00 AM - 1:00 PM

Field Session

Coastal Ecology Field Trip - South Padre Island

- *Tony Reisinger, Texas Sea Grant / AgriLife*
- *Victoria Salinas, University of Texas Rio Grande Valley*

Dive into discovery on the beach and dunes of South Padre Island at the University of Texas Rio Grande Valley Coastal Studies Lab. Participants will tour the newly renovated CSL museum, which includes a complete 360-degree mural of an underwater scene, aquaria featuring local marine species, and exhibits of Gulf marine mammals and sea turtles. Moving toward the beach, we will experience the island's sand dune system which provides a barrier of protection from storms and high tides. We will learn the importance of sand dune vegetation, discover how dunes are formed and threats to this important habitat. On the beach, we will delve into discovery along the tide line, finding local seashell species and exploring any mysterious flotsam which may have been tossed upon the shore. We will then sift the sand for an in-depth look at the myriad of interstitial animals inhabiting the swash zone and learn about the lives of the unique predators there. Into the surf, no more than knee-deep, we will pull a small seine to net fish species feeding on what food is revealed by the dynamic action of the waves. The remnants of this year's great Sargassum seaweed inundation may still be washing ashore. We will discuss its importance as a beach builder and critical habitat for hundreds of marine species, many camouflaged to mimic the weed and hide from predators. Returning to the lab, if time permits, we can use the lab's stereoscopes to examine some of the smaller species we collected. After this adventure, attendees should have a better understanding of this dynamic ecosystem and the ecology of our beaches and dunes.

7:00 AM - 12:00 PM

Field Session

History: It's in Our Nature

- *Lee Bragg, Palo Alto Battlefield National Historical Park*
- *Karen Weaver, Palo Alto Battlefield National Historical Park*
- *Robin Gelston, Texas Master Naturalist - Rio Grande Valley Chapter*

Go on a journey back in time to Palo Alto Battlefield, site of the first battle of the U.S.-Mexican War. Learn how the resource division balances battlefield protection and native habitat preservation. View historic documents used to influence restoration decisions. Discover the results of different restoration techniques, such as mechanical treatment, work crew labor, herbicide, and planting. Go behind-the-scenes and discover how Texas Master Naturalists are helping restore the native Texas coastal prairie. In addition, join in some fun activities used to engage students on trail walks.

7:00 AM - 12:00 PM

Field Session

BioBlitz at the National Butterfly Center with Texas Nature Trackers

- *Craig Hensley, Texas Parks and Wildlife Department*
- *Wendy Anderson, Texas Parks and Wildlife Department*

Join Texas Parks and Wildlife's Texas Nature Tracker Biologists for a BioBlitz in South Texas to kick off the Texas Master Naturalist Annual Meeting 2023. Discover the wildlife and biodiversity of the area with area biologists and contribute to scientific research through community science. Our event will take place at the National Butterfly Center, which boasts unique ecology and diverse flora and fauna with an impressive 1900 taxon's observed on iNaturalist! Admission to the National Butterfly Center is required, \$5 for locals and \$10 regular. Please bring a camera and/or a mobile phone to document species on iNaturalist. Don't miss this opportunity to explore South Texas's natural wonders and contribute to scientific research! We appreciate the fact that many TMN annual meeting registrants are experienced naturalists, but the sun, snakes, thorns, fire ants, stinging gnats, chiggers and other dangers do not care how many times you have ventured out elsewhere. Everything in South Texas fights for its life, so please take us seriously when we suggest insect repellent, tall socks, hats, boots, handkerchiefs, long pants and lightweight, long-sleeved cotton tees and vented field shirts. We want you to have fun, and the best way to do that is to come prepared.

7:00 AM - 12:00 PM

Field Session

Service Project - Stop Catclaw Vine in its Tracks!

- *Javier de Leon, Texas Parks and Wildlife Department*

Catclaw Vine is an invasive species that could eventually kill the trees the vines climb on. Join Estero Llano Grande State Park staff in managing Catclaw Vines in some of the most sensitive habitat in the park - Green Jay Trail. Green Jay Trail is a rare piece of habitat that was never grazed or developed unlike much of deep south Texas. Volunteers will help treat and remove Catclaw Vines from native trees and stop the

vine from reaching other sensitive areas in the park. Training and tools will be provided.

8:00 AM - 12:00 PM

Field Session

Bird Walk at the Edinburg Scenic Wetlands

- *David Flores, Edinburg Scenic Wetlands and World Birding Center*
- *Donna Otto, South Texas Border Chapter TMN*

This year marks 20 years open for the Edinburg Scenic Wetlands. Come view our center and see how a reestablished habitat can bring beauty to a place that was once barren. We will see specialty birds of the Rio Grande Valley along with wetland birds. Birds of note are the Green Kingfisher, Ringed Kingfisher, Belted Kingfisher, Green Jay, Clay Colored Thrush, Great Kiskadee, and Plain Chachalaca.

8:00 AM - 10:30 AM

Field Session

Nature Smart Libraries: Partnering with Libraries to encourage outdoor engagement

- *Marisa Oliva, Texas Children in Nature Network*

Libraries help build healthy communities, providing resources and opportunities well beyond books. Learn how you can partner with your local library to create resources that help people connect with nature and the outdoors. During this presentation, you will learn about the Library Explorer Adventure Pack (LEAP), a backpack lending program that was launched this past Spring in libraries across the Rio Grande Valley. You will receive information on building your own lending backpack program, seed libraries, and other nature-smart library programs. You will also have the opportunity to go through the packs and learn about the various themes. Event will take place at the Pharr Memorial Library.

12:00 PM - 1:00 PM

Meal

Lunch - On Your Own

Lunch today isn't provided by the conference, but there are many great locations near the McAllen Convention Center to stop in at and eat. Check out this listing of local restaurants provided by the Experience McAllen:

<https://experiencemcallen.com/visitor-guide-area-map/restaurants/>

1:00 PM - 5:30 PM

Woody Plant Encroachment in Grasslands: Teaching by RAP 'ping - 103D

- *Erika Sullivan, Texas A&M Agrilife Extension*

Upon the influx of European settlers in the 1850's, the Southwestern Great Plains (SGP) has experienced a rapid takeover of woody plants. Woody plant encroachment (WPE) disrupts the hydrology, biodiversity, production, and overall nutrient cycling of rangelands. However, tools and techniques such as multi-species grazing, prescribed burning, patch-burn grazing, and pyric herbivory offer a cost effective, long-term solution to help manage and prevent these woody invaders from spreading into core grassland landscapes. In addition, new technology applications, such as the Rangeland Analysis Platform (RAP), have been created to help assist in the managing/monitoring of America's rangelands in efforts to target the seedling stage of woody species. We developed a step-by-step educational curriculum illustrating how to use the RAP to assess WPE and overall effectiveness of climate-smart management practices across demonstration ranches in West Texas. Participants are also encouraged to use the RAP curriculum to determine cover estimates across different plant communities and ecosystems as well. While completing this curriculum, participants will use the RAP to analyze the effects of specific management practices like prescribed fire, patch-burn grazing, and multi-species grazing on grasses, forbs, shrubs, and tree cover on our demonstration ranches. Consecutively, participants will also answer questions related to what they observe in the RAP, download virtual cover data, and form graphs with their data in Excel showing the data from the RAP. Benefits of completing this activity include learning how prescribed fire and grazing impact grasses, forbs, shrubs, and tree cover from year-to-year. In addition, participants will learn how to create graphs in Excel and how to use RAP to collect data on their own or other properties. We are seeking Texas Master Naturalist participants to complete this curriculum while also completing pre- and post-assessments to determine overall knowledge and attitude changes. We would also like participants to provide us with feedback on the curriculum's readability, usefulness, and overall user-friendliness.

1:00 PM - 4:20 PM

Texas Waters Day - 103A

• *Melissa Felty, Texas Parks and Wildlife*

The Texas Waters Specialist (TWS) program develops a corps of well-informed volunteers dedicated to the beneficial management of aquatic resources and aquatic habitats. Advanced training and service opportunities are aligned to four categories: Conservation, Ecology, Education, and Stewardship. Texas Waters Specialists are fundamental to informing their communities of conservation issues specifically related to the need for fishable, swimmable, and drinkable waterways for our state. At Texas Waters Day, attendees will participate in hands-on, aquatic-based activities that connect us to Texas Waters. Activities are open to all certified, in-progress, and newly curious to the TWS program. Each Texas Waters Day offers different activities so if you participated in the past, join again for continued learning. In addition,

Texas Water Specialist will be recognized for their dedication to the TWS program, along with special awards to those that have gone above and beyond as ambassadors for Texas Waters.

1:00 PM - 3:10 PM

Texas Raptor Monitoring Network - a participatory science program to monitor the reproductive biology - 102C

- *Clint Boal, Texas Tech University, U.S. Geological Survey Texas Cooperative Fish and Wildlife Research Unit; Krysta Demere, Texas Parks and Wildlife Department; Ben Skipper, Angelo State University*

Over the last two decades, citizen science has emerged as a powerful tool to gather data on biological phenomena over wide geographic areas. Through observation-based platforms like iNaturalist and eBird, citizen scientists have helped document shifts in geographic range of both native and invasive species and their work has proved invaluable to scientists and managers. Such platforms are, however, structured for single-observation events and there exists space for novel citizen science projects to use repeated observations of individuals. These repeated observations have the potential to shift observation-based citizen science to a more participatory science whereby individuals collect data additional to just occurrence and location. This workshop will introduce the Texas Raptor Monitoring Network and will use the monitoring of raptor nests as a model for engaging with the public through participatory science. Raptors are charismatic wildlife with wide public appeal. Since the 1960's several species of raptor have adapted to urban and suburban environments, yet much remains to be learned about the reproductive ecology of many species in these areas. This participatory science program therefore would serve to fill this data gap and provide relevant information back to participants. Workshop participants will be provided instruction on identification of raptor species, the identification of different stages within the nesting cycle and their associated behaviors, and the balance between gathering data and disturbing nesting birds. Data collection will be made simple via an electronic form with predefined fields that can be accessed via any internet-connected device (e.g., smartphone, tablet, desktop computer).

1:00 PM - 3:10 PM

How an Old City Dump Became a Nature Park - 102A

- *Christina Mild, Rio Grande Valley Chapter*

From 1995-1996, Cameron County Commissioner James Matz conducted a revegetation project at Harlingen's Ramsey Nature Park. That "park" had been the city's garbage dump before strict regulations were applied to waste management operations. Matz involved government agencies at every level, local businesses, and volunteer groups. Native shrubs and trees were planted, invasive guinea grass was

killed, woodchip mulch was applied, and a drip watering system was installed. An adversarial relationship developed between Harlingen's city manager and Matz. Thus, volunteers were banned from working at the park for several years. In 2000, bird-bander Mark Conway formed the Arroyo Colorado Audubon Society (ACAS) and gained city approval for volunteers to work at the park in furthering revegetation. A number of city organizations from Cub Scouts to National Honor Society began once again to volunteer at the park. Native Plant nurseryman Mike Heep assisted ACAS volunteers at every step as did Emeritus Professor of Botany Dr. Alfred Richardson. Revegetation of an old dumpsite seems to be a unique project. Diapers, tires, broken glass bottles, and lots of concrete waste continue to be challenges to safe planting. Location of a city dump along the city's only watercourse is not a decision we would make today. The Arroyo Colorado, which forms the southern boundary of Ramsey Park, is one of few waterways in Cameron and Willacy counties. (The other is the Rio Grande River.) The importance of such a waterway, especially to wildlife, cannot be over-emphasized. Other challenges at the park have been coordination with Harlingen's Parks and Recreation department. Nature park operations are a minor part of their activities, as local sports teams, biking groups, and individual athletes demand and require most of the department's attention. For many years, city workers had been mowing down wildflowers while leaving 4' tall invasive, exotic guinea grass in place around struggling shrubs and trees from the initial revegetation project. In recent years, the city has become more responsive in sending us a cheerful and dedicated group of workers whom we supervise. Ramsey's revegetation has been conducted and overseen by volunteers. RGVCTMN has been essential to this project by educating and overseeing volunteer work since their inception in 2002.

1:00 PM - 2:00 PM

What the Tide Brought In - 103B

• *Anita Westervelt, Texas Master Naturalist, South Texas Border Chapter*

We're all just at the mercy of the elements, perhaps more so at sea, dominated by the mystical power of the moon and the wind, but there's one solid truth about this time-honored mystique: the more action in the ocean, the better pickings on the beach. Regardless of the dangers – or because of the perils of the deep blue sea – the beach pulls wanderers seeking treasures as strongly as the moon pulls the tide. Learn briefly about tides and currents, gain knowledge about maritime lingo, why it is important and imagine a sea bean or precious piece of coral's under-the-sea voyage as it makes its way to the Gulf Coast of Texas to be treasured by a dedicated beachcomber.

