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."

Annual Meeting Sponsoring Agencies:

TEXAS A&M AGRILIFE EXTENSION

TEXAS PARKS & WILDLIFE

About this year's Annual Meeting . . .

*Welcome to Georgetown Texas! This year marks our Program's 19th Annual Meeting and the 20th year of the Texas Master Naturalist Program. We have scheduled **152** different presentations and field sessions with a variety of topics and speakers from around the state. Outside of the classroom, we also have a great Silent Auction set up that is used to raise funds for the Annual Meeting, 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 and materials on display in the project fair. Enjoy this weekend of comradery and learning! Thank you for being here with us to celebrate 20 years of incredible conservation impacts on the land!*

Thursday - October 25th, 2018

All-Day Field Sessions

8:00AM – 5:00PM

Canyon of the Eagles Vanishing Texas River Cruise/ Upper Highland Lakes Nature Center

Billy Hutson, Upper Highland Lakes Nature Center and Highland Lakes Chapter

This all day field excursion will begin with a 2 hour and 15-minute cruise on Lake Buchanan that includes passing by the Fall Creek Waterfall. The beauty of the Highland Lakes and the Texas Hill Country as well as potential wildlife sightings makes this a wonderful opportunity for a day trip. This is NOT the season for eagles, although an eagle sighting is always possible. Current ticket prices are $25.00, $22.50 for seniors. *Please note that the cruise portion does not count towards AT hours. Following the cruise, visit the Upper Highland Lakes Nature Center (https://uhlnc.org), a privately owned nature center. Billy Hutson, founding director and Highland Lakes Master Naturalist, will lead a tour of this location and share the story of the nature centers development.

Prescribed Burning, Tools & Techniques

Chris Schenck, Texas Parks & Wildlife Department

"Sometimes in fire, you get the test before you get the lesson." The TPWD Fire Program team will explain the use of fire as a tool, proper safety and techniques. Following classroom instruction if weather permits, participants will carpool to an offsite location to burn. Participants are encouraged to bring all cotton field clothes, leather boots, leather work gloves, and drinking water.

Thursday Morning Field Sessions

9:30AM – 12:00PM

Caves of Central Texas - Inner Space Caverns

Chris Mathewson, Texas A&M University and Lori Franz, Good Water Chapter

Inner Space cavern was discovered by a Texas Highway Department core drilling team in the spring of 1963. As they were drilling test holes, the bit suddenly dropped 26 feet and the highway crew knew there was something down there besides rock. This session will explore the geologic setting of the Edwards and Balcones Fault Zone and investigate the complexity of the Edwards Aquifer, critical to the area. Join this guided geologic tour of this 10,000-year-old cave, and explore the Edwards without scuba gear. Carpool groups will leave from hotel at 9:30am, and the admission fee of $16.00 will be collected at the cave when we check-in. Visitors to the caves should wear closed-toe walking shoes and expect wet conditions. The trails are stable but can be challenging to anyone with a physical limitation. There are also numerous low spots along the tour route that require walking while bent over.

Afternoon Field Sessions

2:00 pm - 5:00 pm **Caves of Central Texas – Longhorn Cavern**

Chris Mathewson, Texas A&M University and Lori Franz, Good Water Chapter

Longhorn Cavern is a very different cave from Inner Space Cavern. It had natural openings that allowed human entry and development, leading to an interesting history included on this tour. The geology is what makes Longhorn truly unique; the challenge during this tour through Longhorn is to sort out its geologic evidence. Dr. Mathewson will explain in detail geological timeline of what created the cave we see today. Carpool groups will leave from hotel, and the admission fee of $17.50 will be collected at the cave when we check-in. Visitors to the caves should wear closed-toe walking shoes and expect wet conditions. The trails are stable but can be challenging to anyone with a physical limitation. There are also numerous low spots along the tour route that require walking while bent over.

6:30 pm - 9:30 pm **Bats of McNeil Bridge**

Christie Gardner, Good Water Chapter

Conference participants will carpool/drive to McNeil Bridge in Round Rock to watch 3-4 million Mexican Free Tail bats emerge from the bridge at dusk. Good Water Master Naturalists will give a talk about the bats and share how we educate the public about the benefits of these amazing flying mammals in the environment.

Friday - October 26th, 2018

All-Day Field Sessions
8:00AM – 5:00PM

Bamberger and Selah: How Conservation Transformed the Land
Allison Copony and Wendy Sera, Heartwood Chapter

Visit Selah, a uniquely located and restored property, transformed by the vision and work of David Bamberger. On the hour drive to Selah, a presentation will be made that details the life of David Bamberger and how his good fortune allowed him to transform the ranch land that he acquired near Johnson City, TX. The field session will allow each TMN to see the critical work that is taking place. To support the ongoing work of Selah, a $20 admission donation is requested.

Westcave Preserve and Hamilton Pool Preserve
Christie Gardner, Good Water Chapter

Participants will take a full day trip to Westcave Preserve and Hamilton Pool Preserve. The trip to Westcave Preserve will take approximately 1.5 hours. At Westcave they will be guided along the trail that leads to 125 steps down to the creek with towering cypress trees and then onto the fern covered grotto. Along the way the guide will point out important flora and fauna that was almost destroyed by overuse in the 60's and 70's. The story of how Westcave Preserve has been restored will be discussed. After the tour, a box lunch will be eaten at the picnic site at Westcave. After lunch participants will take a short bus trip to Hamilton Pool Preserve. At Hamilton Pool a park guide will take the group on a tour of the Pool. They will hike down a trail for about .5 a mile until they come to the white beach and green waters of Hamilton Pool. They will see the 40-foot waterfall and be able to walk under the outcropping of rock near the falls. The guide will discuss flora and fauna as well as the geology that created such a magical place. Archeology is an important component of both parks since evidence shows that humans have been visitors for over 11,000 years. The trip to Hamilton Pool should take another 1.5 hours. This trip will be of moderate intensity with many stairs and inclines as well as rocky trails involved.

The Vireo Preserve - Balcones Canyonlands Preserve
Jim O'Donnell, Vireo Preserve Lead, City of Austin and Barbara Keir, Capital Area Chapter

The Vireo Preserve is a 212-acre tract of land, just north of Wild Basin Wilderness Preserve that is part of the Balcones Canyonlands Preserve that is managed to protect sensitive and endangered species including the Black-capped Vireo and Golden-cheeked Warbler. Jim O'Donnell leads restoration of the land which was previously stripped by cattle and goat ranching. With the assistance of local volunteers, they have planted native species, created a nursery to provide native species, built swales and berms to reduce erosion, dug erosion ponds, inoculated logs to spur mycorrhizal growth and much more! Jim and his crew of volunteers conduct weekly habitat restoration on the site that will have long-lasting effects. Additionally, Jim works with other biologists and volunteers to conduct research with bird banding, mist netting, and faunal surveys. Current TMN projects on the property include native seed harvesting and cultivating for on-site nursery, planting native plants and removing invasives, trail development throughout the site, mist netting and bird banding.

Friday Morning Pre-Conference Sessions

8:00AM – 12:00PM

Hike the new River Ranch County Park

David Armstrong and Patrick McElhinney, Good Water Chapter

Hike the new River Ranch County Park before it opens! River Ranch County Park is in the Edwards Plateau with the South San Gabriel River running through it, experience the flora and fauna of the park as well as the geology. Prairie restoration is underway and there are some amazing ancient trees. Join us for a morning hike in a ranching environment that covers everything from hills, balcones, prairie, and river. All hikes will be guided by experienced volunteers in the park.*Please note, this hike does not count for Advanced Training hours.

Explore the Science of Avery Ranch Cave

Nico Hauwert, Balcones Canyonland Preserve

Avery Ranch Cave is a large room encountered during utility line trenching and was preserved. Now owned by Texas Cave Management Association, the cave preserves a wonderful educational opportunity to see what lies below in the underground frontier. This cave is located about a mile from a cave that received a lot of media attention after it opened below a road in February 2018, allowing an opportunity to observe its thin roof extending below several nearby homes. We'll discuss the science of caves, speleothems, and groundwater flow as well as the treasures caves provide. Avery Ranch Cave is located in the wrought iron fence preserve at 9510 Morgan Creek Drive, Austin Texas 78717, one block south of Avery Ranch Boulevard. With abundant parking along the street and a parking lot to the north, Chapter will enter in groups of 15 for 30 minute tours. Cave equipment (helmet with headlights) will be provided. A $10 donation to TCMA, collected at the site, is suggested but not required.

Texas Waters Day – SAN GABRIEL A

Melissa Alderson, Texas Parks & Wildlife Department

At this year's Texas Waters event, attendees will participate in water-based activities that connect us to Texas Waters. We will also recognize the continued growth and support of the Texas Waters Specialist program. People who have completed at least 8 hours of Texas Waters Advanced Training from September 1, 2017 – August 31, 2018, will be recognized for their dedication to the Texas Waters Specialist program. Texas Waters Day activities are open to all current and in-progress Specialists, as well as Chapter curious about becoming a Texas Waters Specialist. Bring/wear clothes and shoes that may get wet or slightly dirty (rain boots recommended or waders if you want to enter the river) and a sense of adventure! Activities include a short hike to Rivery Park behind the Sheraton. Terrain and footing may be difficult for people with mobility issues.