1:00 PM - 2:00 PM

Quick Photo Tips for TMN Documentation (or “Photography for TMNs”) - Boardroom 1

- *Ruth Hoyt, Photo Bound Tours, LLC*

Professional nature photographer and writer Ruth Hoyt (RGVCTMN Class of 2009) frequently uses her skills to connect people with nature, photography, and conservation by educating and entertaining them. She stresses the importance of practicing ethical photographic techniques when documenting nature, from delicate waterscapes or landscapes to the smallest insects or largest mammals in the wild. During this session, Ruth engages the audience through questions as she shows photos and shares general tips on photography. She not only includes the four basic aspects of any photograph (focus, exposure, composition, and content), but how to consistently produce images with the “Wow!” factor. Although she does not photograph people in most of her day-to-day work, she puts her extensive professional training into practice to document people and events when the need arises. She explains with a grin, “Birds and other forms of wildlife don’t care if they look fat, old, or wrinkled!” Whether you are a beginner photographer or a serious enthusiast, you should find this presentation entertaining and educational, particularly if you think you may find yourself responsible for documenting one of your TMN projects from beginning to end. With a little bit of practice and some thought before releasing the shutter, you may discover you enjoy being behind the camera instead of in front of it!

1:00 PM - 2:00 PM

Coexisting with Alligators - 102B

- *Jacob Reinbolt, South Padre Island Birding, Nature Center, and Alligator Sanctuary / Gator Country*

The American Alligator is about as close to a modern dinosaur as one can imagine. These prehistoric beauties are an iconic animal in the American South East, including Texas. Whether you love, hate, or fear them, we all live around them and it is important to have an understanding of these creatures, their vital role in our ecosystems, and how to safely coexist with them. We will also discuss the SPI Gator Rescue program and its role in providing sanctuary to nuisance alligators and educating the public about them.

1:00 PM - 2:00 PM

History of Outreach and Education Programs in TX - 101C

- *Steve Hall, Texas Parks & Wildlife*

Texas Parks and Wildlife has a rich history of "Outreach & Education" programs that have served Texans for well over 50 years. Most historic were early "I&E" efforts such as the TPWD Magazine and wildlife and television shows begun in 1955 by Harley Berg, Waco, after he served 20 years as game warden, as well as "Tutor the

Ringtail", the department's mascot. Voluntary Hunter Education (1972) and the water safety programs (1977), paved the way for mandatory education in Texas. In 1985, Project WILD was initiated, and that was followed in the 1990s by a slew of programs under the direction of Andy Sansom, executive director. Texas Master Naturalists, Urban Wildlife Biologists and various citizen-monitoring efforts led the way in Texas, and nationally, in many cases, for more intense volunteer involvement in the department's efforts to monitor, conserve and manage all ecosystems and to engage more urban audiences. Outreach programs such as Texas Wildlife Expo (1992), Becoming an Outdoors Woman, Aquatic Education & Hooked on Fishing (1993), and Parrie Haynes Youth Ranch (1994) were popular, especially with newer, more urban audiences. State Parks, as early as some of them were acquired, began interpretive programs which really grew with the advent of statewide programs such as Buffalo Soldiers, Outdoor Family, and Host and Ambassador programs. Texas Children in Nature provided the network to connect families and children with nature and CO-OP recreation grants provided additional funding. Today, programs such as National Archery in Schools, Angler Education, Hatcheries, and Get Outside serve as "gateway activities" for involvement in all TPWD programs. You can see that there are a variety of programs with which you, as a Master Naturalist, can partner or get more personally involved - not that you need more to do!

1:00 PM - 2:00 PM

Looking for a Hero! - Boardroom 2

- *Connie Lovell, Washed Up Texas*

Washed Up Texas: 1. Washed Up Texas is a non-profit organization dedicated to educating the public. 2. Tons of plastic trash dumped into our rivers and ocean everyday. 3. Large sculptures made with marine debris are the vehicles we use to educate. 4. Awareness of the magnitude of the problem we face. 5. Unless we know we have a problem, we can not fix it. Our sculptures bring that awareness to the public.

1:00 PM - 2:00 PM

Ancient Landscapes of South Texas: Showcasing a Positive Landscape Hiding in Plain Sight - 101A

- *Roseann Bacha-Garza, University of Texas Rio Grande Valley*
- *Juan Gonzalez, University of Texas Rio Grande Valley*

The Lower Rio Grande Valley (LRGV) is an area encompassing the 5 southernmost counties in Texas often associated with poverty, narcotrafficking, and illegal border crossings. To fuel positive publicity, educate residents, and attract visitors to the LRGV, the CHAPS Program at UTRGV developed "The Ancient Landscapes of South Texas" trail as a Geoheritage tourism initiative. The trail highlights the rich, largely overlooked geologic and natural/cultural history of the LRGV along a 40-mile-wide

corridor, from the mouth of the Rio Grande at the Gulf of Mexico to the city of Laredo, a distance of over 200 miles. The trail incorporates the geologic events that shaped south Texas over the last 43 million years, as seen at local outcrops that include the old shoreline of the Gulf of Mexico, a 60-foot-high volcanic ash deposit and evidence for a petrified forest. This trail exposes other sites/objects of interest and reveals how natural and cultural history collide through geologic resources used by first humans, such as the salt flats exploited since prehistoric times and distinctive El Sauz Chert used for projectile points for over 10,000 years. The trail includes water wells, hand dug in the 1850s through a 50-foot-thick layer of resistant caliche making cattle ranching possible in an uninhabitable environment. While some of these sites have been popular natural attractions for years, the majority are unknown even to local residents; hence the subtitle “Hiding in Plain Sight.” The project has been successfully tested with several nature advocacy organizations and school groups. Attendees will learn how we developed the multiple components of this tourism trail that include a foldable map, a picture book, a short documentary film, and a website with virtual tours.

1:00 PM - 2:00 PM

Eclipses 101 - 101B

• *Dorian Janney, NASA/GSFC/ADNET*

Over the next year, folks living in many parts of Texas will see not just one but two solar eclipses! The next solar eclipse that can be seen in the U.S.A. won't occur until 2044. In this presentation, I will describe the science behind solar eclipses and share information on the many efforts of Texas Master Naturalists to train their local communities about these awe-inspiring natural phenomena! Participants will gain an understanding of the background science behind both solar and lunar eclipses, know how to safely observe solar eclipses, find out where to find good resources to learn more and educate their local communities, and hear examples of ways in which their fellow Texas Master Naturalists have engaged their local community. This will enable participants to be ready for the April 8th solar eclipse and be prepared to engage and involve their local community in safely observing and understanding solar eclipses.

1:00 PM - 2:00 PM

Texas Game Wardens in the Rio Grande Valley - 103C

• *Harry Rakosky, Texas Parks and Wildlife Department*

Texas game wardens engage in a wide range of duties while serving the citizens of Texas. This presentation will provide an overview of the law enforcement division within the Texas Parks and Wildlife Department, give participants a feel for the kinds of tasks game wardens perform on a day-to-day basis, and offer a glimpse of some of the unique challenges they face in the lower Rio Grande Valley.

2:10 PM - 5:30 PM

iNaturalist 101+201 - 101B

- *Wendy Anderson, Texas Parks and Wildlife Department*

Want to learn about the nature around you while contributing to community science in a fun and engaging way? Look no further than iNaturalist! Whether you are new to iNaturalist or need a refresher or already a regular user, this session will provide you insights into how to enjoy the tool and contribute to community science efforts at the same time. iNaturalist is a powerful data collection tool enjoyed globally by hundreds of thousands of people. In this three hour class, you will be introduced to the TNT program and the basics of iNaturalist, from establishing an account to taking usable photos with the app. We will also take a deep dive into the iNaturalist website, exploring the possibilities of everything from uploading photos from your camera, editing observations, searching for taxa, performing identifications for others, and lastly, creating places for developing your own personal projects. Participants are encouraged to bring their own mobile phones and laptop or tablet to the session. You'll even be given the opportunity to go outside to practice using the app before the end of the session, weather permitting.

2:10 PM - 4:20 PM

Interpretive Trail Guiding to help Adults and Children to enjoy being outdoors. - Boardroom 2

- *David Powell, Heard Natural Science Museum and Wildlife Sanctuary*

How to interpret nature in a way that is informative and exciting, how to use some tools to get adults and children involved while outside.

2:10 PM - 3:10 PM

Operation Game Thief : Collaboration to Catch Poachers - 103C

- *Mike Mitchell, Presentation Speaker*
- *Daniel Shaw, Operation Game Thief*

If Texas Game Wardens work to protect our state's resources, and Texas Master Naturalists work to serve beneficial management of our state's resources, then it's time to focus more on this collaborative relationship. Operation Game Thief is a nonprofit created in 1981 to help facilitate conservation-related crimestoppers tips. But it's actually much more, and forms the third leg in an important triad. This presentation, by a Texas Game Warden, gives a detailed description of Operation Game Thief, how it works, and how the three organizations could collaborate to improve our quality of life. The new executive director of Operation Game Thief will also join in, helping explain the history, funding, flow, and success of the Operation Game Thief program. This is a first-time program focused upon collaboration to help work towards conservation achievement.

2:10 PM - 3:10 PM

Outreach and Education at Laguna Atascosa National Wildlife Refuge - 101C

• *Nicole Ekstrom, Friends of Laguna Atascosa National Wildlife Refuge*

This presentation will discuss the education and outreach programs offered by the Friends of Laguna Atascosa National Wildlife Refuge. Programs include youth and adult programs, as well as participation in community events. All events are geared to educate about Refuge habitats and wildlife. Youth programs include the Wild Friends Storytime and the Friends Science Series. Adult programs include the Naturally Native Garden Team, guided wildlife bike rides, and art classes. Community events we co-host with the Refuge include the annual Ocelot Conservation Day, National Public Lands Day and Earth Day cleanups, and the Family Fish Camp program.

2:10 PM - 3:10 PM

Texas Horned Lizards - Past, Present, Future - 102B

• *Lynn Seman, Rolling Plains Chapter/ Horned Lizard Conservation Society*

Texas Horned Lizards have a special place in the hearts of numerous Texans that grew up playing with these iconic critters! What about the young Texans of the future? Will they get to experience the joy of finding one of these precious "dinosaur-looking" lizards or will they be gone forever? In this session, I will explore the fascination of horned lizards of Texas, the threats that they are facing, and share information on how Texas Master Naturalists can educate the public on current information and conservation efforts. You will leave this session with specific educational activities to be used for public outreach events on horned lizard conservation.

2:10 PM - 3:10 PM

The Fight for the Texas Ocelot: Conservation Challenges and Opportunities - 101A

• *Sharon Wilcox, Defenders of Wildlife*

Once ranging across much of Texas, today the only remaining breeding population of ocelots in the U.S. is found in South Texas. An estimated 60-80 cats remain, holding on in native thornforest at Laguna Atascosa National Wildlife Refuge and on private ranchlands. These cats face many challenges as they fight for survival against great odds. Join Dr. Sharon Wilcox, Senior Texas Representative with Defenders of Wildlife, to learn more about this unique cat and the innovative work underway to protect and conserve the remaining cats living in the Ocelot Country of Texas. Discover what you can do to join the fight to save this charismatic wild Texan.

2:10 PM - 3:10 PM

How macroclimatic change is expected to transform coastal wetland ecosystems this century: emphasis - 103B

• *Christopher Gabler, University of Texas Rio Grande Valley*

Coastal wetlands have exceptional ecological and economic value, yet sustain continued loss globally despite concerted conservation and restoration efforts. Due to their position at the interface between land and sea, coastal wetlands are highly vulnerable to climatic and other global changes. It is well established that macroclimatic drivers (temperature and precipitation regimes) strongly influence coastal wetland ecosystem structure and function around the world. However, the vast majority of research on climate change impacts in coastal wetlands has focused on sea-level rise. Macroclimatic drivers have been largely ignored, despite their documented capacity to transform plant community structure. For example, increases in temperature can drive marsh-to-mangrove conversions, and changes in precipitation can drive vegetated-unvegetated transitions. Such changes have powerful effects on the ecosystem services provided by these systems. We modeled wetland plant community structure based on macroclimate using field data collected across the northern Gulf of Mexico coast (south Texas to south Florida) along broad temperature and precipitation gradients. Our analyses reveal strongly nonlinear temperature thresholds that govern the potential for marsh-to-mangrove conversion, as well as nonlinear precipitation thresholds that regulate dominance by various plant functional groups. Based on current and projected future climatic conditions, we use our macroclimatic models to demonstrate that transformative ecological changes in coastal wetland plant communities are probable throughout the region, even under conservative climate scenarios. Furthermore, because coastal wetland ecosystems are functionally similar worldwide, we expect changes in this region are also indicative of potential future changes in climatically similar coastal regions globally.

2:10 PM - 3:10 PM

Expressive Bird Photography - Boardroom 1

• *David Cook, Capital Area Master Naturalists*

Birds can be challenging to photograph. Even if you are patient and have mastered the fast shutter speeds that bird photography often requires, it can still be difficult to have your photography noticed. How can you more creatively express your love of birds photographically and tell better stories? This presentation will discuss key principles of photographing our avian friends, but more importantly, it will introduce you to new and interesting ways to photograph avian wildlife and improve your visual storytelling. Unlike many classes which often start with technique, this presentation will begin by reviewing different photographs of birds so we can construct the qualities and characteristics that make an excellent bird photograph.

What are the birds doing? Where is the light coming from? What is behind the bird, its background? These are all important components of expressive bird photography. Once we have discussed the key components of quality bird photography, we will explore the camera settings like focus and exposure that are essential. Next, we'll discuss elements the camera can't control: composition, lighting and background. Through numerous examples, we'll discover how each of these impacts our bird photography. After learning these skills, we will explore more interesting, and creative ways to express our love of birds through our photographs and how to use these photographs to enhance our visual storytelling.

3:20 PM - 5:30 PM

Beachcomber's Treasures : The Good, The Bad and The Mysterious - 103B

- *Linda McGonigle, Rio Grande Valley Chapter TMN*

A beachcombing experience is bound to be exciting with 370 miles of Texas coastline, plus the bays and tidewater flats to explore. The discoveries which may be found, change daily. As with the tides and weather patterns constantly changing and often unpredictable, the beach offers a myriad of treasures with each excursion. An introduction of where, how and when to comb the beach will be reviewed, including beneficial tips from veteran beachcombers. Participants will be introduced to beautiful specimens of shells, sea beans and drift seeds which adorn the Texas coastal shores and learn specifics about each one. As with any adventure in the outdoors, hazards, both animate and inanimate, will be discussed in combination with visual images. Beachcombing can produce a wide variety of mysterious discoveries. Identification and explanations of some of these items will be viewed and revealed. Keep in mind that someone's trash is another's treasure! Each participant will come away with a better understanding of what may be found on our Texas coastline, an urge to make a trip to the beach and a special treasure from the beach.

3:20 PM - 5:30 PM

Get 'Em Outside - Programs & Partnerships for Getting Youth and Adults on the Land - 101C

- *Kassi Scheffer-Geeslin, Texas Wildlife Association*
- *Chad Timmons, Texas Wildlife Association*
- *Matthew Hughes, Texas Wildlife Association*

The Texas Wildlife Association (TWA) is a statewide organization whose mission is “serving Texas wildlife and its habitat, while protecting property rights, hunting heritage, and the conservation efforts of those who value and steward wildlife resources.” Several TWA programs depend on landowners opening their gates and topic specialists (both agency professionals and individuals) to facilitate successful

natural resource education or hunting opportunities. Join our session to learn about Student and Family Land, Water & Wildlife Expeditions, the Texas Youth Hunting Program, and the Adult Learn to Hunt Program and how you as a Texas Master Naturalist can lend your expertise.

3:20 PM - 4:20 PM

The Road to Recovery: The Case of the Ocelot in South Texas - 101A

• *Thomas Yamashita, Texas A&M University - Kingsville*

Roads can have wide-ranging impacts on wildlife. Animals can be struck by vehicles or simply avoid roads. Animal fitness can be affected by associated noise, light, and chemical pollution or they may alter their behavior near roads. Road effects can be especially impactful on highly mobile endangered species, such as the ocelot, causing significant population declines and preventing recovery. Yet, roads are essential for economic development and transportation. So, an important consideration in road construction and development is how we balance necessary economic development with endangered species protection and wildlife conservation. The Rio Grande Valley (RGV) is home to a highly diverse animal and plant community, including the last surviving population of ocelots. Unfortunately, the greatest known threat to ocelot survival is roads. Ocelot populations in the RGV are split into two small, isolated populations, however networks of roads and development restrict ocelot movements and prevent population expansion. While the history of ocelot conservation in Texas is complex, recent efforts by private landowners and public agencies to protect ocelot habitat and reduce road impacts through construction of wildlife crossings and wildlife fencing are likely enhancing ocelot survival and recovery in the RGV and beyond. Join us as we discuss road ecology and road mitigation efforts for wildlife in the context of ocelot conservation in South Texas.

3:20 PM - 4:20 PM

How to Set Up an Outdoor Photo Studio - Boardroom 1

• *Ruth Hoyt, Photo Bound Tours, LLC*

Ruth Hoyt (RGVCTMN Class of 2009) guides photographers of all ages and skill levels on private properties with professionally designed photo blinds. These blinds are set up below ground in front of small water features for morning or afternoon photography, based on the direction of the sunlight and nearby habitat. Cameras are strategically placed at eye level with the subjects that visit the photo area. If the description above makes it sound like you could never create something like this in your small backyard, you should attend this presentation. Ruth teaches people how to set up an outdoor photo area specifically for this purpose. She shows some of her favorite photos resulting from working from photo blinds (including a floating blind), then follows up with how-to methods for achieving the photos. She discusses the four basic requirements for wildlife (food, water, shelter, and a place to raise

their young), and how to provide these requirements in a backyard area. Ruth continues by showing photos of simple to complex photo blinds, demonstrating how to find or build portable props to use without spending a fortune, and showing more examples of the kinds of photographs you can achieve. Armed with the hands-on demonstrations, props, and photos that you see during this session, you may discover some of your own ways to attract and photograph birds and wildlife outside your home!

3:20 PM - 4:20 PM

Artificial Nest Site Occupancy and Re-use of Urban Burrowing Owls in El Paso, Texas - 102C

• *Lois Balin, Texas Parks and Wildlife*

Burrowing owl (*Athene cunicularia*) populations have declined due to loss of natural habitat from expanded agriculture, urban development, and prairie dog eradication. The owls are listed as endangered in Canada, subject to special federal protection in Mexico, and as a Species of Greatest Conservation Need in Texas. Burrowing owls inhabit deserts, grasslands, prairies, and other habitats with low-growing vegetation. The owls are habituated to humans in El Paso and are residing and nesting in urban and suburban locations within the city and county of El Paso. The burrowing owls are opportunistic. Due to a lack of natural habitat, they nest under sidewalks, in parking lots, schoolyards, golf courses, and various drainage and irrigation pipes. These urban sites are often hazardous for the owls, their eggs, and owlets. Texas Parks and Wildlife previously installed 15 artificial nest sites at a 372-acre City Park (Rio Bosque Wetlands) managed for habitat and wildlife. The owls readily accepted the artificial nest sites and were monitored for reproductive success and site fidelity (2013-2023). There were 36 fledgling events between 2013-2022. Few studies have documented artificial nest site occupancy and re-use within urban park settings in West Texas. It is vital for conservation efforts of this species to understand how successful the owls will be residing/nesting in smaller acreage parks. We installed artificial nest sites in 5 other city parks and 1 in both a County Park and National Park. The nest sites were constructed artificial nests or nests used from anthropogenic materials found on-site. The number of artificial nests per park was variable. We monitored all artificial nests at eight parks for occupancy, reproduction, and site reuse (2019 - 2023). The number of nesting years, nest sites, and fledglings per park was variable. Fledglings per year ranged from 2 to 8. The percentage of nest site reuse ranged from 50-90%. The results indicate that artificial nests provide long-term nest sites for burrowing owls. This has important implications for management and future conservation of this species. Anthropogenic disturbance was the greatest threat to owls inhabiting the parks. Forming relationships with government agencies, construction companies, and engineers is critical to the

success of artificial nest sites in the parks. Staff cooperation is needed to assist with educational signs, protective barriers, and maintenance of the nest sites.

3:20 PM - 4:20 PM

Comparison of arthropod abundance and diversity on native and exotic street trees - 102B

• *John Goolsby, Entomologist*

Arthropods on native and exotic trees were sampled during the fall of 2010 and spring of 2011 in McAllen, Texas. A hand held vacuum was used to remove the arthropods from the foliage. For each tree sampled, arthropods were collected into nylon bags, and held for identification. The insects were identified by order and counted. Spiders were not identified to family but counted to determine abundance. Insect and spider diversity was significantly higher on native trees as compared to exotic trees. The significance of this finding is discussed in reference to the urban food web.

3:20 PM - 4:20 PM

Coronavirus should awaken us to fight Global Wildlife Trafficking - 103C

• *Mike Mitchell, Presentation Speaker*

COVID-19 sent tremors worldwide, cost trillions, grounded billions, and killed millions. Originating likely in a wet market, most attribute the origin to an illegally-traded animal. The world's attention should be drawn to the practice of illegal wildlife trafficking. There are no moats around countries in our modern world. International conservation efforts must stop the devastation of species, such as pangolins, rhinos, elephants, birds, reptiles, timber, and plants. Wildlife trafficking is big business. The stakes couldn't be higher. The time to act is now; the reasons stronger than ever. The speaker discusses the trends, cash flows, and possible solutions.

3:20 PM - 4:20 PM

Rewards of Nature Beautification - Children's Cancer Treatment Center - 102A

• *Sylvia Casselman, South Texas Border Chapter TMN*

• *Becky Jones, South Texas Border Chapter TMN*

Located in McAllen, the non-profit Vannie Cook Children's Cancer Clinic provides cancer treatment at no cost to its pediatric patients. Several years ago, the clinic's foundation approached the South Texas Border TMN to renew the barren atriums of its center with plants and water features that would provide respite areas and glimpses of nature for its patients and staff. This multi-year project consisted of three phases – each phase focusing on one of three atriums. Ultimately the project became a collaboration among our chapter, the City of McAllen, and the local Master

Gardener chapter. It currently features native and non-native pollinator plants, fountains, and ADA-compliant sidewalks, tables, and benches protected by permanent awning. Even though our chapter commitment was finite, with the sole continuing commitment the maintenance of three hummingbird feeders outside the clinic's infusion room, our appreciation for the natural beauty of the areas, as well as the enjoyment and comfort it brings the patients and families, has led our chapter to renew the areas periodically and after any weather events cause damage to the plants. The chapter project has been rewarding to all stakeholders in a multitude of ways.

4:30 PM - 6:00 PM

Chapter Leadership Reception - Ballroom

- *Mary Pearl Meuth & Michelle Haggerty, Texas Master Naturalist Program*

This session is for Chapter Presidents, Chapter Advisors or the Chapter President Designee to attend, hear about statewide initiatives, program updates and accomplishments. There is also usually time for an open format forum.

4:30 PM - 5:30 PM

Floating Gardens and HABS - Old version - New Look and What is a HAB??? - 103A

- *Diana Lehmann, Rio Grande Valley chapter of Texas Master Naturalist*

This presentation will look at ways water quality can be improved upon when too many nutrients impact the usability of an impoundment. We will review the nutrient cycle and look at why this is important in producing Harmful Algal Blooms (HABs). I will show a few examples of what a HAB looks like on the surface and microscopically. I will offer suggestions on ways to improve water quality in resacas, in ponds, and in lakes and streams in the State of Texas. You will learn who is really responsible to monitor and report on the water quality in Texas. Hopefully you will leave with a better understanding of how important water quality is not only to Texas but nationwide.

4:30 PM - 5:30 PM

Factors Influencing the Recolonization of Restored Thornscrub Forest Habitats - 101A

- *Audrey Hicks, Jerald Garrett, Texas Master Naturalist*

Forests account for 31% of global land cover and contain over half of amphibian, avian, mammal, and vascular plant species, while contributing ecosystem services pertaining to pollinator services, pest and disease control, climate regulation, and resilience to environmental changes. But, since the early 1900s, the Lower Rio Grande Valley has lost about 90% of thornforest, the native habitat for our region, due to agricultural and urban expansion. Therefore, we conducted a study to identify

the specific plants and animals in each of twelve restored Tamaulipan thornforest habitats and examined relationships between site variables and restoration outcomes at the restored locations in hopes of understanding the best approach for the restoration of thornforest.

4:30 PM - 5:30 PM

Beyond the Choir: Fairs, Festivals, and Farmers Markets - 102A

• *Nancy Angell, Sabine-Neches Chapter; Debbie Verret, Sabine-Neches Chapter*
Want to get your conservation message across to the general public in 2 minutes or less? You're invited to learn from our experiences! Workshop participants will receive tips on: 1) Connecting with local public events 2) Creating an attractive display booth 3) Making engaging table activities that are entertaining while teaching a concept 4) Sources for free/cheap nature items to hand out to visitors Hear from last year's project winner on how to reach "beyond the choir" in sharing our love of nature with those who are not nature-minded.

4:30 PM - 5:30 PM

Training Class Directors Roundtable - Boardroom 2

• *Mary Pearl Meuth, Texas Master Naturalist Program*
Join chapters from around the state to discuss successes and challenges of hosting new training classes for Master Naturalists. Come willing to share your chapter's methods, solutions and questions. Discussion may include, but aren't limited to, recruiting methods, speaker suggestions, virtual/hybrid pros and cons, and more!

4:30 PM - 5:30 PM

Avian Rescue, Avian Rehabilitation, Avian Release - Boardroom 1

• *Thomas deMaar, Sea Turtle, Inc*
Humans expand continuously into wildlife's world. New environments with steel, glass, and asphalt create obstacles that wildlife is not equipped to navigate and injuries result. Vehicles, roads, urban areas form a maze that threaten access to food and shelter. Changing patterns of wildlife aggregation and migration paths have changed dynamics of disease transmission. These anthropocentric effects cause extensive mortality and morbidity in wildlife populations logically creating an obligation for human led mitigation of wildlife injury. In order to ensure wildlife and human neighborly co-existence and future health mitigation should be practiced on macro and micro levels. The practice of wildlife rehabilitation is a local or regional human community-based investment yielding a physical and spiritual return to wildlife. The presentation will focus on rehabilitation of bird species and will cover ethical considerations, bird rescue, treatments, finding a rehabilitator and the eventual hope of release. Examples of active wildlife rehabilitation will be drawn from the complex confluence of ecosystems of deep south Texas.