Make Your TMN Chapter Wild! – SAN GABRIEL C

Leslie Wittenburg and Kassi Scheffer Texas Wildlife Association

Come learn about the engaging youth education programs of the Texas Wildlife Association! Since 2001, the Texas Wildlife Association has been offering natural resources education programming to teachers and youth across the state. In 2017, over 650,000 youth and adults learned about land stewardship via TWA's programs. Join

TWA's Directors of Education as they share about their programs, the tools used to introduce natural resources to school administrations, and how to engage both urban and rural educators and their students. Workshop participants will leave with FREE resources to immediately implement into their chapter's youth education programs. TWA strives to bring natural resource, conservation, and wildlife education into the classroom using innovative and quality techniques - all programs, whether a digital lesson, hands-on material, or educator-led activity, are engaging and require critical thinking. Programs include concepts of characteristics, adaptations, structure and function, interdependence, habitat, conservation, and private lands stewardship. The programs presented are all science (TEKS) aligned, range from grades K through 12, and various programs also align with math, social studies, and language arts TEKS.

Texas Stream Team Core Water Quality Citizen Scientist Training - SAN GABRIEL G

Michael Jones & Delores McCright, Texas Stream Team

Core Water Quality Monitoring involves performing tests for parameters such as water temperature, dissolved oxygen, conductivity, pH, water clarity, and total depth. Citizen Scientists learn how to conduct various field observations as well. The training is a hands-on instructional session covering monitoring methods in a classroom setting. The Certified Trainer explains how to handle the monitoring equipment and demonstrates the tests. The trainees then perform the tests under the close supervision of the Trainer. Adherence to safety and quality control procedures is emphasized. When the Trainer believes each trainee has successfully completed the training, and the training packet is completed and signed, the trainee is then considered a Texas Stream Team Certified Water Quality Monitor.

Friday Afternoon Field Sessions

1:00PM – 5:30PM

Garey Park, Working with Local Governments on Conservation Projects

Jim Hailey, Good Water Chapter

Join the Good Water Chapter at the newly opened Garey Park, a 525-acre ranch donated to the city in 2004. Nestled along the South San Gabriel, discussions will focus on how the local Good Water Chapter volunteers work with the local government in the conservation management of the property. This session will showcase the creation a nature trail and wildlife viewing blind by the Good Water Chapter.

Miller Springs Nature Center & Geology Tour/Trail at Lake Belton

Ray Kazusko, Geologist

The Miller Springs Nature Center is a 260-acre scenic natural area located east of the Lake Belton Dam in Bell County, Texas. Belton Lake overflowed the spillway in 1991-1992 with the occurrence of two closely spaced 50 year floods. The area immediately below the spillway was heavily damaged which exposed significant and notable geological features that are still visible today. The nature center contains extensive riparian terrain, including limestone bluffs and estuarial wetlands, as well as mountain cedar hilltops and riverside cottonwood and sycamore stands. The area boasts a diverse and vibrant wildlife population including more than 90 species of birds. The Miller Springs Nature Center has been managed since 1993 by the Miller Springs Alliance, a 501(c3) non-profit group of volunteers that operated the area for the benefit of the

recreating public for 24 years. The Miller Springs Alliance was forced to surrender its lease in 2017 due to a lack of community support. The nature center is scheduled to reopen under a Temple-Belton municipal lease later this year.

River Ranch County Park Seed Gathering Service Project
David Armstrong and Patrick McElhinney; Good Water Chapter

An afternoon of native prairie grass seed gathering from a variety of plant patches around the ranch. Learn about how to harvest and why, the plants selected during that season, and the methods of re-seeding later in the year. *This is a Volunteer Service Opportunity*

Friday Afternoon Four-Hour Sessions

1:00PM – 5:30PM

Connecting the land and water; influences of land practices on river and stream health – SAN GABRIEL A
Stephan Magnelia, Melissa Parker; Texas Parks & Wildlife Department

Workshop participants will gain basic knowledge of how to conduct riparian and stream fisheries surveys, and how land use practices in the watershed affect the health of aquatic ecosystems. Participants will take part in a 1-2-hour classroom session on riparian and fish sampling techniques, and the connection between land use and water quality and quantity, and the fish assemblage. In the second half of the workshop participants will participate in hands-on riparian and fish sampling on the San Gabriel River. Backpack electrofishing and seining will be among the fish sampling techniques used. Riparian plants and fish will be identified by participants in the field portion of the workshop. Participants should wear clothing suitable for field work and getting wet if they wish to actively participate in fish sampling.

Bryophytes: taking a closer look at biodiversity – WASHINGTON BOARDROOM
Dale Kruse, S.M. Tracy Herbarium, Texas A&M University

Bryophytes (mosses, liverworts, hornworts) can be rather inconspicuous components of many ecosystems, especially in many of the drier regions of Texas. However, these organisms serve many vital functions in nature and are present in most habitats within the state. In this workshop we will explore this miniature world using two approaches. First, in the lecture we will delve into the basics of bryophyte systematics, morphology, ecology, and biogeography. In the lecture the student will gain a better understanding of these topics, which can then be applied in the laboratory session that follows. The laboratory session is designed as a continuation of the introductory class. In this session we will take a detailed look at the morphology of mosses, liverworts, and hornworts to gain a basic understanding of their intricate morphology. Using dissecting microscopes participants will observe the macro and micro morphological characteristics that are essential for accurate identification of these groups. All equipment for the class will be provided, just bring your curiosity.

Friday Afternoon Two-Hour Sessions

1:00PM – 3:00PM

Surveying for Butterflies and Training Volunteers for the Texas Butterfly Monitoring Network – SAN GABRIEL B

Kathryn Hokamp, Houston Museum of Natural Science

The Texas Butterfly Monitoring Network is a long-term citizen science project formed this year in cooperation with the North American Butterfly Monitoring Network. Monitors for the network walk the same path at least nine times throughout the year and record every butterfly they see, and this data is entered into PollardBase, a data management system specifically designed for butterfly surveys. This data helps conservation biologists and entomologists to follow changes in butterfly diversity and density throughout the year as local conditions and habitats change. Texas is an extremely important part of this network because we have more recorded butterfly species than any other state is the United States, and we are directly in the corridor of migration for monarch butterflies, among other species. This presentation will cover how to monitor for butterflies, how to identify local butterfly species, how to train volunteers, and how to start your own local division of the Texas Butterfly Monitoring Network.

"WHAT BUGS U" – SAN GABRIEL C

Richard G. McCarthy, Central Texas Chapter

A basic introduction to the fascinating world of Insects and Bugs. Provide the student with the basics of insect orders, anatomy, difference between Insects and Bugs. Understanding metamorphosis: complete & incomplete. Students will become familiar with a variety of dichotomous keys and how to identify insects utilizing them. Equipment for obtaining live samples of insects will be discussed. All instruction is in classroom with sample insects provided.

Monarchs, Milkweeds and Migration: What You Can Do to Help – SAN GABRIEL BALLROOM

Craig Hensley, Texas Parks & Wildlife Department

Most are familiar with the plight of the monarch butterfly and its epic annual migration. While we hear about issues they face, many are far from our direct sphere of influence. However, that doesn't mean we can't have a positive impact on this iconic butterfly, and help other butterflies and pollinators at the same time. During this presentation not only will you learn about monarch life history including the milkweeds upon which they depend, but we'll broaden our view to look at how our local actions can positively impact these as well as other butterflies and pollinators, both through actions on the ground and educational outreach.

TMN VMS Reporting: Chapter Reporting and Decision Making – SAN GABRIEL H

Cheryl Foster, Brad James, Clyde Camp, Dale Hughling; Texas Master Naturalist VMS Help Team

Join us for a session on creating reports using data from the TMN Volunteer Management System to provide information to your members and assist your chapter with decision making. We will go over the process of exporting data out of eCoordinator and importing it into Excel to produce useful reports. We'll focus on both member and chapter reporting. Member reporting will include: rosters, dues, certifications, volunteer counts, hours reporting percentages, milestones, class listings and emailing volunteer milestones and certification progress. Custom grids and named searches will be created to help pull these reports together. We'll cover creating pivot tables and charts in Excel to see where your chapter members are spending their time. Chapter partners often

need information on volunteering; we will show you how to set up opportunities to capture and report this data. Need to export a large amount of information from eCoordinator? We built a tool to make combining all of those files together easier. We'll demonstrate how to use it. Lastly, Time will also be given for chapters to describe how they have used the TMN VMS for other management decisions not currently addressed in the training.

Good Water Chapter's Youth Development Committee - Nature Education in Williamson County – SAN GABRIEL J

Mary Ann Melton, Nancy Phillips; Good Water Chapter

The Good Water chapter began nature education for children in 2012. We began with Spring Break and Summer Camp programming for the Georgetown Recreation Center. In the fall of 2012 we launched our Junior Master Naturalist Program - also through the Georgetown Recreation Center. In 2017 we moved our Junior Master Naturalist program to partner with 4H. We have done nature education in public and private schools, scouting programs, homeschool groups, preschools, the Texas Memorial Museum's Texas Wildlife Day and at several libraries in our county. The library programs have been very successful - we have our largest attendance figures and some wonderful diversity. We also do what we call Bat Interpretation at the McNeil Bridge where our volunteers educate both adults and children about the Mexican Free-tailed Bat. We would like to share how our Youth Development Committee functions, our 3-year curriculum, our partnership with 4H, and our work in the libraries.