4:30 PM - 5:30 PM

Wolf Spider Research in the Field - 102B

• *Eric Neubauer, Texas Master Naturalist*

Using several of the more interesting wolf spider species I've encountered since moving to Texas as examples, the following main topics will be covered: 1. Developing a network of colleagues on iNaturalist 2. Bridging the amateur/professional and field/lab gaps in making identifications 3. Using iNaturalist to create county level range maps 4. Photo techniques and aids Research techniques are designed for live spiders and are non-lethal. Spiders are photographed in the field and can be released where found.

4:30 PM - 5:30 PM

The Distribution of Mid-coast Texas Owls: A Spatial Analysis of Patterns in Nature - 102C

• *Gregory Simmons, Mid-coast Chapter, Texas Master Naturalist*

The Mid-coast Chapter, Texas Master Naturalist area is home to six species of owls within eight counties along the Texas Coastal Bend. This study is a spatial comparison of owl distribution with various ecological parameters across the area. Owl distributions show interesting patterns/preferences compared to ecological regions/sub-regions. In particular, the underlying substrate related to recent geological history is important in determining observed patterns/preferences. Approximately 400 research-grade owl observations were downloaded from iNaturalist. The observations were added to GIS mapping software (ArcMap) and spatially compared to TPWD Ecological Mapping Systems (EMS) and other data types, including ecological regions, geological formations, soil orders and aerial photography. Statistical patterns/preferences were identified for great horned, barred and burrow owls, which combined are 90 percent of the iNaturalist owl observations for the area. Great horned owls are the most common and widespread, showing multiple preferences. One example within the Mid-coast Barrier Island and Coastal Marshes is the Ingleside ridge where great horned owls are 90 percent of the observations. The Ingleside ridge is an abandoned barrier island complex close to the modern bay shoreline. This sandy ridge is covered by live oak forest and woodland that is a preferred habitat for great horned owls. Barred owls are the second most common with multiple preferences. One example is within the Floodplains and Low Terraces where barred owls are 79 percent of the observations. This ecological region is covered by hardwood forest and woodland. The underlying sediments are heterogenous incised valley fill subject to frequent river flooding. Burrowing owls are third most common and with perhaps the most stringent preferences. Their distribution is clumped in Southern Sub-humid Gulf Coastal Prairies areas being used for agricultural row crops. 83 percent of burrowing owl observations are in

these agricultural areas. These areas are predominantly clay-rich vertisols used for corn, milo and cotton cultivation.

4:30 PM - 5:30 PM

The R3 of Conservationists: Where Texas Master Naturalists, Hunting and Angling Converge - 103C

- *Jason Mercer, Texas Parks and Wildlife Department; Immanuel Salas, Texas Parks & Wildlife Department*

“R3” is the recruitment, retention and reactivation of outdoor recreationists and is a deliberate effort outlined in TPWD’s R3 Strategic Plan. Within that plan is an awareness that the ratio of conservationists and outdoor recreationists against the dramatically increasing population of the state threatens to dilute the advocacy for wild things and wild places. It is also a call to action to use our talents, passions and programs to bring our constituents onto a path towards stewardship and engagement in the outdoors. This is what the Texas Master Naturalists do and why you are a critical partner in this effort. During this session we will express the purpose and status of “R3” efforts in our state, illustrate where and how TxMNs can and are serving this mission, our role and influence on audience’s adoption of outdoor recreation (ORAM) and what programs, certifications, trainings & other resources you can incorporate into your work to accomplish your TxMN objectives. Perhaps most importantly, you will learn the changing demographics, values and perspectives of anglers, boaters, hunters & shooting sports participants and the financial & hands-on contributions they make to our natural resources; as well as opportunities to collaborate towards the beneficial management of natural resources and natural areas within our communities.

5:30 PM - 6:00 PM

Vendors Reception - Exhibit Hall A

Join us for a reception in our exhibit hall, featuring vendors, a silent auction, and a photo, art, and media contest.

6:00 PM - 7:00 PM

Meal

Welcome Dinner and Keynote - Ballroom

Join fellow Texas Master Naturalist members and community partners for a casual and social dinner, get to see everyone again in person, and share experiences from the last year.

7:00 PM - 8:00 PM

The Forgotten Rio Grande - Ballroom

- *Lawrence Lof, University of Texas - Retired*

The Rio Grande River and South Texas borderlands are in the news these days, but there is another, often forgotten story. Using slides, archival images, and video clips, this presentation tells the unique story of the lost history of the Rio Grande River and the rich “tropical” biodiversity that once flourished along its banks. The Rio Grande was once referred to as North America's second Mississippi. Today, it barely trickles into the Gulf of Mexico. Some years it does not make it to the sea at all. Nevertheless, it forms a rich historic legacy not well known or understood. Legacies however are not only measured in a cultural sense but in the rich biodiversity not found elsewhere in Texas or the greater US. From 1828–1902, a large fleet of shallow draft steamboats plied the Rio Grande carrying cargo and passengers upriver. The Rio Grande served as the highway for the entire region. Before the railroad came in the 20th century, access to the river was an important factor of daily life, not only for water but for transportation/trade. The early riparian landscape of the lower delta was dominated by a dense palm forest. Early Spanish explorers described seeing mile after mile as they explored. At the time of European contact in the 16th Century, the Rio Grande Delta waterways were lined with a thick growth of *Sabal mexicana* mixed with a second species, Texas Ebony. In places, these palms extended along the river up to a distance of 80 miles inland. Sabal palms, known as *Sabal texana*, is a tall fan leaf palm associated with a palmetto woodland vegetation which is distributed from the Pacific coast of Central America to the Lower RGV of Texas. This is the only palm native to Texas. In an otherwise arid South Texas, the palm forest with its associated species of plants and animals seems out of place and distinctly “tropical” in nature. Southeast of Brownsville, at Sabal Palm Sanctuary, the Rabb Plantation (TX Historic Landmark) served as a riverboat landing. The house Frank Rabb built in 1892 stood on the high ground close to the river. It made a statement about the success of its owner in the agricultural boom of the late 19th century. By the 20th century, the Rabb Plantation sheltered one of the last remaining relic groves of native Sabal Palms. This core forms the nucleus around which sabal palm reforestation has occurred at Sabal Palm Sanctuary. It remains one of the rarest and most distinct ecosystems in the Rio Grande Delta region.

8:00 PM - 10:00 PM

Field Session

Pollinator Garden After Dark - Intro to Mothing

- *Joseph Connors, STBC-TMN; Seth Welliver, The Butterfly Garden at Oleander Acres*

What kind of creatures can be found at night in a Butterfly Garden? We will discuss and demonstrate different ways to attract moths and insects and we will look around the garden for what creatures we can find while we wait for moths to arrive. Over 400 moths have been documented at Oleander Acres Butterfly Garden.

Friday - October 13, 2023

7:00 AM - 5:00 PM

Registration - Palm Lobby

Registration is being hosted by the South Texas Border Chapter and Rio Grande Valley Chapter.

7:00 AM - 8:00 AM

Meal

Breakfast - On Your Own

Breakfast each morning is not provided by the conference, but instead provided by contracted hotels for overnight guests. So wake up and eat breakfast at your own pace and in the convenience of your hotel.

7:00 AM - 12:00 PM

Field Session

From Landfill to an Oasis of Native Plants-Hugh Ramsey Nature Park

- *Barbara Peet, Rio Grande Valley Chapter; Christina Mild, Rio Grande Valley Chapter; Donna Otto, South Texas Border Chapter TMN*

Tour Hugh Ramsey Nature Park in Harlingen, truly an oasis of native plants which began as the City Landfill. This nature park has been a project of the Rio Grande Valley Chapter Texas Master Naturalist since 2002 when the chapter was formed. You will view plants that are endemic to the Lower Rio Grande Valley. Find out how the Chapter works to restore and preserve these nature oases for our native plants, our native animals, and ourselves.

7:00 AM - 12:00 PM

Field Session

Learning and Growing Urban Habitats

- *John Brush, Quinta Mazatlan; Becky Jones, South Texas Border Chapter TMN*

City habitats are often more biodiverse than they seem, and restoring underutilized urban spaces can have far-reaching ripple effects on people, plants, and wildlife. See first-hand how staff at Quinta Mazatlan have learned through action about habitat restoration and garnered community support for city projects.

8:00 AM - 12:00 PM

Field Session

Rewards of Nature Beautification - Children's Cancer Treatment Clinic

- *Sylvia Casselman, South Texas Border Chapter TMN*

How do you create the sounds of running water without a pond? Find out how we did that to attract birds and other pollinators in an atrium for the enjoyment of

pediatric cancer patients. Also discover how to incorporate ADA compliance in a beautiful and tranquil nature setting.

8:00 AM - 12:00 PM

Field Session

Thornscrub Tour

- *Mitch Sternberg, USFWS, Division of Biological Sciences, South Texas Gulf Coast Zone*

Come and tour the Thornscrub Restoration Program of U.S. Fish & Wildlife Service. Naturalists will get to visit the Nursery in Alamo, Texas, and learn about partnerships and the science that supports these efforts, as well as the seedling growing operation, including collection, processing, and storage of native fruits and seeds, and care for seedlings. After the nursery tour, we would travel to a nearby tract of the Lower Rio Grande Valley National Wildlife Refuge and walk through replanted forests. The tour is envisioned as an opportunity to see, learn and discuss various aspects of thornscrub and forest restoration in the area and not a wildlife-watching trip per se, but we are sure to see some wildlife along the way.

8:00 AM - 11:20 AM

iNaturalist Train the Trainer Workshop - 101B

- *Wendy Anderson, Texas Parks and Wildlife Department*
- *Craig Hensley, Texas Parks and Wildlife*

The Texas Nature Trackers (TNT) program is looking for Master Naturalists interested in becoming TNT certified iNaturalist workshop trainers across Texas. During this workshop we will provide you the training needed to get started as an iNaturalist trainer for your chapter, community and/or region. You'll learn the basics of using iNaturalist, how to teach about it, and be provided with a basic PowerPoint presentation to take home that will get you started. Should you accept this challenge, you will become an advocate not only for its use as an educational tool within your chapter but also for promoting community science and better understanding of the distribution of the state's flora and fauna.

8:00 AM - 10:10 AM

The Dark Eyed Junco: Six Birds Rolled Into One - 102B

- *Scott Kiester, Friends of LLELA*

They are all one species, but each subspecies has its own distinctive plumage, home range and migratory pattern, and there are multiple distinct populations even within subspecies. Their taxonomy is far from settled science. And they have several close cousins, some that we see each year here in Texas. Learn about the variations in one of the most populous of our native sparrows. Yes, they really are sparrows!

8:00 AM - 10:10 AM

Restoring Native Prairie Habitat on Public Land - Boardroom 1

- *David Powell, Heard Natural Science Museum and Wildlife Sanctuary*

How we have dealt with Cities to restore the habitat in Wylie and Erwin Park in McKinney a PowerPoint to look at what is growing at both sites along with discussion of how it is being done and the challenges to be dealt with.

8:00 AM - 10:10 AM

Look, Listen, and Learn! - 102A

- *Mike Farley, Good Water Chapter*

From the habitat to your brain. Observing by game camera image, video, or acoustic recording feeds your knowledge with the biodiversity that surrounds you while learning behavior along with tools and techniques for success. Contribute to citizen science by uploading your observations to iNaturalist to any of the Texas Nature Tracker projects building up the knowledge of Texas' species biodiversity within the global databases. Chapters should take aim at species of greatest conservation need to better understand their presence or absence in the ever changing landscape.

8:00 AM - 9:00 AM

Mesophotic Coral Ecosystems of the western Gulf of Mexico - 101A

- *Erin Easton, University of Texas Rio Grande Valley*

The continental shelf of the Gulf of Mexico is a muddy expanse that is punctuated by a few protruding reefs at mesophotic depths (30-150 m). These reefs provide essential habitat for abundant and diverse marine communities, including corals, sponges, and commercially important fishes. West of Matagorda Bay are a number of these reefs that are formed from geologic formations called salt diapirs, whereas south of Matagorda Bay the reefs are largely formed from relict coral reefs and submerged barrier islands. These hard substrate structures are covered in diverse communities of three-dimensional habitat forming organisms, such as sponges and corals. Because these mesophotic (low-light) ecosystems often support a diversity of corals, they are referred to as mesophotic coral ecosystems. In the last 15 years the study of these ecosystems has expanded with the advent of technologies to conduct video surveys and collect samples at depths deeper than recreational scuba depths (i.e., deeper than 30 m). Therefore, our understanding of the diversity on these reefs has been expanding. In this presentation, I will provide some background information on these ecosystems off the Texas coast, highlight their diversity, and present some results of some studies conducted on these vulnerable ecosystems. In addition, I will highlight the importance of these reefs for sustaining healthy oceans and the challenges facing their conservation, restoration, and management.