Photography: A Naturalist's Tool – TAYLOR MEETING ROOM

Stalin SM, North Texas Chapter

Hands-on session on using smartphone photography effectively for, iNaturalist, Nature journaling, Social media, Conservation stories etc. Learn simple techniques to create compelling pictures that tell a story. Get introduced to principles of positioning and balance that help you get sharp and quick compositions out in the field or sitting at your desk. If you can look at and admire beauty in nature, then you can certainly teach yourselves to photograph the same. Come, find inspiration to photograph with confidence and add your pictures to the stories you share this year. Note: Although the presentation highlights smartphone cameras, it is equally relevant to all cameras. You are welcome to bring along any camera (Smartphones, iPads, DSLR, Compact cameras) you are comfortable with.Theme: Nature Photography with Smartphones

Snake ID and Handling – CLUB ROOM (7TH FLOOR)

Paul Crump, Texas Parks & Wildlife Department

Get over your hesitation to handle the snakes of Texas. Join the session to learn about the tools used in the safe and practical handling techniques of our snakes, with snake hooks, tongs, buckets, and snake tubes. Techniques like these can be useful for TMN volunteers needing to relocate snakes found in urban areas or from project sites. Also learn snake fungal disease (SFD) testing, which involve restraining snakes and swabbing them for shedding fungal cells.

Friday Afternoon One-Hour Sessions

1:00PM – 2:00PM

CoCoRaHS, Introduction to the World's Largest Volunteer, Citizen Scientist Rainfall Network – SAN GABRIEL D

William Runyon, Texas CoCoRaHS

Rainfall across Texas in the next 100 years is rapidly becoming one of the biggest issues Texans will face! A 20-year-old, grassroots, citizen science program known as The Community Collaborative Rain, Hail, and Snow Network or CoCoRaHS has grown to become the World's Largest Volunteer Rainfall Network! This a non-profit network of volunteers who track and report local rain, hail, and snow; and play as a huge role in helping professional scientists, meteorologists, hydrologists and climatologists with critical scientific research. Texas Chapter over the past 10 years have become the largest organized group of volunteers providing invaluable data across the state, but CoCoRaHS in Texas has many data void areas. CoCoRaHS program focus is to educate its members on the importance of tracking rain and drought conditions. A secondary goal, but equally important is water conservation through the CoCoRaHS rainfall network water resources are closely tracked and monitored with rainfall data soil moisture, ground water can be closely identified to protect and preserve this valuable resource.

Rangeland Ecology – How do the 5 tools of wildlife management apply? – SAN GABRIEL G

David Riley, James Hall; Plateau Land & Wildlife Management

As Aldo Leopold once said "The central thesis of game management is this: game can be restored by the creative use of the same tools which have heretofore destroyed it—axe, plow, cow, fire and gun..." Rangelands over time can be degraded due to overuse or misuse of natural resources and it can be a difficult task to return it to its natural state. During this presentation I will discuss the 5 different management tools and how they can be utilized to restore native rangelands.

Building Community Backbone: Bringing Back Blackland Prairie Habitats that Matter – SAN GABRIEL K

Susan Gregory, Friends of White Rock Lake

Setting Goals to Success: An A-Z startup overview of a nonprofit - park and recreation department partnered effort to develop a focused and funded rescue program to save the rare Blackland Prairie at White Rock Lake. A how we did it overview, where is the program now, and where is it going.

I'm A Certified Texas Master Naturalist, But Why? – AMES MEETING ROOM

Theresa Rooney, Maire Cox; Panhandle Chapter

This session will report the results of a statewide survey of Texas Chapter detailing why they do what they do and why they love what they do. Hopefully, this information will be used in advertising chapter training and as an AT program within each chapter. This will increase the appeal of the Texas Master Naturalist program to diverse audiences and attract a wider range of members. All attendees will need to bring is an open mind.

As it Was in the Beginning, It Shall Be Again: Promoting Habitat Restoration in Urban Areas – BELFORT MEETING ROOM

Cheryl Lewis, Brazos Valley Chapter

The session will begin with a 30-minute power point presentation designed to explain to the general public the importance of native plant communities and the ecosystem services they provide. The current plight of insect pollinators is emphasized along with information on how using native plants in urban landscapes can help restore their

habitat, health, and numbers. This presentation will be followed by information on other ways Brazos Valley TMN engages the public, including newspaper articles, social media, plant sales, and demonstration gardens.

Friday Afternoon One-Hour Sessions

2:00PM – 3:00PM

Texas Weather: Being an Observer and Remaining Safe – SAN GABRIEL D

Troy Kimmel, University of Texas

From an observing volunteer's standpoint, we'll look at Texas Weather and ways to stay safe given the many varied types of weather that affect the Lone Star State.

Teaching Outdoor Ethics – "Sowing Seeds that Sprout Healthy Plants" – SAN GABRIEL G

Steve Hall, Texas Parks & Wildlife Department

How do Chapter and other educators teach a subject that deals with a person's moral compass – that is, the subject of outdoor ethics? To use plants as an analogy to humans and human behaviors, there are many items (factors, influences and motivations) that must come together to grow a healthy plant from a seed. And then, the plant must contribute positively to a larger, more vibrant ecosystem. An outdoor educator for more than 30 years, Steve Hall is prepared to offer you some tools, techniques and advice for planting and nurturing those seeds within the context of a wildscape (classroom) -- enabling those plants to contribute to an entire biotic community to which they can thrive.

Conservation after Dark: Sex, Sleep, & Activities at Night – SAN GABRIEL K

Cindy Luongo Cassidy, Karen McGraw; IDA Texas

Almost every living thing on our planet uses the cycle of light and dark to trigger life processes. Humans have come to depend on artificial light for nighttime activities. So, how does our artificial light at night effect fauna and flora? This program helps us understand the effects of artificial light on living things, including ourselves, and how we can reduce the negative effect of our lights.

When do my volunteer hours count as TMN hours? – AMES MEETING ROOM

Kris Shipman, Texas Parks & Wildlife Department

Learn when, how and where to report your volunteer hours to TMN or other Texas Parks & Wildlife (TPWD) volunteer programs such as State Parks, Angler Education, Sea Center Texas, etc. This session will explain how to report your hours and why reporting your hours is vital to the organization.

Suburban Challenges: Nature and Your Neighbors – BELFORT MEETING ROOM

Donna Cole, Blackland Prairie Chapter

The top 10 fastest growing counties in Texas are all suburban counties, experiencing growth rates in the 20-35% range since 2010. Suburban lives may be idyllic for humans but how does Nature fare? Between HOA landscape rules, fear of urban wildlife, and the quest for the perfect lawn it may seem that Nature doesn't have a chance - but you can make a difference! In this session learn how to work with, not against, your neighbors to benefit the natural resources and natural areas in your town. Participants will learn

about partnerships with city groups, using social media to successfully communicate, and fun outreach ideas for your chapter.

Friday Afternoon Two-Hour Sessions

3:30PM – 5:30PM

Ribbit, Ribbit! Who's That Calling in the Night? Ten Years of Nocturnal Amphibian Monitoring in C – SAN GABRIEL B

Kathy McCormack, Sue Anderson; Capital Area Chapter

Have you heard that frogs and toads can be an indicator species of ecosystem health and that they are suffering worldwide declines? Come hear about our long-term amphibian monitoring project, learn to identify some common Texas species by sight and sound, and see how you can use current technology such as phone apps and online resources to help document their presence in your area. We will summarize our overall monitoring results and then describe how we collect the observations and submit the data to iNaturalist. A discussion of our most challenging and notably missing species will close out the presentation.

Identification of Arthropods – SAN GABRIEL C

Wizzie Brown, Texas A&M AgriLife Extension Service

Do you get confused when it comes to arthropod identification? Can you tell a centipede from a millipede? What about a beetle from a stink bug? This session will cover identification of a variety of arthropods with a focus on insects.

Educational Impact Two Minutes at a Time – SAN GABRIEL BALLROOM

Craig Hensley, Texas Parks & Wildlife Department

In a day where everyone records their daily lives with cell phones to Go-Pro cameras, opportunities abound to expand educational impact. During this two-hour session, you'll learn how you can use these devices to create impactful educational messages in a fun (and sometimes funny) ways. You'll even have a chance to create your own two-minute educational message -- be sure to bring your cell phone!

Conservation Laws & Ethics 2.0: A fascinating and interactive exploration without legal mumbo jumbo – SAN GABRIEL G

Richard Heilbrun, Mike Mitchell; Texas Parks & Wildlife Department

This interactive exercise will discuss ethical and legal dilemmas that every Master Naturalist should know and understand. Some situations may be straight forward, 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 TPWD 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 newly published Laws, Rules & Ethics module in the TMN curriculum. Now in their second year teaching this topic at the annual meeting, Richard Heilbrun and Mike Mitchell put a new spin on this enthralling discussion. Appropriate for last year's attendees and newcomers.

Roundtable Discussion: VMS System Administration for Chapter Leaders – SAN GABRIEL H

Cheryl Foster, Brad James, Clyde Camp, Dale Hughling; Texas Master Naturalist VMS Help Team

This roundtable will focus on resources available to help the chapter leadership manage their hour's record keeping and reporting. Additionally, chapter VMS administrators are invited to share their experiences and offer suggestions on improving the process. Attendees will have the opportunity to discuss Federal Grant auditor requirements and reporting implications of the VMS, and bring up their chapter's questions. Other chapter leaders may want to attend to learn from the experiences of other chapters.

Common Texas Reptiles Including the Latest Information on our Threatened Texas Horned Lizard – CLUB ROOM (7TH FLOOR)

Bill Brooks, Lost Pines Chapter

Come see pictures and learn about most of the varied and spectacular Texas herp fauna. There will be a special emphasis on our Texas State Reptile, the Texas Horned Lizard. You will also have a special meet-and-greet with some of my favorite reptiles.

Friday Afternoon One-Hour Sessions

3:30PM – 4:30PM

Hurricane Harvey - A Year Later – SAN GABRIEL D

Claudette Johnson, Texas Southern University

A year after the devastating floods of Hurricane Harvey the City of Houston has gone through some major changes. However, there are still some underlying problems that still exist. This presentation will go through the changes and proposed construction projects the City of Houston and Harris County has done throughout the year. We will also go through studies by local universities studying the environmental impacts of the flooding and efforts to remediate said impacts.

Make Your Local Classrooms Wild – SAN GABRIEL J

Leslie Wittenburg and Kassi Scheffer, Texas Wildlife Association

Come learn about the engaging programs of the Texas Wildlife Association! L.A.N.D.S. (Learning Across New Dimensions in Science) Programs include Distance Learning, Discovery Trunks, Wildlife by Design classroom presentations, Stewarding Texas – A Scientific Exploration, Trinity River Project, Necropsy in a Box, Field Investigation Days, and educator development. TWA's youth programs are available to any formal or informal Texas educator and are offered at no charge! Workshop participants get a sneak peek at ALL of our programs. Watch our interactive, TEKS-aligned, natural resource webinars! Dig into our Discovery Trunks! Query about our quail necropsies! Browse our Stewarding Texas online portal! Workshop participants will leave with resources to immediately implement into their chapter's youth education programs. TWA strives to bring natural resource, conservation, and wildlife education into the classroom using innovative and quality techniques - all programs, whether a digital lesson, hands-on material, or educator-led activity, are engaging and require critical thinking. Programs include concepts of characteristics, adaptations, structure and function, interdependence, habitat, conservation, and private lands stewardship. The programs presented are all science (TEKS) aligned, range from grades K through 12, and various programs also align with math, social studies, and language arts TEKS.

How to Participate in the Globe At Night Citizen Science Campaign – SAN GABRIEL K

Cindy Luongo Cassidy, John Cassidy; Dark Skies Alliance, IDA Texas

You'll learn how to be part of The Globe at Night program. A companion outdoor session after dark will provide hands-on application of the program. The Globe At Night is an international citizen-science campaign to raise public awareness of the impact of light pollution by inviting citizen-scientists to measure their night sky brightness and submit their observations from a computer or smart phone. Light pollution threatens not only our "right to starlight", but can affect energy consumption, wildlife and health. More than 100,000 measurements have been contributed from people in 115 countries during the campaigns each winter/spring over the last 9 years, making Globe at Night the most successful light pollution awareness campaign to date!

State Representatives Round Table – AMES MEETING ROOM

Michelle Haggerty, Mary Pearl Meuth; Texas Master Naturalist Program

The TMN Chapter's State Representatives role was established to help be another communication link to the state office for each chapter. This position within a chapter's organization can help to relieve some of the administrative burden from the president, along with review and provide input to statewide policy updates etc. Join this discussion to learn the ways that chapters use their State Representative roles, ways that the State Representatives can function as a whole across the state and other opportunities for this role within a chapter. All State Representatives from the TMN Chapters around the state, or other chapter leadership interested in being a part of this discussion are invited to attend.

Predators and the Role of Predation in Ecology – BELFORT MEETING ROOM

John Tomecek, Texas A&M AgriLife Extension Service

From lions and tigers to roadrunners and bass, predators consume other animals to provide for nutritional needs. In every ecosystem, from megafauna to microorganisms, predation is a pillar of the trophic system. Often vilified, feared, or simply misunderstood, an understanding of predation is key to conservation and restoration efforts. This talk will examine general characteristics of predators, their impacts on animal populations, and broader implications for the role of healthy predator populations on ecosystem function. We will investigate the management of predatory species at various trophic levels, and how predation management can be employed to achieve various wildlife management goals.

Tips and tricks for photo-documentation of rare plant and invertebrate taxa – TAYLOR MEETING ROOM

Ben Hutchins and Anna Strong, Texas Parks & Wildlife Department

Texas Parks & Wildlife Department tracks population information and threats for about 900 plants and invertebrates in Texas that are of conservation concern. This information is essential for reviewing the status of species, evaluating the impacts of development projects, and guiding surveys and research. However, with only a few biologists tracking these plants and invertebrates across the entire state of Texas, not all species can be regularly surveyed. Therefore, many species are not well represented in our database. Chapter can play a valuable role by helping document populations of tracked plants and invertebrates. Techniques on how naturalists can provide the most valuable photo documentation of plant and invertebrate populations in iNaturalist will be presented. Examples will be given on how to document tracked plant species and

invertebrates groups in different areas of the state. Participants are not required to have a working knowledge of iNaturalist. Other basic iNaturalist trainings are being offered during the 2018 conference.

Friday Afternoon One-Hour Sessions

4:30PM – 5:30PM

Keeping Rainwater Onsite… for Conservation and Stormwater Management – SAN GABRIEL D

Chris Maxwell-Gaines, Innovative Water Solutions LLC

Rainwater and stormwater can be harvested in active and passive methods, both of which are beneficial to landscaping systems. Active harvesting is defined as the typical harvesting of rain from a roof surface into a cistern to be stored for later use. Passive harvesting includes methods to capture rainwater in the landscape form prior to it running off the site. Passive harvesting includes techniques such as rain gardens, infiltration trenches, biofiltration ponds, permeable pavers, and green roofs, just to name a few. While the idea of each type of rainwater harvesting is simple to understand, the difficulty arises when one is attempting to seamlessly integrate these practices into the landscaping system. Each type of system has its own requirements which determine whether or not it can be used effectively. This presentation will detail all of the pros and cons of the different rainwater harvesting systems. It will showcase all of these practices and provide information about to design and install these various systems into the landscaping system. From the rainwater cistern to the rain garden, you will learn how to integrate these practices into your landscaping systems.

Build Your Own Water Festival! – SAN GABRIEL J

Julia Stanford, North Plains Groundwater Conservation District

Enhance your community's natural resource literacy with a water festival! From single-school events to festivals that take over entire college campuses, water festivals are a very customizable way to reach diverse audiences with a conservation message. We'll examine the success of existing programs and partnerships, participate in a few of our favorite water education activities, and discuss important factors to consider in planning a water festival in your area.

Checking for Light Pollution: How to Evaluate Your Outdoor Lighting – SAN GABRIEL K

Cindy Luongo Cassidy, Karen McGraw; Dark Skies Alliance, IDA Texas

Learn how to determine if any property creates light pollution, damaging the eco-system around it and causing harm to the humans who use it, and how to reduce that pollution. This is a great project to use with any non-profit or to do for your own home or business. The project can identify ways to save energy costs, reduce glare, increase safety, reduce light trespass, create a more aesthetically pleasing nocturnal environment for humans and limit the negative consequences on all living things in the environment.

Texas Master Naturalist Endowment – How We Can Grow into the Next 20 Years – AMES MEETING ROOM

Michelle Haggerty, Mary Pearl Meuth; Texas Master Naturalist Program

The mission of the Texas Master Naturalist Endowment is to further enhance the Texas Master Naturalist Program, its chapters and volunteers, now and into the future, for the

benefit of natural resource education, conservation and stewardship. Join us as we talk about how we can grow into the next 20 years of the Texas Master Naturalist Program.

It's the Circle of Life: a food web perspective for wildlife management – BELFORT MEETING ROOM

Maureen Frank, Texas A&M AgriLife Extension Service

If you are managing a property for deer, are coyotes good or bad? What if you're managing for quail? What if you enjoy knowing that bobcats sometimes trek through your backyard, but wonder how they impact the songbirds that visit your feeders? This presentation will integrate predator and prey ecology into a discussion on "good" and "bad" wildlife, the impacts that some animals really have on other animals, and how to use these considerations in your own wildlife management, whether that be on 1,000 acres or in an urban backyard.

How might one 1) become a field botanist and 2) organize a field survey to acquaint oneself with the local flora – TAYLOR MEETING ROOM

Larry Fowler, Retired USDA Botanist

This presentation is for the individual who aspires to become a field botanist and is frustrated with not being able to identify the plant at hand because there does not seem to be a matching photograph in the field guide. I will present the seven critical requirements to becoming a field botanist. I will emphasize that one need not have academic training in botany. I will also outline the kinds of information one might gather to provide a survey report to a requesting institution.

Friday Evening Excursions

8:30PM – 10:30PM

Bats of McNeil Bridge

Christie Gardner, Good Water Chapter

Conference participants will carpool/drive to McNeil Bridge in Round Rock to watch 3-4 million Mexican Free Tail bats emerge from the bridge at dusk. Good Water Master Naturalists will give a talk about the bats and share how we educate the public about the benefits of these amazing flying mammals in the environment.

Hands-On Participation in the Globe At Night Citizen Science Campaign

Cindy Luongo Cassidy, John Cassidy; Dark Skies Alliance, IDA Texas

Get outside and walk through the process to participate in The Globe At Night Citizen Science project. Your cell phone or tablet is helpful but you can participate by filling out a paper form that you take back to a computer where you enter the data.

Hands-On Evaluation of Light Pollution

Cindy Luongo Cassidy, Karen McGraw; Dark Skies Alliance, IDA Texas

Creation of an outdoor lighting evaluation for one section of this property. You'll be able to apply the principles to any other property - schools, non-profits you work with, your home or your business. The output of this session may be used to allow the property owner to save energy costs, reduce glare, increase safety, reduce light trespass, create a more aesthetically pleasing nocturnal environment for humans and limit the negative consequences on all living things in the environment. If the changes you identify to the property are implemented, the property might even earn the Be A Star Award!