8:00 AM - 9:00 AM

Prairie Seekers Training Program - 103B

- *Kate Morgan, Native Prairies Association of Texas*

Prairie Seekers is focused on deepening our understanding of the characteristics that define prairies and the factors that influence their success. The training is delivered in a series of field explorations that focus on plant identification, prairie ecology, quality indicators, prairie maintenance, and the threats to the survival of our remaining prairies. This presentation provides a brief overview of the genesis of the program and describes the interlocking concepts that form its core. How we structure and implement the training and how the model may be expanded in other areas is described at the end of the talk. The key role played by Texas Master Naturalists and the use of iNaturalist are highlighted. The program was developed by the Native Prairies Association of Texas, and has been operational in North Central Texas since 2016. It provides a model that can be expanded to other regions of Texas as well as to other threatened ecological habitats. The mission of the Prairie Seekers Program is to "Equip citizens with a foundational knowledge of prairie systems that empowers them to understand, love and protect this unique ecosystem."

8:00 AM - 9:00 AM

Conservation Communication Best Practices - Boardroom 2

- *Karina Araujo, Texan By Nature*

Texan by Nature (TxN) exists to advance conservation, acting as an accelerator for conservation organizations and as a strategic partner for industry. In this 1-hour session, Karina Araujo, TxN Marketing Manager, will share conservation communication resources, tips, and recommended best practices. This information will equip attendees with tools & resources for use that can help them better articulate and market their impact to a variety of audiences. These skills are transferable to grant applications and working with industry.

8:00 AM - 9:00 AM

Student-Centered Learning: Brought to You by the Letter E - 101C

- *Karen Weaver, Palo Alto Battlefield National Historical Park*
- *Sofia Garza, Palo Alto Battlefield National Historical Park*
- *Robin Gelston, Texas Master Naturalist - Rio Grande Valley Chapter*

Student-centered learning puts kids in the driver's seat. This learning theory allows kids to choose how they participate and to steer learning the way they want to go. Sounds like a potential car crash. However, if done right, it opens up a road for kids to use their curiosity as you help them connect science ideas with their experiences and encourage them to figure out the answers on their own. The 5E instructional model provides a carefully planned sequence of instruction to keep that road open. With 5E, children are cognitively challenged while learning content, practicing reasoning skills, and communicating their ideas. In 5E, kids Engage their natural

curiosity as they Explore the world around them. Kids use their own experiences and knowledge to Explain and Elaborate on their observations and questions. Finally, they Evaluate their findings and the overall experience.

8:00 AM - 9:00 AM

High School Students Using Chemistry to Solve an Environmental Problem - 102C

• *Statira Wilmoth, Port Isabel Early College High School*

Chemistry students from Port Isabel Early College High School have been working with Mary Jo Bogatto, owner of Cactus Creek Ranch, an environmental education center. Mary Jo reached out to me during the spring of 2022 asking if I have students who would be interested in figuring out a less hazardous herbicide than the glyphosate she had been using. She wanted the students to figure out the most efficient and cost effective version of the vinegar-salt-detergent herbicide she had come across in her own research. A group of my chemistry students signed up for this project. The students have been using their chemistry knowledge to develop and test different concentrations of vinegar, salt, and dish detergent solutions. This presentation will be conducted by some of the students who have been working on this project with Cactus Creek Ranch. They will explain their progress as well as where they hope this project will go in the future.

8:00 AM - 9:00 AM

Chasing Monarchs - 103A

• *KAKKIE Cunningham, Cross Timbers Master Naturalist*

Become an advocate for Monarch Butterflies! Learn how to become a registered tagger for Monarch Watch. Session will include basic techniques regarding the entire tagging process. Short slide show will provide pictures of the standard process. Suggestions for adding easy butterfly friendly garden elements to your existing landscape will also be covered.

8:00 AM - 9:00 AM

Bring New Audiences to State Parks! - 103D

• *Charlotte Cisneros, Texas Parks and Wildlife Department*

Volunteer with TPWD to bring new audiences to State Parks! The Outdoor Education and Outreach Team at Texas Parks and Wildlife Department is seeking volunteers for the Buffalo Soldiers Heritage and Outreach Program, Texas Outdoor Family Program, State Park Ambassador Program, and other community engagement initiatives. Learn about these impactful programs that increase access to the parks and how you can get involved as a volunteer.

8:00 AM - 9:00 AM

Texas Mammals and Their Adaptations to Survive - 103C

- *Melissa Felty, Texas Parks and Wildlife*

Do grey foxes climb trees? Can porcupines shoot their quills? Who has better senses, feline or canine? By using skins, skulls, Replitracks, and Repliscat, join a discussion lead by Melissa Felty to share unique adaptations and survival tactics used by Texas mammals to survive in a variety of habitats. In addition, class management skills for teaching students and an update on TPWD educational loaner trunks will be provided.

9:10 AM - 11:20 AM

Artful Description Interspersed with Educational Information - Boardroom 2

- *Anita Westervelt, Texas Master Naturalist, South Texas Border Chapter*

A motivational and informative workshop about writing articles and taking photographs for chapter newsletters. No on-demand writing will take place. Sit back, relax, absorb exciting ideas about words, writing and the importance of sharing your knowledge and information with fellow chapter members via newsletter articles. Awaken your creative spirit with pointers for stunning photography even with an auto-everything, point-and-shoot phone camera. If article-length writing isn't your thing, aim for a stand-alone photo with a short descriptive cutline. Chapter newsletters are an excellent avenue in which to inform, educate and entertain fellow chapter members and promote volunteer activities. This training focuses on exciting word choices, finding ideas, writing prompts, research, attribution and cool tips for showing off photographs in a newsletter medium.

9:10 AM - 11:20 AM

Living in Harmony with America's Song Dog - 103C

- *Karin Saucedo, The Canid Project*
- *Roberto Saucedo, The Canid Project*

Coyotes are highly resilient creatures able to adapt to threats and acclimate themselves in almost every environment, including cities and suburbs. As a keystone carnivore, coyotes play a critical role helping to maintain healthy ecosystems and species diversity. This presentation will look at the current challenges coyotes face in a rapidly evolving human-centric landscape. We'll examine the coyotes' seasonal behaviors that often influence increased sightings and dispel some of the most common myths. In conclusion, we'll discuss proactive methods we can use to help avoid negative encounters with coyotes.

9:10 AM - 10:10 AM

Texas High School Coastal Monitoring Program - 102C

- *Statira Wilmoth, Port Isabel Early College High School*

Students from Port Isabel Early College High School (PIECHS) have been participating in the Texas High School Coastal Monitoring Program (THSCMP) for the last 22 years. In the THSCMP, the students participate in a year-long study of tidal variations, erosion patterns, and vegetative changes on the beaches of South Padre Island, TX. The data they collect is sent to the Texas Bureau of Economic Geology (TxBEG) for purposes of determining the need for beach replenishment. Moreover, TxBEG uses the data of tidal patterns, wave direction, and wave velocity to determine the most efficient method of dune protection. The students will present the findings they and previous groups of PIECHS students have collected over the last 22 years.

9:10 AM - 10:10 AM

The Use of Wildlife and Wildlife Parts in Education: How to be Legal and Compliant as a Wildlife Edu - 101C

• *Benjamin Anderson, Texas Parks and Wildlife Department*

Wildlife education is an essential component of the work of Texas Master Naturalists and one that TPWD would like to support whenever possible. The legality of using certain wildlife or wildlife parts in education is a complex web of laws and permits, so TPWD would like to assist Texas Master Naturalist chapters in navigating these processes so that no one unintentionally commits a violation. This presentation would equip Texas Master Naturalists with the confidence that they are operating within the law as they conduct essential wildlife education and would provide them with the opportunity to become more knowledgeable about the permitting process with Texas Parks and Wildlife. The Texas Parks and Wildlife Department's statutory and administrative code protects indigenous wildlife and some wildlife parts; a permit issued by the Department is required to possess and use certain wildlife parts for educational purposes. The process of obtaining a permit and maintaining compliance with the Department may not be intuitive for wildlife educators. The purpose of this presentation is to provide an overview of the permitting process along with a detailed explanation of what the Department is looking for from wildlife educators in terms of permitting and how we can assist Texas Master Naturalists to obtain a permit.

9:10 AM - 10:10 AM

Eighteen is Enough - A Monarch Parenting Adventure - 103A

- *Rick Travis, Blackland Prairie Texas Master Naturalist*
- *Lisa Travis, Blackland Prairie Texas Master Naturalist*
- *Carol Clark, Blackland Prairie Texas Master Naturalist*

What do a couple of Master Naturalists do when, in early spring, they find a multitude of Monarch caterpillars on a single Milkweed plant in their native plant meadow? They call Carol Clark, Monarch Watch Conservation Specialist, for advice

and counsel. In this talk, Rick and Lisa will share their adventure raising a batch of baby Monarchs from egg to adult and release, allowing this lineage of Monarchs to continue their northward spring migration. Carol will join Rick and Lisa for this talk, chiming in with relevant Monarch facts and taking a few minutes at the end to tell us what Monarchs need from North Texans.

9:10 AM - 10:10 AM

TEAMgo Wild with Texas Parks and Wildlife: Explore the landscape, collect data, and contribute to conservation - 103D

• *Laura Miksch, Texas Parks and Wildlife Department*

Join the Texas Parks and Wildlife Department's Landscape Ecology Program in mapping the Lone Star State like never before! Texas Parks and Wildlife Department's Landscape Ecology Program has developed a mobile version of TEAM (Texas Ecosystem Analytical Mapper) called TEAMgo to allow Texas citizens to utilize and contribute to the Ecological Mapping Systems of Texas (EMS) data on handheld devices. The TEAMgo application is a free, easy to use, interactive mapping tool accessible on a mobile phone that assists users in understanding Texas habitats and integrates vegetation data with a user-friendly mapping interface. The Ground Truth tool within TEAMgo allows users to collect habitat data around the state, help improve map accuracy, and contribute to Texas' conservation efforts. Whether you're a wildlife biologist, land manager, naturalist, planner, or simply an enthusiast for the great outdoors, TEAMgo is the ultimate tool for understanding and interacting with Texas habitats.

9:10 AM - 10:10 AM

Beef, Burns, and Bobwhites: Wildlife Compatible Grazing - 103B

• *Will Newman, Texas Parks and Wildlife Department*

The diverse native grassland ecosystems of Texas were historically maintained through 2 forms of interdependent disturbance: Fire and Herbivory. With deviation from indigenous fire cycles and livestock economic productivity driving grazing pressure, how are Texas ecosystems changed? During this presentation we will discuss compatibility between livestock grazing and wildlife habitat management, demonstrate online tools for basic grazing management decision-making, and explore the role of prescribed fire as a management tool for restoring grassland productivity and ecosystem function.

9:10 AM - 10:10 AM

Seagrass and People - Who is going to win? - 101A

• *Hudson Deyoe, University of Texas Rio Grande Valley*

Seagrass are marine angiosperms that live in shallow coastal waters. They provide multiple ecosystem services such as creating habitat, improving water quality,

stabilizing coastal sediments, and sequestering carbon. Seagrass are in decline worldwide largely due to human impacts on coastal ecosystems. Humans negatively impact seagrass by degrading coastal water quality (too much nutrients), destruction of seagrass through coastal development and in south Texas altering the freshwater input to the Laguna Madre. In addition to the above, the status and trends of Texas seagrass is difficult to determine because seagrass surveys are not routine. The Texas Master Naturalists could assist Texas Parks and Wildlife Department by performing long-term seagrass monitoring in Texas waters.

10:20 AM - 12:30 PM

Collecting Scientific Botanical (Herbarium) Specimens - 103D

- *Ashley Bordelon, Botanical Research Institute of Texas*
- *Kimberlie Sasan, Botanical Research Institute of Texas*

Preserved plant specimens provide us with important information about plant diversity and distribution, and represent an observable, relatively permanent, and verifiable form of evidence of a plant's existence in time and space. If these specimens are properly preserved and maintained, they can last for several hundred years. Join us in exploring the best practices for collecting scientific specimens, specifically for deposit in your local herbarium. We will discuss methods for vascular plants specifically, but will briefly address some other special cases such as fungi, bryophytes, and lichens. Participants will take home specimens they have pressed from material provided by instructors.

10:20 AM - 12:30 PM

Screech Owls, Owl Boxes, and Owl Cameras - 102A

- *Mike Mitchell, Presentation Speaker*

Eastern Screech Owls are amazing creatures. And no matter what toys we give to our children, they will always be the most amazed interacting with another living creature. Thus owls, boxes, and cameras are described. Having cameras in his backyard for several years, the speaker walks through several annual cycles of owls. Using videos and stills, he explains timelines of how things actually occurred. Sometimes nature is harsh, and things do not go as planned. The lecture demonstration format is specifically geared to help you learn how to set up an owl box and become amazed at what may occur.

10:20 AM - 12:30 PM

From rock dams to plant monitoring: what Joint Venture partnerships can offer Master Naturalists. - 101A

- *Karen Chapman, Rio Grande Joint Venture*
- *Rebekah Rylander, Rio Grande Joint Venture*
- *Jeff Bennett, Rio Grande Joint Venture*

• *Jesus Franco, Rio Grande Joint Venture*

Have you ever heard of a Beaver Dam Analog or one-rock dam? What about Grasslands Effectiveness Monitoring? Come visit with the Rio Grande Joint Venture staff to learn how Master Naturalists might gain valuable learning experiences and opportunities through partnerships for habitat restoration and monitoring. The Rio Grande Joint Venture (RGJV) is a conservation partnership of both government and nonprofit entities focused on priority bird habitats of the Chihuahuan Desert, Tamaulipan Brushlands, and Mexico portion of the Gulf Coastal Prairie. The RGJV's primary focus is to preserve, enhance, or restore critical/declining habitat for avifauna and other wildlife through partnerships with different groups in both the US and Mexico. The RGJV has been active in west Texas and Mexico by planning, assisting, and implementing riparian and grassland restoration projects, including using chemical treatments to reduce shrub encroachment in grasslands and addressing stream incision and degradation by building brush weirs to increase residence time of annual flows and reconnect floodplains. This year, vegetation and bird monitoring efforts are underway to understand the impacts of these restoration efforts and determine appropriate adaptive management actions. This 4-part session will cover: What is a joint venture and why are they important? Led by Rio Grande Joint Venture Coordinator Karen Chapman, explore the world of migratory bird joint ventures – how they formed, what they do, where they work and how Master Naturalists are important partners. - Beaver dam analogs, brush weirs, rock dams, and other low-tech process-based restoration techniques (otherwise known as LTPBR) for streams. Habitat Restoration Hydrologist Jeff Bennett will show results from West Texas - including a project with the Tierra Grande Master Naturalists and how to help landowners understand these simple but effective techniques. - Monitoring: how do we know we're making a difference and it can be fun! Join Science Coordinator Rebekah Rylander for bird monitoring and how seasonal techs bring the energy, enthusiasm and ability to withstand extreme temperatures to the field to deploy the latest technology in monitoring. - From Scaled quail to monarch butterflies – trying to restore in the Tamaulipan brushlands and how landowners are key. Assistant Coordinator & Grasslands Restoration Incentive Program manager Jesús Franco will discuss what landscape we need in South Texas.

10:20 AM - 11:20 AM

The Plague of Invasive Grasses: Is the Party Over? - 103B

• *Megan Clayton, Texas A&M AgriLife Extension Service*

Rangelands (home, home on the range) have long been known as the site of productive living for livestock and wildlife. Though noxious and invasive plants have been core challenges in rangeland management for a long time, several introduced grass foes now seem to be taking over! Not only can invasive grasses be detrimental to diverse plant communities important to wildlife, but some are not all that

desirable to livestock either! Where did these invasive grasses come from? Are the native, diverse rangelands that once thrived in Texas doomed OR can we fight for our right to PARTY with productive plant communities once again? Join us for a lively discussion about King Ranch (yellow) bluestem, Guinea grass, kleingrass, and more who now call Texas home.

10:20 AM - 11:20 AM

Native Plants & Their Role Within Municipal Water Reuse - Boardroom 1

- *Carol Garrison, John Bunker Sands Wetland Center*

This one-hour presentation will cover the function of one of the largest constructed wetlands in the USA. Attendees will learn the history of this incredible urban water reuse system that naturally cleans municipal water for one of the fastest growing regions of the country. Attention will be focused on introducing some of the major native plants that play a critical role within this amazing aquatic ecosystem located in Combine, Texas.

10:20 AM - 11:20 AM

Phenomenally WILD - 101C

- *Kiki Corry, TPWD*

The new science teaching standards (TEKS) open new opportunities for Master Naturalists to support teachers from kindergarten to high school. We've always known that natural phenomena are the touchstones for education and engagement. Project WILD, Aquatic WILD, and Growing Up WILD provide experiences with the phenomena, scientific and engineering practices, and recurring themes that the new standards require. Join us to explore how the WILD things that naturalists do naturally are exactly what the teachers will be needing help with. Learn the buzzwords and how to allay fears about them.

10:20 AM - 11:20 AM

Teaching about Butterflies by The Butterfly Learning Center, an Alamo Area Master Naturalist Project - 102C

- *Nicki Apostolow, Alamo Area Master Naturalists*
- *Derrick Mims, Alamo Area Master Naturalists*
- *Emily Hawthorn, Alamo Area Master Naturalists*

Volunteer-created and volunteer-run, the Butterfly Learning Center at Phil Hardberger Park in San Antonio Texas has been providing free educational programs and field trips to the public since 2015. In this presentation, you will learn about butterflies, native host/nectar plants, how to raise caterpillars, and how to teach all ages about butterflies and caterpillars.

10:20 AM - 11:20 AM

Gardening for Caterpillars - 103A

- *Berry Nall, Falcon Heights Baptist Church*

Insect (including butterfly and moth) populations are declining everywhere, and an important contributing factor is habitat loss. "Butterfly Gardening" helps counteract this trend, but the focus is often on common nectar plants. Master Naturalists can support pollinators by helping to identify, and encouraging the planting of, native host plants that are well adapted to the local environment.

10:20 AM - 11:20 AM

Spring Migration Through South Padre Island - 102B

- *Javier Gonzalez, South Padre Island Birding and Nature Center*

South Padre Island [SPI] is an incredible place to witness the spectacle of spring bird migration up the Texas gulf coast. The island is the first sight of land to thousands of trans-gulf migratory birds finishing their 600-mile non-stop flight over the Gulf of Mexico as they make their way back to their northern breeding range after having spent the winter in the tropics. Over 200 bird species can be seen on SPI during spring migration and the whole color spectrum can be observed in the birds as they wear their brightest breeding plumages. This presentation will discuss the bird's drive to migrate, the ecology of bird migration through the area, how you can best sight migration events, the challenges that migratory birds face, and how you can help the migratory birds from home. You'll also enjoy photos of the many colorful spring birds that migrate through South Padre Island.

11:30 AM - 12:30 PM

Wild Parrots of the Rio Grande Valley - 102B

- *Charles Alexander, Wildlife Artist/Writer*

Charles will share stories from his research across borderland urban spaces enlivened by the miracle of native parrots. Now in its twelfth consecutive year, his ongoing study has revealed a surprising and colorful world of close-knit parrot families, territorial rivalries, hungry predators, and human imposed challenges. Over the years, Charles has searched for Valley hotspots where the social lives and breeding behavior of native green parakeets and red-crowned parrots are best observed, getting to know and recognize individual parrot personalities on a daily basis. Time and again, the Valley's wild parrots have demonstrated their compelling strategies for surviving and thriving within the man-made jungle. Following the free-wheeling flocks year after year has proven to be among the artist's greatest adventures.

11:30 AM - 12:30 PM

Uncovering Cryptic Critters: Tips and Tricks for Finding Caterpillars - 103A

- *Berry Nall, Falcon Heights Baptist Church*

Caterpillars are fascinating and beautiful creatures, but they are often overlooked because many are masters of disguise. This presentation will discuss different approaches to discovering these hidden gems of nature.

11:30 AM - 12:30 PM

Connecting Kids with Cameras and Nature - 101C

- *Ruth Hoyt, Photo Bound Tours, LLC*

Ruth Hoyt (RGVCTMN Class of 2009) teaches photographers of all ages and skill levels, but holds a special place in her heart for working with youngsters. Her personal mission is to connect as many kids with nature and photography as possible, as long as she is able. Ruth works with various local organizations such as The Valley Land Fund and Quinta Mazatlan-World Birding Center and statewide organizations such as Texas Art Education Association to bring free or almost-free programs and workshops to locations wherever she can travel. During this presentation, Ruth shows ways to engage and encourage children to explore the outdoors with cameras (including cell phones) in hand. She shares photos of what she does with them during workshops, which take place indoors with slide shows and outdoors with cameras. Ruth knows there are many more ways to connect kids with photography, nature, and conservation. She hopes that TMNs will attend for inspiration to connect kids to their pursuits such as growing native plants, planting pollinator gardens, tagging butterflies, and much more.

11:30 AM - 12:30 PM

Rewarding Excellence in Youth Research - 102C

- *Lynn Seman, Rolling Plains Chapter/ Horned Lizard Conservation Society*

Each year, the Texas Master Naturalist Organization chooses two projects at the Texas State Science and Engineering Fair as our Conservation Special Award recipients. The 2023 Senior Award Winner is Katherine Lee from Plano, TX. She will be sharing information from her project on an environmentally friendly way to remove heavy metal pollutants from water. Our Junior Award Winner is Aditi Pinnenti from San Antonio, TX. Her project focuses on a study of the effects of urbanization on water quality in the San Antonio River. Come support these talented young scientists and learn about their important research! Also, in this session you can find out how you can be involved in this process of supporting student research in your region.

11:30 AM - 12:30 PM

Crafting Master Naturalist Stories: Outreach Writing Tips & Editing Tricks - Boardroom 2

- *Annabelle Moore, Big Country Master Naturalist Chapter*

Master Naturalists have the best job around—sharing the wonders of local ecosystems with our communities. We often reach Texans of all ages by writing for local newspapers, chapter blogs, and newsletters. This session will delve into the nuts and bolts of outreach writing. We'll examine how famous environmental writers employ words to explore and explain the natural world. By examining snippets of their work with our writer's magnifying glass, we'll focus on crafting engaging science-based narratives. Learn a few tips to find story ideas, fact check, paraphrase, and research. Gain some tricks to self-editing and using the TMN Style guide. Join in and build your Master Naturalist writer's tool kit!

11:30 AM - 12:30 PM

Herbivores, honey buns, and the Golden Corral: Why plant diversity is crucial in nutrition - 103B

• *Jacob Dykes, TAMU*

The days of relying on intuition to meet nutritional needs have passed for most humans. In fact, easy access to food ensures I typically have a surplus of nutrients, and I often binge my favorite foods, which lack any nutritional balance at all – gotta love those honey buns. This behavior typically results in a lousy feeling, but luckily for me, I can afford it because I don't have predators trying to eat me. For many critters, this isn't the case, especially herbivores. Herbivores are tasked with balancing nutrient intake to meet their needs while avoiding too much of something that could slow them down and making sure the reward is worth the effort. This means the hypothetical honey bun of the herbivore world may be attractive and delicious, but it isn't likely to meet all those nutritional requirements and thus can't be relied on exclusively. To further complicate the matter, herbivores are constrained by their metabolic needs and the tools they possess to meet those needs, and plants employ chemical and mechanical defenses to avoid being eaten. By promoting plant diversity, we give herbivores options (think Golden Corral), so they can choose a diet that meets their nutritional needs and keeps them running optimally while mitigating the burden of competition for food on the landscape. Come learn about the evolutionary arms race between herbivores and plants and why plant diversity is so important for herbivores.

11:30 AM - 12:30 PM

Growth And Reproduction in Gulf of Mexico Black Corals (Antipatharians) in Field and Laboratory Studies - 101B

• *Victoria Salinas, University of Texas Rio Grande Valley*

Black corals provide an important ecosystem of marine life and are found throughout all the oceans of the world at depths between 2 and 8,600 m. However, little is understood about their life history and the factors that control the distribution of black corals, particularly in the Gulf of Mexico (GoM). Given the

impacts of the Deepwater Horizon oil spill on soft corals (e.g., black corals and octocorals) in the GoM, studies of their growth and reproductive biology in both natural and aquaculture environments are crucial for restoration efforts. The objectives of this study were to examine reproductive processes, compare growth rates in situ and in aquaculture, and provide an aquaculture guide for two species of black corals (*Stichopathes luetkeni* and *Antipathes atlantica*) in the GoM. The data collected during this study will provide vital information for the protection and management of black corals at mesophotic depths in the GoM.

11:30 AM - 12:30 PM

You Can't Plant That! Encouraging Native Landscapes in HOA Neighborhoods - Boardroom 1

- *Diane Wetherbee, TXMN-Elm Fork, NPSOT, NPAT*

We often hear, “My HOA won’t let me plant native plants.” The fact is, Texas state law prohibits HOAs from disallowing water-wise landscaping, but does allow them to require the landscaping to fit into the general aesthetic of the neighborhood. How can we encourage the use of more native plants in our communities and still make HOAs happy? With water becoming an increasingly scarce resource in Texas and our native pollinators and birds having a difficult time finding the food sources they need to survive, we must find a way to create more native landscapes within our communities. HOA committees tasked with enforcing guidelines often don't have an understanding of how native landscapes can fit well within their neighborhoods. We must find ways to educate homeowners and architectural review committees and encourage the planting of more water-wise native landscapes, even in highly regulated HOA communities.

11:30 AM - 12:30 PM

Endangered Species in Texas and How You can Help - 103C

- *David Powell, Heard Natural Science Museum and Wildlife Sanctuary*

Some examples of who needs your help to survive in our state, with ideas on how you can be a part of the effort to save them.

12:30 PM - 2:00 PM

Meal

Lunch and Science Fair Winners Presentation - Ballroom

Lunch and learn! Hear from our Junior and Senior Science Fair winners! Each of these students earned a certificate from the Texas Master Naturalist program for their conservation focused science fair project at the state Science and Engineering Fair. Incredible young minds at work! (One or both depending on final student availability.)