Saturday - October 27th, 2018

All Day Field Sessions
8:00AM – 5:00PM

Geology and Ecology of Central Texas

Chris Mathewson, Texas A&M University and Heather Mathewson, Tarleton State University

From the Coastal Plain agriculture to Granite stone -- See how the bedrock, land form, vegetation, wildlife and human systems interact during this field trip. The field trip will depart from the hotel and proceed eastward across the Black Land Prairie, observe an earth dam, and view the Post Oak Savannah to investigate the coastal plain geology, ecology and land use. From the prairie lands we will travel west, cross the Balcones Fault system and enter the Texas Hill country, visit the Balcones Canyonlands National Wildlife Refuge to investigate the impact of severe erosion during the Ice Age and observe the natural ecology and bird habitat in the area, with a focus on Black-capped Vireo. After viewing the canyons we travel to Marble Falls where we cross a major fault, not related to the Balcones Fault, and suddenly we are on granite, next to the granite quarry that provided the stone for the capital building in Austin and coastal protection at the Galveston seawall. We then move to another set of faults that formed Backbone Ridge and Hoover Point overlooking Lake L B Johnson. From there we have lunch at the Longhorn Cavern picnic area where we will observe the weathered surface formed on limestone and the ecology associated with karst features. We return to the very old Precambrian granite and metamorphic rocks to observe up close, rocks more than 2-billion years old, and to observe a concrete dam built on hard rock. Last stop is in Llano, Texas, to observe the headwaters of the Colorado River and the source of the granite gravel mined in Eagle Lake Texas. Then it's homeward, returning to the hotel at about 5:00 that afternoon.

All Day Sessions
8:00AM – 5:00PM

~~**Monitor monarchs through the Integrated Monarch Monitoring Program!**~~ **– CANCELLED**

~~*Laura Lukens, Monarch Joint Adventure*~~

~~The Integrated Monarch Monitoring Program (IMMP) is a national initiative to monitor monarch butterflies and their habitats throughout the monarch's breeding range. According to the World Wildlife Fund's overwintering count, the monarch population has declined by nearly 15% since last year. The US Fish & Wildlife Service is currently conducting a species status assessment to determine whether monarchs should be protected under the Endangered Species Act. The data collected through this program are critical to inform gaps in our understanding of the state of monarch habitat and use of those habitats by monarchs. In turn, these efforts will help inform the ESA listing decision (due June 2019). To gather these data on the vast scale used by this migratory species, we need a monitoring effort that engages a broad network of citizens, biologists, resource managers, students, landowners, and other conservationists. To accomplish this, the IMMP has these primary objectives: 1) To acquire and share information about how habitat conservation actions affect monarchs and their habitat, 2) To provide geographically and ecologically representative information to update population and~~

~~habitat models, and 3) To track long-term changes in the distribution and abundance of monarchs and their habitats. IMMP field activities are designed to collect various types of monarch and habitat data. The modular nature of the activities allows individuals or groups to choose one or more activities that pertain to their interests and/or information needs. Activities include surveys to monitor monarch eggs and caterpillars, adult butterflies, milkweed, and blooming plants. Participants will interact with a monitoring coordinator to select monitoring sites, be trained in field methods, and delineate monitoring plots. In the process, monitors will also acquire a new set of skills including monarch identification, plant identification, and biological sampling techniques.~~

Project WET Facilitator's Training – BELFORT MEETING ROOM

Melissa Mullins, Baylor University Center for Reservoir and Aquatic Systems Research

Facilitator's Trainings are designed for those who wish to organize local Project WET Sessions. Those attending this 8-hour training will be certified to lead Project WET workshop utilizing the Project WET Curriculum and Activity Guide 2.0. Participants will be expected to assist with the Project WET TX program through a local host institution or coordinator at least once per year. Facilitator training is ideal for those who have attended a Project WET educator workshop in the past, and for those with experience in water education and outreach who would like to incorporate Project WET into their programming. If you are new to Project WET and water education, a Project WET educator's workshop is suggested.

Saturday Morning Field Sessions

8:00AM – 12:00PM

Berry Springs Park and Preserve

Jim Nelson and Mike Farley, Good Water Chapter

Voted "The Best Kept Secret" in 2010, Berry Springs Park and Preserve is a 300-acre preserve bound on two sides by Berry Creek and Dry Berry Creek. Join the Good Water Chapter as they lead a walk through the lovely and cherished preserve highlighting various efforts by numerous TMN projects. Focus will be on the historical ownership and what the land was used for by early custodians and the transformations made in recent history. Take in the beauty of nature's splendor that comes with each visit to the park!

Collaborative Conservation of the Balcones Canyonlands Preserve at Concordia University Texas

Sam Whitehead, Concordia University

Students, faculty, and staff at Concordia University Texas, under the supervision of Travis County Natural Resource and with help from the Balcones Canyonlands Chapter (the state's first collegiate chapter), cooperatively manage 250 acres of the Balcones Canyonlands Preserve and additional habitat. The Concordia tract is home to the endangered golden-cheeked warbler and the threatened Jollyville Plateau salamander, and contains unique karst features, spring-fed streams, canyon forests, and numerous other species of plants and animals. Tour the Concordia tract and learn about the history and management of the Balcones Canyonlands Preserve. See the Concordia campus and learn about the unique partnership between the university, the Texas Master Naturalist, and Travis County. Learn about Concordia's plans to make

environmental stewardship a core university value, and the role the Balcones Canyonlands Chapter will play. Naturalist theme: Place-based conservation; community environmental education and outreach; management of imperiled species; nature appreciation and nature therapy.

Fire and Deer Effects on Edwards Plateau Vegetation

Jim Mueller, *US Fish and Wildlife Service and Carolyn Whiting*

Dr. Jim Mueller, Refuge Zone Biologist for the U.S. Fish and Wildlife Service, will lead a hike through two study areas not open to the public on Balcones Canyonlands National Wildlife Refuge. One area includes a 30-acre white-tailed deer enclosure, where scientists have studied the combined effects of fire and deer herbivory on native woody species. On the other site, a study is being conducted to determine if conducting prescribed burns at certain times of the year may selectively favor native grasses over invasive King Ranch bluestem. These projects guide management of Balcones Canyonlands National Wildlife Refuge to provide the most compatible habitat for native wildlife including the endangered golden-cheeked warbler and black-capped vireo. Sturdy footwear is needed, as well as hat, sunscreen, water, bug spray, etc.

Indiangrass Wildlife Sanctuary and Prairie Preserve

Rene Barrera, Austin Parks and Charles Grimes, Goodwater Chapter

This preserve was set aside to help preserve and restore Blackland Prairie habitat. It is a great place to see many native wildflowers and birds. The wetland along Lake Long also provides unique habitat for specialized plant and animal species. This preserve is not open to the public but is available for guided hikes with pre-approval from the Parks and Recreation Department. Tour guide, Rene Barrera, Austin Nature Preserves System Environmental Conservation Information Specialist, along with additional Austin Parks Rangers will discuss long term efforts to restore Blackland Prairie lands on the Indiangrass Wildlife Sanctuary, as well as connected Riparian areas.

Saturday Morning Four-Hour Sessions

8:00AM – 12:00PM

iCan with iNaturalist: Leveraging Citizen Science for a Better Texas – SAN GABRIEL K

Alysa Joaquin, Lost Pines Chapter

This hands-on workshop will cover the ins and outs of using iNaturalist, a popular citizen science app and website, to further the mission of Texas Chapter. This workshop will help you master both basic and advanced functionalities of the website, particularly the use of projects to collect data. Please come prepared with a device that can take photos (phone or camera), and a device that can upload those photos to the internet (smartphone or computer). If using a phone, please download the iNaturalist app in advance. We will have a micro-bioblitz in the gardens at the conference center, so be prepared to spend some time outdoors. As the app does not have all functionality of the website, participants are encouraged to bring a device with a full web browser.

Sedges have edges, rushes are round...well not always!! – WASHINGTON BOARDROOM

Dale Kruse, S.M. Tracy Herbarium, Texas A&M University

The Cyperaceae (sedge) and Juncaceae (rush) families of vascular plants are often considered a difficult group to identify. As components of most landscapes throughout Texas, these "grass-likes" are important members of the rich biodiversity that is Texas. In this workshop we will explore this somewhat foreign world using two approaches. An initial lecture will delve into the basics of sedge and rush systematics, morphology, ecology, and biogeography. In the lecture the student will gain a better understanding of these topics, which can then be applied in the laboratory session that follows. The laboratory session is designed as a continuation of the introductory class. In this session we will take a detailed look at the morphology these groups with the aid of a dissecting scope and published references. Using dissecting microscopes participants will observe the macro and micro morphological characteristics that are essential for accurate identification of these groups. All equipment for the class will be provided, just bring your curiosity.

Camera Trapping for Science – TAYLOR MEETING ROOM

Tania Homayoun, Texas Parks & Wildlife Department

Camera trapping – using stationary game cameras to detect wildlife – is a great way to document observations of animals we often miss with traditional surveys and counts. This workshop will introduce the basics of camera trapping, how to set up and manage a camera trap, and how to process and share your observations on iNaturalist. As part of the workshop, we will practice setting up cameras in the field, so participants should wear sturdy hiking shoes and comfortable clothes.