1:00 PM - 5:00 PM

Field Session

Using iNaturalist to be a good land steward

- *Seth Welliver, The Butterfly Garden at Oleander Acres*
- *Donna Otto, South Texas Border Chapter TMN*

"In the end we will conserve only what we love, we will love only what we understand, and we will understand only what we are taught."(BD)

The Texas Master Naturalist Program and its use of iNaturalist to promote citizen science have been a wonderful partnership that benefited our family's conservation of our Butterfly Garden. Once we have learned what we have, then we can learn how to conserve it. iNaturalist and the city nature challenges were the first inkling of how diverse our property was. Being able to interact with researchers and experts from different countries has helped shape our understanding of living on the border of 2 countries. Participants can part in a brief refresher course of iNaturalist in our 30x40ft pavilion while we discuss the way iNaturalist has impacted our garden and its conservation. Notable items include an endangered Tamaulipan Hook Nose snake, a first U.S. record Butterfly, and getting to over 2,100 identified observations. We then adjourn to the nearby Butterfly Garden where participants can reasonably find 250+ species of flora and fauna in a concentrated area. Guides will be available to answer questions, and point out notable discoveries. Time permitting, we can help in uploading and identifying the observations of our fellow naturalists.

2:00 PM - 4:10 PM

Relationships Among Biodiversity, Urbanization, and North American Ecoregions - 101A

- *Mike Quinn, University of Texas Insect Collection*

It's common knowledge that Texas is the most biodiverse state in the union, but why is that and where within Texas might that biodiversity be most diverse? The recent explosion of observational insect data (n=18 mil) can now augment collection-based entomological data to address these questions. We will look at a variety of plant and animal data, of both vertebrates and invertebrates, overlaid on ecoregional and urbanization maps to explore the rich biogeography of North America in general and Texas in particular.

2:00 PM - 4:10 PM

Acoustic Monitoring of Texas Bats: A Community Science Project for TMNs - 101B

- *Craig Hensley, Texas Parks and Wildlife*

Gaining a better understanding of the distribution of 30 species of bats across a state the size of Texas is a daunting challenge. However, with the power of community

science and Texas Master Naturalists, we can make headway in a significant and important way. Join TNT Biologist Craig Hensley for an introduction to the bats of Texas, their challenges and this new effort to better understand these flying mammals through acoustic monitoring. We are looking for Master Naturalists chapters and individuals interested in surveying bats in your area using acoustic monitors next spring and early summer as well as individuals who are interested in assisting with data analysis.

2:00 PM - 4:10 PM

Ornamental Ponds and Water Gardens in Texas - 102C

- *Todd Sink, Texas A&M AgriLife Extension Service*

This 2 hour how-to educational program will extensively cover Ornamental Ponds & Water Gardens in Texas including location and planning, construction, water sources, water quality, filtration, fish stocking, types of fish, acclimating fish at stocking, feeding fish, aquatic plants, and potential problems. Ornamental ponds are a great way to add a water resource to smaller acreage properties, thus preventing water deserts for wildlife and improving fish and wildlife habitat for better viewing opportunities. When done properly, they can add a great deal of wildlife as well as monetary value to a property while providing the landowner with an aesthetic view.

2:00 PM - 3:00 PM

Digital Camera Trapping. iNaturalist and Training Class Connections - 102A

- *David Cook, Capital Area Master Naturalists*

For the past 4 years, Capital Area Master Naturalists have been conducting a digital camera trapping project on the Vireo Preserve in Austin, TX. What began as a one-year project with loaner cameras from TPWD has grown to a project that attracted donated cameras from members, trained 3 classes on the use of digital field cameras, provided many volunteer hours of Field Research for CAMN Members, and accumulated over 600 observations in iNaturalist. This presentation will talk about the mechanics of the project, how one class trains the next class on the use of the cameras and iNaturalist, some of the highlight observations over the course of the project, and, of course, lessons learned along the way.

2:00 PM - 3:00 PM

Mapping the Plants (specimens) of Texas - 103D

- *Kimberlie Sasan, Botanical Research Institute of Texas*
- *Ashley Bordelon, Botanical Research Institute of Texas*

A wealth of data about the past distribution of plants across Texas is provided by the location information stored on specimen labels found in herbaria around North America. Paired with up-to-date observation data such as iNaturalist, these

biodiversity records help paint a more accurate picture of plant distribution in our state. However, past distribution data is especially represented by ambiguous geospatial data, and especially text-only descriptions of locations, meaning they are not mappable. Workshop attendees will leave with a general understanding of spatial systems that have been used to map biodiversity data, how to interpret geo-coordinates and other spatial data on specimen labels, and receive recommendations on how to properly record geospatial data for their own biodiversity observations. To conclude the session, participants will be introduced to online specimen databases where they can access plant distribution data from museums (TORCH, GBIF, iDigBio), and briefly learn about a current project using GEOlocate (online software for georeferencing natural history collections data) to map Texas plants.

2:00 PM - 3:00 PM

Don't Kill It 'Til You Know What It Is - Boardroom 1

- *Anita Westervelt, Texas Master Naturalist, South Texas Border Chapter*

Throughout Texas, many of the same plant species seem to spring up around edges of gardens, push up between cracks in a sidewalk or infiltrate lawns and gardens – plants generally thought of as weeds. Some are native, others are not. Different species react differently depending on soil and other habitat characteristics. Find out just how many seeds a native succulent might generate, what critters eat its leaves, what flowers attract nighttime visitors and what to keep in case a Texas tortoise or wild Rio Grande turkey might be passing through. Before you kill it, learn what it is; many of these annoying plants are native wildflowers. This talk showcases the benefit these plants have for our native wildlife – from bugs to butterflies to birds.

2:00 PM - 3:00 PM

Spooky Spiders of the Rio Grande Valley - 102B

- *Joseph Connors, STBC-TMN*

Learn about the common and some unusual spiders of the Rio Grande Valley with a spooky theme including Ghosts, Goblins, Ogres, Pirates, and many more types of spiders. Bring your questions and curiosity! Presented by Joseph Connors, member of the South Texas Border Chapter, Texas Master Naturalist.

2:00 PM - 3:00 PM

Spanish for Naturalists Class ¡Español para naturalistas! - 101C

- *Wendy Anderson, Texas Parks and Wildlife Department*
- *Ernesto Garcia-Ortega, Texas Parks and Wildlife Department*

Español para naturalistas! Join Spanish speaking Texas Parks and Wildlife Department biologists and learn the Spanish names for common trees, plants, flowers, animals, birds, and insects. Prior knowledge of the Spanish language is

great, but everyone is welcome as the course is designed to cater to all levels. Participants will have an opportunity to engage in small practice groups to maximize their learning. By the end of the class, students will have gained a newfound confidence to use the names of flora and fauna in Spanish. Overall, this course is an excellent opportunity for individuals to expand their knowledge of the Spanish language while also learning about the world of nature.

2:00 PM - 3:00 PM

Soil is Key to Habitat Creation, Maintenance and Restoration - 103A

• *Jane Duke, EarthExam*

Whether you are setting up a Monarch way station, transforming a lawn into a native space, or restoring an abandoned field; knowledge of soil food web biodiversity is important for the regeneration of soil fertility and maintaining healthy ecosystems. The soil food web is the community of organisms responsible for many ecosystem services such as nutrient cycling, water regulation, and carbon sequestration. For example, research has shown that the invasion of invasive plants substantially changes communities of both soil micro-flora and soil fauna within the soil food web. In this workshop we will cover primary plant succession and soil formation, how to map your project site, sample soil, determine soil type, and review ways to amend the soil for your habitat needs.

2:00 PM - 3:00 PM

Environmental Ethics - Intrinsic Value in Nature - 103C

• *Jeff Gessas, Texas State University - Philosophy*

People describing environmental issues, even conservationists, often find themselves speaking about the natural world in terms of natural resources; sustainable forestry, important ecosystem services, clean water and breathable air for future generations, etc. While justifiable, this framing fails to recognize what value nature has outside of its utility for humans and struggles to justify conservation of parts of the natural world which are less useful for human beings. As Aldo Leopold asks, "what is the economic value of songbirds?" This talk explores what environmental philosophers call "intrinsic value," the value something has in-and-of-itself, and will furnish attendees with some vocabulary and concepts which articulate the value of the natural world beyond just natural resources for human consumption. The talk represents an approximate summation of the first few weeks of my Environmental Ethics class which covers this same topic as an introduction to the field of environmental philosophy.

2:00 PM - 3:00 PM

Technical and Financial Assistance Programs for Wildlife Habitat - 103B

• *Will Newman, Texas Parks and Wildlife Department*

Active management and adaptive planning are critical for conservation of native ecosystems on private lands in Texas. We will provide an overview of guidance and financial support resources available for private landowners, land managers, and resource professionals. Master Naturalists with a familiarity of the various roles and responsibilities of the relevant agencies and organizations working in Texas, are prepared to help decision-makers connect with these powerful tools.

2:00 PM - 3:00 PM

Symbiotic Relationships in Texas and How to Teach it - Boardroom 2

• *David Powell, Heard Natural Science Museum and Wildlife Sanctuary*

Explanation of the types of symbiosis with examples of them and a game that can be used to teach them for most ages.

3:10 PM - 5:20 PM

Bringing Tiny Forests to South Texas - Boardroom 1

• *John Brush, Quinta Mazatlan*

Tiny Forests are being planted all over the world as a way to engage communities and to create quick-growing forests in urban spaces for the benefit of people (ecosystem services) and wildlife. These forests follow a specific methodology that increases the likelihood of their success and rapid growth, and hosts far more biodiversity than traditional forestry projects or urban landscaping. Quinta Mazatlan has installed Tiny Forests in McAllen and has the dream/goal of getting one at every school campus in the city. Workshop participants will learn how Quinta Mazatlan was inspired to create Tiny Forests from Colleen Hook, manager of Quinta Mazatlan, as well as how the nature center fundraised, marketed, and budgeted the forests. Then, learn the how-to's of Tiny Forest design, preparation, and installation from John Brush, urban ecologist of Quinta Mazatlan. This includes how to select plant species, planting density, maintenance, and more. Session takeaways include: •How Tiny Forests might be an option for you •Things to avoid during the process •Ideas for the future

3:10 PM - 5:20 PM

Land Is The Answer: Activating Community Conservation - 103B

• *Amber Arseneaux, Texas Land Conservancy*

Today it is easy to feel helpless in the face of climate change, a fractured society, polluted waters, and health crises, but the work of Texas land trusts address these threats. Every acre a land trust stewards reduces greenhouse gasses. Every family farm and ranch that is conserved provides sustainable food. Protected forests and wetlands make communities more resilient to severe weather. Preserved lands provide places for people of all backgrounds and abilities to find common ground around their love of the outdoors. Land conservation is the answer to so many of the

challenges facing our world, and together, Texas land trusts have protected a staggering 1.9 million acres to date. But our natural lands are disappearing at an alarming rate to fragmentation and development, and once that land is gone, we can't get it back. Hear from land trust staff, volunteers, and landowners about this important work and why volunteering with a local land trust can amplify the impact of your volunteer service. Learn what Texas Master Naturalist chapters are already doing to support land trusts by actively participating in habitat restoration projects, providing technical guidance to landowners, leading educational and outreach activities on conserved land, and sharing their knowledge with the public. Participants will leave with an electronic directory of land trusts working in Texas and ways that they can get involved.

3:10 PM - 5:20 PM

Exploring ambiguous moral and ethical situations (formerly Laws and Ethics) - 103C

- *Richard Heilbrun, Texas Parks & Wildlife Department*
- *Mike Mitchell, Presentation Speaker*

Open to previous attendees and newcomers, in 2023 we'll explore all new ethical dilemmas and legal situations that a Master Naturalist might encounter. This interactive exercise will discuss situations that every Master Naturalist should know and understand. Some situations may be straightforward, and some may ask you to dig into your life experiences and training to apply your conservation ethic to real world situations. Brought to you in a friendly, common-sense dialogue between a retired game warden and a wildlife biologist, the speakers will challenge each other and the audience to answer conservation's most challenging quandaries. This activity will supplement the Laws, Rules & Ethics module in the TMN curriculum. Now in their seventh year teaching this topic at the annual meeting, Richard Heilbrun and Mike Mitchell put a new spin on this interesting discussion.

3:10 PM - 5:20 PM

Good GALL-y that's weird!! - 103A

- *Kimberlie Sasan, Cross Timbers Master Naturalist*
- *Adam Kranz, Gallformers.org*

Galls are fascinating structures found on a wide variety of plants. These abnormal growths are caused by a range of organisms, including insects, mites, fungi, and bacteria. Galls can vary in size, shape, and color, and can serve a range of functions for the organisms that inhabit them. This presentation will explore the diverse range of galls found in nature, from the simple bumps caused by mites to the complex structures induced by wasps. We will also discuss the unique opportunities for citizen science in the field. Join us to learn what galls are, how to identify the organisms that make them, and even how you could find the next undescribed

species! Your hosts are Adam Kranz, co-founder of Gallformers.org and Kimberlie Sasan, Cross Timbers Master Naturalist, both co-authors of the newly described gall wasp, *Druon laceyi*.

3:10 PM - 5:20 PM

Fitting Nature Journaling Into Your Life - Boardroom 2

- *Irmi Willcockson, Texas Master Naturalist*

Nature Journaling is about connecting more deeply with nature. It can be difficult to fit this practice into daily life, however. In this hands-on workshop learn and practice different techniques such as blind contour drawing, diagramming, and color swatching. These can be used anywhere to 'drop into' journaling. We'll spend some time journaling together, then finish by talking about how a local and wider nature journaling community can support your practice.

3:10 PM - 4:10 PM

Fabulous Flies - 102B

- *Laura Kimberly, North Texas Master Naturalist*

How fabulous are flies? Quite fabulous, actually. Flies, taxonomically known as the Diptera, are colorful, elusive, beguiling, acrobatic, charming, and helpful. So, you ask, there's more to flies than filth and bite? Yes! How would you know? By taking a closer look at the qualities across the wide diversity of the Diptera. You'll get an overview of dipteran life histories, feeding habits, and beneficial behaviors, and basic fly family identification. You'll also learn a few fun fly facts. All that; so you, too, can advocate for flies and their important ecological roles.

3:10 PM - 4:10 PM

Environmental Flows in Texas - 103D

- *Lindsey Elkins, Texas Parks & Wildlife*
- *Carly Rotzler, Texas Parks & Wildlife*

Instream flows can be defined as simply "water flowing in a stream channel." Managing instream flows for anthropogenic and environmental needs in Texas streams has been challenging with rapid population growth, competing uses for water, and impacts from climate change. The Texas Parks and Wildlife Department (TPWD) in partnership with The Texas Chapter of The Nature Conservancy (TNC) has started a project to negotiate with water right holders to contribute environmental flows to the Texas Water Bank & Trust through voluntary environmental water transactions. TPWD and TNC have co-developed the publicly available Environmental Flows Information Toolkit (EFIT) to identify opportunity areas, associated environmental flow needs, and restoration strategies. Participants in this seminar will learn the basic science of environmental flows, various

applications of EFIT, and how they can contribute to instream flow conservation/restoration.

3:10 PM - 4:10 PM

Teen Trailblazers: Texas Junior Master Naturalists at the Wetland - 101C

• *Carol Garrison, John Bunker Sands Wetland Center*

A class like no other in the state of Texas! The John Bunker Sands Wetland Center is excited to present the Inaugural Class of Texas TEENAGE Junior Master Naturalists! Ten incredible young people participated in our 9-month long program that was modeled after the Texas Master Naturalist certification process including in-person classes, field trips, and mandatory volunteer hours. These young people were truly trailblazers as their class project was to create a trail connecting our boardwalk to a floating dock to enhance our outdoor education opportunities. We were incredibly thankful to be sponsored by the North Texas chapter; they were an incredible source of support. This presentation is a photographic history of the experience as well as a chance to learn our successes and "opportunities for improvement". This presentation is an excellent roadmap for anyone interested in launching a teenage Junior TMN program.

3:10 PM - 4:10 PM

Lights Out Texas! - A North Texas Case Study - 102A

• *Jimena Vivanco Vivanco, Texas Conservation Alliance*

• *Mariah Campos, Texas Conservation Alliance*

Texas is essential for migratory birds, with millions soaring across our Lone Star skies every spring and fall. Most birds migrate at night, and brightly lit buildings can confuse and disorient them on their journey, resulting in deadly collisions. In the US, as many as 1 billion birds die from collisions with buildings every year! Because of light pollution, the DFW metroplex is the 3rd most dangerous area in the United States for migratory birds to travel through. Lights Out, DFW! is a behavior change campaign targeting non-essential lighting in the Dallas-Fort Worth Metroplex. Aiming to ensure a darker night sky, all business owners and residents are encouraged to go lights out during bird migration seasons. Surveys consist of coordinators and volunteers that document bird-building collisions in the early morning hours. Stunned and injured birds are documented and rescued for delivery to licensed wildlife rehabilitators. Overnight Mortalities that are collected enter a salvage pipeline to be preserved at the Biodiversity Research and Teaching Collections (BRTC) at Texas A&M Texas Conservation Alliance has partnered with other non-profit organizations around the DFW area to conduct these surveys, further strengthening the conservation network and impact in the North Texas Area.

4:20 PM - 5:20 PM

Gardening for Bats - 101B

- *Anita Westervelt, Texas Master Naturalist, South Texas Border Chapter*

Bats are important beneficial mammals. Texas has more bat species than any other state: 33 of the 43 species found in the United States. Most of the bats in Texas are insectivores. We have always been told that bats are good because they eat mosquitoes. And they eat so much more! Insect-eating bats eat an amazing variety of night-flying bugs and crop-damaging pests. Learn diet preferences of some of our more prevalent bats, how native plants provide food and shelter for night-flying insects and in turn how that benefits bats. Many of the insect-attracting plants are found statewide. Learn about beneficial plants to add to existing gardens and help our native habitat and bats – one shrub at a time!

4:20 PM - 5:20 PM

An Introduction to Lichens - 103D

- *Mary Ann Melton, Good Water*

Lichens grow all around us, hiding right in front of us. Once you become aware of them with their amazing variety, you begin to see them everywhere. This is an introduction to many of the different kinds of lichens that are growing all around us. Mary Ann will be bringing lichen samples.

4:20 PM - 5:20 PM

What Does Green and Clean Mean for Birds? A Look at Renewable Energy and Birds - 102A

- *Tania Homayoun, Texas Parks & Wildlife*

Texas, host to more than 650 species of birds, is the top energy producing state in the nation with more than a quarter of that energy coming from wind and solar sources. While renewable energy is a key strategy to addressing climate change - one of the most pervasive global threats to bird biodiversity - solar and wind energy facilities pose their own unique challenges to birds and their habitats. This presentation will introduce the state of renewable energy in Texas, what we know of the potential threats to birds and mitigation strategies, and areas where additional research is needed.

4:20 PM - 5:20 PM

Junior Master Naturalist Roundtable - 101C

- *Mary Pearl Meuth, Texas Master Naturalist Program*

Join other chapters from around the state to discuss the diverse and creative approaches to educating young Texans about the natural world through the Junior Master Naturalist program. The Junior Master Naturalist program is currently created and run individually by each chapter. In this roundtable session, we will

discuss ways in which we can continue the legacy of the Texas Master Naturalists by educating future generations through the Junior Master Naturalist program.

4:20 PM - 5:20 PM

Using Biological Control for Aquatic Vegetation - 102C

• *Brittany Chesser, AgriLife Extension*

Biological control can be used as a management tool either alone or as an integrated pest management strategy. This can limit the need for chemical use while also controlling invasive aquatic vegetation species. This presentation will cover aquatic biological control agents used within Texas, including triploid grass carp, Mozambique tilapia, and select insects. Subject matter will include the origin, history of introduction, life cycle, susceptible species, stocking rates, and more.

4:20 PM - 5:20 PM

Tardigrades: Pigs in Space! - 102B

• *Bruce Neville, TMN-BV*

The tardigrades are ubiquitous little animals that have become a popular meme, particularly since some were taken into space and came back after exposure to the vacuum and intense radiation of space! Also called water bears or moss piglets, they can also withstand temperatures near absolute zero or well above the boiling point of water, over 1000 atmospheres of pressure, intense gamma and UV radiation, and years without water or food. But what do we know of these strange little creatures? Where do they fit in the animal kingdom? How do they “make their living”? Have you ever seen a living tardigrade? We will explore what is known about these amazing creatures and hunt for wild tardigrades, hoping to see a living tardigrade or two during the session.

4:20 PM - 5:20 PM

Assessing the Rehabilitation Status of the Reflooded Bahia Grande - 101A

• *David Hicks, University of Texas Rio Grande Valley*

The Bahia Grande and connected lagoons (Laguna Larga and Little Laguna Madre) form a federally protected tidal system (~10,000 acres) in south Texas managed by the Laguna Atascosa National Wildlife Refuge. Historically, this coastal system was an important nursery area, contributing to a productive fishery while also providing important habitat for wading birds and waterfowl. Tidal exchange to the Bahia Grande was severely reduced in the 1930s by placement of dredged materials from the Brownsville Ship Channel excavation and subsequently by construction of State Highway 48 in the 1950s. For over 70 years, the basin was barren and dry, causing large amounts of sand and clay to blow out of the basin impacting adjacent communities and upland vegetation. Hydrologic restoration was initiated in 2005

when a 4.5 m wide, 685.5 m long pilot channel, connecting the Brownsville Ship Channel to the Bahia Grande, was constructed. Major hydrologic modifications followed from 2006–2007, when three flow-restricting concrete culverts under State Highway 48 were replaced by a ~76 m long bridge over the pilot channel and internal channels connecting Little Laguna Madre and Laguna Larga to Bahia Grande were constructed. A biological (fish and benthos) and water quality monitoring program was initiated following the 2005 reflooding and continued periodically following hydrologic modifications. The monitoring program identified key drivers for biotic community development and baseline conditions thereby allowing for adaptive management actions by restoration managers and identifying potential future projects for achieving restoration goals. The monitoring program identified poor water circulation and extreme hypersalinity events (salinity >70) as key outcome drivers that interrupt and redirect benthic and nekton community succession. During the recent restoration phase to maximize the Bahia Grande tidal exchange, the pilot channel was widened to 45.7 m (completed June 2022) with the expected outcome of a 4-fold increase in tidal exchange from ~7% to ~30% of the total water volume exchanged per tidal cycle. This presentation will focus on the ecological and environmental outcomes of the most recent channel widening modification.

5:30 PM - 7:00 PM

Vendors Reception - Exhibit Hall A

Join us for a reception in our exhibit hall, featuring vendors, a silent auction, and a photo, art, and media contest.

5:30 PM - 7:00 PM

Trivia Contest (Quiz Bowl) X - 101A

• *Richard Heilbrun, Texas Parks & Wildlife Department*

How are you with wildlife trivia? Join us for a fun-filled, low-stakes, but high energy battle! Participants will compete for prizes and bragging rights by answering science questions, wildlife facts, and Master Naturalist trivia. Test your knowledge or come to learn! Bring the beverage of your choice or just bring yourself and a sense of humor and represent your chapter in a contest of knowledge or battle of wits. Teams are encouraged this year. Assemble your team of 4 beforehand, or participate individually.

7:00 PM - 8:00 PM

Meal

Dinner - Ballroom

Join fellow Texas Master Naturalist members and community partners for a fellowship dinner to share experiences.

6:00 PM - 10:00 PM

Field Session

Mission Bats (& maybe Mothing)

- *Seth Welliver, The Butterfly Garden at Oleander Acres*
- *Joseph Connors, STBC-TMN*
- *Craig Hensley, Texas Parks and Wildlife Department*

Join us to see some of the Rio Grande Valley's most interesting critters hidden in plain sight - the Mission Bat Colony at Conway and Expressway 83 (I-2). These bats have adapted to living in an urban environment. In March of 2017, the city of Mission said 250,000-400,000 bats are living in the crevasses of our Conway & Exp 83 overpass.

Feel free to make a short trip down the road after the emergence has wrapped up to visit Oleander Acres and moth with Seth and Joseph.

NOTE - Times may be adjusted based on emergence times as the event approaches. We'll stay flexible with this to see them emerge!

Saturday - October 14, 2023

7:00 AM - 8:00 AM

Meal

Breakfast - On Your Own

Breakfast each morning is not provided by the conference, but instead provided by contracted hotels for overnight guests. So wake up and eat breakfast at your own pace and in the convenience of your hotel.

8:30 AM - 4:30 PM

El Sauz Field Day and Eclipse

A once in a lifetime event! Today's Annual Meeting is going off site and outdoors! We'll head to the East Foundation's El Sauz Ranch to view the Annular Solar Eclipse, eat lunch, listen to speakers, and host field-based advanced training sessions. The El Sauz Ranch hosts a unique diversity of landscapes and land management practices with active sand dunes, thornscrub brush, ocelots, an active cattle herd, university research projects, burn management plans, and so much more. Learn with us with boots on the ground!

6:00 PM - 6:30 PM

Vendors Reception - Exhibit Hall A

Join us for a reception in our exhibit hall, featuring vendors, a silent auction, and a photo, art, and media contest.

6:30 PM - 8:30 PM

Meal

Dinner and Annual Awards Reception - Ballroom

Enjoy a final dinner with us. We'll celebrate the milestone awards of our attending master naturalists, recognize award winners and special recognitions, and celebrate the program's annual successes.

8:30 PM - 10:30 PM

Field Session

Black-lighting and mothing in the Valley

- *Sam Kieschnick, Texas Parks and Wildlife Department*

During the conference, we'll have some black-lights (UV) to draw in some of the interesting urban insects in the evening! The Lower Rio Grande Valley has a tremendous amount of arthropod biodiversity, so hopefully a few bugs will show up on our sheets! We'll do this close to the meeting conference, so stay tuned for the exact location.

Sunday - October 15, 2023

7:00 AM - 8:00 AM

Meal

Breakfast - On Your Own - Ballroom

Breakfast each morning is not provided by the conference, but instead provided by contracted hotels for overnight guests. So wake up and eat breakfast at your own pace and in the convenience of your hotel.

9:00 AM - 10:00 AM

Contest and Awards Presentation - Ballroom

This morning, we celebrate the winners of our Contests & Awards to round off our 2023 Annual Meeting. We'll also be announcing our 2024 Recertification Pin!

10:00 AM - 12:00 PM

Field Session

Native Tree Tour

- *Margarita Guevara, Resaca de la Palma State Park*
- *Robin Gelston, Rio Grande Valley Chapter TMN*

Take a walk through our park to learn more about native trees and shrubs of the Lower Rio Grande Valley. This guided walk will feature many trees both edible and non-edible, garden-friendly, and some historical information.