Saturday Morning Two-Hour Sessions

8:00AM – 10:00AM

Interpretive Trail Guiding and getting Adults and Children to enjoy being Outdoors – SAN GABRIEL A

David Powell, Heard Natural Science Museum and Wildlife Sanctuary

To explain how to be an interpretive trail guide, the tools you can use to bring nature alive. We will be outside for about half the time identifying plants and how to talk about them to children and adults.

Qualitative Analysis of the 20 Years of the Texas Master Naturalist Program – SAN GABRIEL B

Alaya Keane, Texas A&M AgriLife Extension Service and Rebecca Damron, Tarleton State University

In this session, we will provide insight into the history of the master naturalist program by reporting on results of the 20th Anniversary Project, collected through both video interviews and survey data. By investigating individual Master Naturalist's responses, we are able to paint a picture of the program over time and space.

From Wildflowers to Archeology, Go Beyond The Road with the Texas Department of Transportation – SAN GABRIEL C

Rebekah Dobrasko, John Young, and Jacob Eichstead, Texas Department of Transportation

Ever wonder who mows the hundreds of thousands miles of roadway in Texas? Or how TxDOT's wildflower seeding helps native pollinator conservation plans? Not many people know TxDOT is charged with being stewards of the state's natural resources as it builds and maintains the state's transportation system. The agency has multiple

mainstream efforts to address the impact to the environment, such as Don't Mess with Texas and Drive Clean Across Texas. But TxDOT has beautified roads with native plants to address erosion, seeded the roads with wildflowers and planned around the state's other natural and cultural resources since 1917. Learn more about these programs and how to get involved with TxDOT....Beyond The Road.

How to Embrace, Deal With, and Lead Change – SAN GABRIEL D

Rose Mary Fry, Degrees of Work

Individuals and groups are faced with opportunities, challenges, and change on an ongoing basis. Although individuals and groups have heard the phrase "the only constant is change", there can be a delay or avoidance of dealing with needed changes. These changes can include recruitment of volunteers, assessment processes for community projects, evaluation of projects, and chapter leadership. How groups deal with changes in their community and environment is critical to the growth of the organization. This workshop will discuss changes in the nonprofit sector and their potential impact on Texas Master Naturalist chapters. The key drivers of change are people, technology, information, regulations, and culture of a community. This workshop will explore changes in the nonprofit sector, the effects of feelings about change, individual and group reactions, common responses to change, proactive responses to change, and 10 Principles of Change Management. The workshop participants will discuss upcoming changes affecting their chapters and solutions for coping with the changes. The workshop will also highlight the importance of leadership skills of a Board President in dealing with changes.

Conservation Ranks for Seed Collectors in a Hurry – SAN GABRIEL J

Minnette Marr, UT-Lady Bird Johnson Wildflower Center

Are seeds of your favorite wildflowers commercially available? Are seeds of the wildflowers endemic to your ecoregion available for chapter projects? Are seeds of workhorse species in your ecoregion available for restoration of public lands? If you answered "no" to one or all of these questions, join us to learn seed-collecting strategies and appropriate uses for wildflowers based on their conservation ranks. You will leave the presentation with the resources you need to start a seed library for your chapter or community.

Saturday Morning One-Hour Sessions

8:00AM – 9:00AM

Taking Aim on Aquatic Invasive Species with Citizen Science – AMES MEETING ROOM (7TH FLOOR)

Angela England, Texas Parks & Wildlife Department

Citizen science plays an important role in the management of aquatic invasive species. The introduction and spread of non-native, invasive species to Texas' lakes, waterways, and riparian areas pose a significant risk to native biodiversity. Threats include zebra mussels, apple snails, giant salvinia, water hyacinth, elephant ears, Chinese tallow, and Arundo. Contributions from the citizen scientists play crucial roles in monitoring for the presence of invaders and informing management decisions. For example, citizen science reports have resulted in early detection of zebra mussels in Texas lakes. This talk will showcase a variety of citizen science applications that can be used to participate in monitoring programs.

Restoring Ecological Diversity at the Vireo Preserve, Balcones Canyonlands Preserve – SAN GABRIEL G

Jim O'Donnell, City of Austin

The land use history of the Balcones Canyonlands Preserve has had a substantial impact on the health, viability, and diversity of its ecosystems. Borrowing techniques and designs from permaculture, forest gardening, natural farming, as well as traditional land management methods, we are restoring and creating habitat for the Black-capped Vireo, Golden-cheeked Warbler, and numerous rare and unusual plant species. Creating and restoring endangered species habitat requires focusing on the whole supporting community. Starting from the ground up, we begin with capturing water on contour to spread and sink water to rehydrate our hillsides, rebuilding soils, seeding and planting to increase biodiversity, and promoting the regeneration of woody plant communities. We then design plant guilds to create a sustainable framework with the goal of developing vibrant, abundant, and complex systems. What's really exciting about this work is that we can apply what we learn at the Vireo Preserve to other areas within and beyond the Balcones Canyonlands Preserve.

Improving and Expanding the Chapter Initial Training Experience – SAN GABRIEL H

Karen Stevenson and Jeanette Geiman, Alamo Area Chapter

AAMN was the founding TMN chapter and has been conducting initial training classes for 21 years. With 42 training classes "under their belts" they have a wealth of experience in this area. The current co-directors will share information about how they use technology, organizational effectiveness and teamwork to make the planning and administration of their training class easier, and more fun... and, how their improvements have enabled them to increase class size and prevent "burn out" by spreading the responsibilities among the training team members.

Saturday Morning One-Hour Sessions

9:00AM – 10:00AM

Central Texas's Underground World – AMES MEETING ROOM (7TH FLOOR)

Nico Hauwert, City of Austin, Balcones Wildlife Refuge

Portions of Central Texas are underlain by countless caves, making an underground world of hallways, shafts, canyons, and cave streams. These caves play a crucial role in making the Edwards Aquifer one of the most prolific water supplies. Widespread filling of caves occurred from many reasons, including a desire by pioneers and ranchers to keep water at the surface, elimination of fall traps for people and livestock, trash disposal, runoff treatment, and marketability for future development. Severe problems, including degradation of precious water supplies, pathogenic outbreaks, under mining of homes and infrastructure caves, and loss of cultural and natural heritage, have resulted when the role caves play are ignored. Caves preserve a rich record of our past, including marine shells of a 100-million-year old ocean covering Central Texas, as well as 10,000 year old giant sloths, saber-toothed tigers, mammoths, and other bizarre mammals. The rare cave invertebrates, aquatic salamanders, bats and other caves species are unique to our area. Caves provide an inspiring educational and recreational resource.

The Native Landscape Certification Program (NLCP) - Improving Landscapes One Yard at a Time – SAN GABRIEL G

Gary Bowers, Native Plant Society of Texas (NPSOT)

If you have ever wished to turn your landscape into a water conserving haven for wildlife, you want to attend this presentation. Learn about the Native Landscape Certification Program (NLCP) - a series of three, day-long classes (Levels 1 - 3) that help you understand your local ecoregion, and how to design, install, and maintain your landscape using native Texas plants. Classes are offered throughout the state and focus on the area in which they are taught. In each class you learn about 45 native plants and 5 plants to avoid in your landscape. Then you will have a chance to view the plants in the field. Gary will provide an overview of the program, including new and upcoming NLCP classes.

Engaging our Greenhorns with New Class Projects – SAN GABRIEL H

David Parrish, North Texas Chapter

The North Texas Chapter (NTC) uses class projects to support the training of new Texas Master Naturalists. These ventures involve our trainees in a hands-on experience that engages their new-found knowledge while accruing volunteer hours. Through these new class projects, our chapter builds volunteer and group management techniques, develops comradery, maintains effective partnerships, identifies and develops chapter leaders. The NTC will share its experience implementing the New Class Project with other TMN Chapters. This session will use a mix of classroom presentations and exercises to address developing good class projects, example projects over the years, best practices and pitfalls, and bringing projects to a conclusion.

Saturday Morning Two-Hour Sessions

10:00AM – 12:00PM

The Mystery, Wonder and Science of Avian Migration – SAN GABRIEL A

Scott Kiester, Elm Fork Chapter

The annual migration of birds has puzzled and fascinated people from the time of the ancient Greeks, who noted the passage of cranes over their homes each spring and fall. Although, it is also true that they thought swallows hibernated each winter by burying themselves in the mud. The scientific understanding of migration has come a ways since then, probably starting with Sir Thomas Bewick who in the 1790's after talking with sea captains that plied the Mediterranean was the first to propose that the swallows of northern Europe flew to North Africa each winter. Our knowledge of the phenomenon has grown much deeper in the last 200 years, but that hasn't diminished the wonder. Learn about the history, the how's, the why's and the state of science's understanding for one of nature's most amazing annual cycles.

Restoring Native Prairie Habitat on Public Land – SAN GABRIEL B

David Powell, Blackland Prairie Chapter

Power Point with pictures of progress in Wylie and Erwin Park in McKinney a look at what is growing at both sites along with discussion of how it is being done and the challenges to be dealt with.

Wildflowers of Texas - A new field guide for the state of Texas and surrounding areas –SAN GABRIEL C

Michael Eason, Texas Flora

The presentation will cover the writing of Wildflowers of Texas and will include the diversity of our flora, the reasons behind this diversity and how far reaching our flora is. Additionally, I will include sections of species selection, reference materials, errors found online and in print as well as cover, range extensions, species new to Texas, pollination biology and seed dispersal - all the while showing images of our flora and associated stories behind these species.

Effective Strategies for Dealing with Conflict – SAN GABRIEL D

Rose Mary Fry, Degrees of Work

Whenever individuals work together in groups, it is inevitable that differences of opinions and solutions will occur. One of the benefits of working in groups is to hear different perspectives about opportunities, challenges, and issues facing the organization. A healthy organization creates an environment in which individuals can freely share perspectives and design workable solutions for their organization. However, conflicts between individuals and the group can prevent a Chapter from moving forward with its community projects. If conflicts are not addressed, an uncomfortable environment exists for all Board members. The ability to deal with conflicts is a key skill for an individual serving as a Board President. This workshop will discuss the types of conflicts that can occur within groups and techniques for dealing with conflict situations.

Saturday Morning One-Hour Sessions

10:00AM – 11:00AM

Seven Essential Products for Poison Oak & Ivy Rash – AMES MEETING ROOM (7TH FLOOR)

Amy Martin, Itchy Business

Never enter itch territory without this essential protection product. Two post-contact cleaners you must have. The essential all-natural, herbal rash-relief product that's available in almost every drugstore. A traditional laxative that happens to soothe the rash. A saline rinse that cleans rash sores while numbing the itch. The delicate yellow flower that tames epic rashes, even poison oak and ivy. Includes a synopsis of the science of the urushiol rash.

Restoring the Last Wild Places to Protect Barton Springs – SAN GABRIEL G

Kevin Thuesen, Audrey Stewart and Cait McCann, City of Austin/Wildlands Conservation

The Water Quality Protection Lands were established following a bond election in the City of Austin, Texas in November 1998. Ecological restoration activities have steadily increased since then and use a variety of techniques including mechanical thinning of brush, prescribed fire, native seeding and deer/hog management. In addition, restoration of karst function has also progressed over the years and is an interesting side note to the usual vegetation only restoration discussion. The first land management plan was established in December of 2001 and the current plan in 2012. Volunteers have been a big part of the program almost from the very beginning. Chapter have been trained by WQPL staff since 2004. Thousands of acres of work and a decade and a half of experience on these lands have provided some useful insights for other land managers, restoration practitioners and Chapter.

University of Houston-Downtown and the Gulf Coast Chapter: A Win-Win Collaboration – SAN GABRIEL H

Lisa Morano, University of Houston-Downtown

The University of Houston-Downtown (UHD) is one of four distinct universities in the University of Houston system. There are many aspects that make UHD a unique university. UHD is located in downtown Houston, it is surrounded by two bayous and it serves almost 14,000 students. The ethnic diversity of UHD is over 40% Hispanic and over 20% African American such that it closely matches the diversity inside Houston. UHD places a strong emphasis on teaching with small class sizes of 30-60, flexible class scheduling for students coming back to school and high-impact learning activities to improve student success. In 2016 the leadership of the Gulf Coast Chapter of the Texas Master Naturalist began discussions with the leadership of the Natural Sciences (NS) Department at UHD about how they could better collaborate. We completed a memorandum of agreement to solidify our collaboration. The goal for the Gulf Coast Chapter was to bring more young people into the program. The goal for UHD was to give students interested in natural history or environmental sciences a mechanism to expand their professional connections. In 2017 we hosted the first Gulf Coast training course at UHD with both community applicants and applicants who were UHD science students and faculty. Since that time we have offered the trainings at UHD every semester and the benefits have exceeded our initial expectations. The collaboration has led to multiple faculty with specializations in mammalogy, ecology and environmental science and plant ecology becoming incorporated into the training courses. Students and faculty in the NS Department have become certified Texas Chapter. We have developed an opportunity for students to count the training as field experience credit and therefore count the training toward their graduation hours. For busy students that must take a full-load for financial aid this opportunity allows them to justify the time the training course requires. Students have also gained both professionally and personally from interactions with Texas Chapter during filed trips and volunteer activities. This presentation will focus on the logistics to be addressed for building such a collaboration and the benefits that both a university and a chapter can gain from such a tight collaboration.

Fifty Shades of Green; Neat Natives for your Landscape – SAN GABRIEL J

Ricky Linex, Natural Resources Conservation Service

This presentation will show 50 species of native plants that are beautiful and sometimes unusual and can be used in your native landscaping. Some of these can be purchased but many are un-common and will have to be collected in the wild. A one-page listing of the 50 plants including common and scientific names will be provided to attendees. This list also includes whether the plants provide values for pollinators. The list will be useful as you begin your search for these neat natives.

Saturday Morning One-Hour Sessions

11:00AM – 12:00PM

Practice Safe Scratch – AMES MEETING ROOM (7TH FLOOR)

Amy Martin, Itchy Business

The science of itch and how poison oak and ivy's urushiol itch is different from others. The cost of conventional scratching: Infection. Scratching techniques that help the rash and don't hurt the skin. Using gentle acids and alkalines, heat and cold, to safely scratch. How people do the

hot water release all wrong. The perfect anti-itch bath and other ways oatmeal is your friend. Mentally mastering the urge.

Navigating the Environmental Impact Statement (EIS) Database – SAN GABRIEL G

Jane Duke, North Texas Chapter

Any major action the government takes that knowingly impacts the environment in our local community is announced, planned, and approved online in the Environmental Impact Statement (EIS) database. In this session you will learn how to access the EIS database and review the progression of an EIS through the 7-phase process which includes several opportunities for public feedback. Bring your cell phone, laptop or ipad to follow along if you wish but electronics are not required. As experts in the management of natural resources, the EIS database is a tool for TMNs to stay informed of environmental changes, participate in the process, and monitor the impact after the action is taken.

Rewarding Excellence in Youth Research Investigations – SAN GABRIEL H

Lynn Seman, Rolling Plains Chapter

One of the best ways that Chapter can insure a future that includes conservation-minded Texans is to encourage and reward our youth who participate in research projects each year. At the 2017 and 2018 Texas State Science and Engineering Fair, the Rolling Plains Chapter presented an award entitled the "Texas Master Naturalist Conservation Award" to senior high student and junior high students who exhibited a project showing excellence in research involving Texas natural resources. At this session, find out how you can be a part of this opportunity to show our support of student conservation research and also spread our mission of natural resource education across the state.

Riparian Plant Walk on the San Gabriel River – SAN GABRIEL J

Ricky Linex, Natural Resources Conservation Service

Enjoy a walk on the banks of the San Gabriel River adjacent to the Sheraton Conference Center. Identification of riparian plants will be discussed as will the role of riparian plants in creek and river stability.

Saturday Afternoon Field Sessions

1:00PM – 5:00PM

Brackenridge Field Laboratory

Barbara Keir, Capital Area Chapter and Rob Plowes, University of Texas, Brackenridge Field Laboratory

The Brackenridge Field Laboratory is an 82-acre biological research site that is part of an almost 400-acre tract of land originally donated to the university in 1910 by George W. Brackenridge, a former University of Texas regent. The Brackenridge Field Laboratory property is comprised of areas of rich natural vegetation which include a native bluestem prairie, old pasture land, former quarry, Firefly Meadow, Pecan Bottoms, Colorado River and juniper woodlands. This diversity has produced records of thousands of species including at least 163 species of birds, 20 mammals, 373 species of plants, 68 species of ants, and 1200 species of moths and butterflies, and 200 species of native bees. In the 1980's a mountain lion was even spotted at BFL. Additionally, several species new to science have been discovered here and were named from specimens first

collected on the site. The property is comprised of areas of rich biodiversity that support numerous long term studies on biology, ecology, and ecosystem function. Dr. Plowes will lead a group up to 25 people to cover the role of field stations for long term ecological studies and invasive species research (including fire ants).

Edwards Plateau Ecosystem Field Trip - River Ranch County Park
Barron Rector, Texas A&M AgriLife Extension Service and Patrick McElhinney, Good Water Chapter

River Ranch County Park, with more than 1,000 acres of meadowlands, wetlands and hills running along the South Fork of the San Gabriel River, hosts key characteristics of Edwards Plateau soils, plants, and animals. With the County Park to be open to the public in late 2018, local TMN Chapters have been critical in the conservation of resources, implementation of trails and management of the flora and fauna native to the area. Tour this unique large-scale natural space within minutes of the highly developing I-35 corridor and hear from local TMNs on the projects being planned for the site.

Gault Archaeological Site
Tonja Hamel, Goodwater Chapter and Dr. Clark Werneke, Gault Archaeological School

In a rural setting outside of Florence, sits a wooded valley that to the untrained eye looks much like the other nearby farms. But something remarkable happened on this acreage, which sets it apart. It turns out that some of the earliest peoples in the Americas trod this land and left remnants of their life behind for researchers to find more than 13,500 years later. Archeologists at the Gault Site found proof of a hunting and gathering culture that had arrived long before the Clovis people. Join Dr. Wernecke for a private tour of the Gault Archaeological site with insights on the techniques used, evidence found and lessons learned about the culture of these Paleo Indians. Walking shoes, walking stick and binoculars encouraged.

Inks Lake Bird Blind and Devil's Trail
Lindsay Pannell, Texas Parks & Wildlife Department

Join the Highland Lakes Master Naturalist as they highlight the wildlife viewing station along a guided hike of Devil's Trail. Lindsay Panell, park interpreter, will lead the hike along the two-mile one-way trail, starting at the wildlife blind and ending at the campground. Explore the flora and fauna that make this area unique and the geography that gave the trail its name.

Local Pollinator Garden Tours with NPSOT
Billye Adams, Goodwater Chapter

Participants will visit 3 gardens that were planned with pollinators in mind: The Williamson County Garden at the landfill, the Liberty Garden at Murphy Park in Taylor, and the garden at the San Gabriel Unitarian Fellowship.

Saturday Afternoon Four-Hour Sessions

1:00PM – 5:00PM

There's an App for That – Making & Sharing Observations for Science using iNaturalist – SAN GABRIEL K
Tania Homayoun, Texas Parks & Wildlife

Citizen science is a powerful way for people of all ages and all walks of life to contribute to research, conservation, and management of our natural resources. Texas Parks and Wildlife's Texas Nature Trackers program uses iNaturalist - an online data collection tool and naturalist community - to support its projects. This training will introduce the Texas Nature Trackers program, how Texas Parks and Wildlife uses iNaturalist to support our conservation work, and provide step-by-step instruction on how to use iNaturalist to participate. Participants should dress appropriately for field time outside after the presentation. Please come to the session with an iNaturalist account set up and the iNaturalist app loaded onto your phone if possible.

Grasses, grasses, grasses, everywhere, but which one is it!! – WASHINGTON BOARDROOM

Dale Kruse, S.M. Tracy Herbarium, Texas A&M University

The Poaceae (grass) family is one of the largest families of vascular plants in the world, especially in largely prairie state like Texas. Grasses are also a vital ecological, as well as economic, force across the globe. As components of every landscape in the state, grasses are a dominant component of the rich biodiversity that is Texas. In this workshop we will take a close look at the identification of grasses using two approaches. An initial lecture will delve into the basics of grass morphology, ecology, and biogeography. In the lecture the student will gain a better understanding of these topics, which can then be applied in the laboratory session that follows. The laboratory session is designed as a continuation of the introductory class. In this session we will take a detailed look at the morphology this group of plants with the aid of a dissecting scope and published references. Using dissecting microscopes participants will observe the macro and micro morphological characteristics that are essential for accurate identification of these groups. All equipment for the class will be provided, just bring your curiosity.

How Many Mega Pixels? Camera, Lenses and Techniques for Nature Photography –TAYLOR MEETING ROOM

John Herron, Retired

Most of us can take a photo with our cell phone without even thinking about it. But photography can seem complex as you move into dedicated cameras - megapixels, zoom, shutter speed, small cameras, big cameras, Canon, Sony, Nikon, Fuji, Olympus ... the variety of choices seems unending. John Herron, a wildlife ecologist and amateur photographer, will sort through the terminology and 'focus' on the features that are important for nature photography. We'll also discuss the basics of photo composition – how to make a good photo great! Bring your camera and John will try to answer specific questions about cameras the group has. If you don't have a camera yet, you can check out one of John's!

Saturday Afternoon Two-Hour Sessions

1:00PM – 3:00PM

Garden Wildlife – SAN GABRIEL C

Roger Sanderson, Texas Discovery Gardens

Gardens should be intimately intertwined with the local wildlife. Especially now, with much of the Texas landscape now devoid of the native plants and habitats that once kept our wild environment alive. It is imperative to create gardens that augment what

remains of nature with a wildscape of our own. This program focuses on what wildlife you can expect in a natural garden and its importance ecologically. Topics include how to attract desirable wildlife, and how to live with or deter the undesirable or destructive critters (and possibly get a new appreciation for some). Included will be a review of important pollinators, what plants they need, and what physical structure will enhance your garden's desirability to them.

Diversity, Equity, and Inclusion in the TMN Program – Leveraging the Whole Community – SAN GABRIEL D

Virginia Palacios, Capital Area Chapter

To maximize conservation in our communities, we have to get the whole community involved, and the future of conservation depends on reaching ever-more diverse segments of the population. This session will shed light on the demographics of the Texas Master Naturalist program, with a focus on race/ethnicity, and age. In this workshop, participants will discuss ways to create chapter structures that are inclusive of people coming from different cultures and ages. Building from last year's presentation on the same topic, the presenters will share insights learned in the past year from actions taken in the Capital Area Chapter.

Be a Change-Maker for Wildlife – SAN GABRIEL G

Rachel Rommel, Texas Alliance for America's Fish and Wildlife

More than 12,000 species of fish and wildlife are in decline across the nation, and 1,300 of these species are found in Texas. A recent report by the National Wildlife Federation, American Fisheries Society, and The Wildlife Society notes that more than 150 species have already gone extinct, and 500 additional species have not been seen in recent decades. These declines are happening across all animal groups – birds, mammals, reptiles, amphibians and fish. Invertebrates have been hit hard, with key pollinators such as native bees and butterflies in rapid decline. Seventy percent of the nation's freshwater mussels, which siphon pollutants and maintain water quality, are endangered or already extinct. To help reverse species declines, we need broad scale action. As Texas Master Naturalists, you have the knowledge, experience, and passion to engage Texans in nature appreciation. You participate in conservation activities in communities across Texas – monitoring wildlife, restoring habitats, educating others. You develop powerful networks that look to you and your colleagues for leadership to protect and enhance our natural resources. Building on this, is there a strategy to engage your network for maximum good at the local, regional or state level? In this interactive workshop, we will focus on how to build a grassroots movement to advocate for national wildlife legislation, using the national Recovering America's Wildlife Act as a model. Presentations and training exercises will focus on building "influencer teams" and developing a strategy to accomplish conservation objectives. Some of the topics will include how to target and communicate with your audience(s), how to talk to elected officials, and guidelines for what you can and can't do as a Texas Master Naturalist. We will focus on building support for the Recovering America's Wildlife Act, but the skills learned will translate to other community, action-based initiatives big and small. You will leave this workshop with some new knowledge and skills to be a change-maker for wildlife!

Texas Native Prairies: Identification, Restoration & Conservation – SAN GABRIEL H

Pat Merkord. Native Prairies Association of Texas

This presentation will introduce participants to the identification of native prairies in Texas and techniques used to find remnant prairies and map them. This includes the use of indicator species, current mapping technology, range land terminology, and evaluation procedures. A practice evaluation using indicator species including some actual specimens will be included. Past mapping efforts including the Native Prairies Association of Texas (NPAT) mapping of 95 counties in Texas, our current Texas Parks & Wildlife Grant to map additional NE Texas alfisol prairies, and the current Prairie Seekers program that involves training of volunteers and citizen scientists to find, identify and quantify Texas Native Prairies that have still not been described. Also included in the program is a discussion of current local and statewide restoration efforts; the restoration techniques used; and how and where volunteers can participate. Upcoming restoration Sessions and field events that provide training for volunteers will be announced. This includes a discussion of on-going efforts at Indiangrass Preserve in the NE Austin area where volunteers are greatly needed for the conservation of this great blackland prairie in the heart of Texas. Lastly the program will present the great wildlife of our Native Texas Prairies by looking at prairies that NPAT has conserved and the wildlife protected on these rare native prairies. Group hands on activities on prairie sounds and grassland biome inhabitants will be included. How native prairies are being conserved and ways that citizens and volunteers can help in the conservation effort will be discussed. It includes a look at NPAT's prairie dog colony which is a wildlife restoration effort that has been ongoing on the Maddin Prairie Preserve for over 10 years and has provided a protected home for this beleaguered species through the efforts of many volunteers. Participants in this presentation will be given information on the many ways and places they can volunteer to help save our diminishing wildlife and native prairies.

Saturday Afternoon One-Hour Sessions

1:00PM – 2:00PM

Entomology: The Study of Insects and their influence on ecosystems and agriculture – AMES MEETING ROOM (7TH FLOOR)

Christoper Ebling, Blackland Prairie Chapter

This presentation will cover the basics of the study of insects. Topics will include the importance of insects to the ecosystem and to agriculture, insect lifecycle & morphology, insect orders & identification, and insect collection and preservation.

Uncovering the effects of climate change on U.S. bird species using structured community science: Audubon's Climate Change Watch Program – SAN GABRIEL A

Brooke Bateman and Zach Slavin, National Audubon Society

Species are facing an unprecedented rate of climate change, with over half of North American bird species at risk to lose 50% or more of their current climatic range by the end of the century. In an uncertain future, we must be able to both forecast and monitor how species are responding to climate change. To track climate effects throughout species' ranges requires a landscape-scale coordinated and a structured effort. Historically, community science efforts have been integral in providing bird data through time, however often do not provide structured protocols designed to answer specific research questions. Monitoring change on the landscape in relation to climate

change requires a coordinated and more structured effort- monitoring with purpose. Here we will highlight the history of bird-focused community science programs and how we are developing new methods that are better able to detect and forecast changes in bird populations in the face of climate change. We will focus on Audubon's newest community science program, Climate Watch, which integrates climate projections with community scientists' local knowledge to track how birds are responding to climate change. By monitoring bird responses to climate change as it is happening using a structured monitoring protocol, we can directly test hypotheses about bird climate change responses.

Pollinators and Native Plants -Who are the Real Managers of Wildlife Habitats? – SAN GABRIEL B

Ricky Linex, Natural Resources Conservation Service

Landowners and land managers often believe that by reducing stocking rates of livestock or controlling numbers of deer on their property they are managing the habitat. Participants will learn of the true importance of the many species of pollinators in keeping healthy forbs, flowering shrubs and trees. Without pollinators our food supply would be significantly reduced and habitat for wildlife and livestock would crash. Come and learn about the importance of pollinators.

Botanical Latin: A Language Unto Itself – SAN GABRIEL J

Brooke Best, Botanical Research Institute of Texas

All modern biologists still use a form of Latin, if for no other reason than to name living things, from bacteria to plants to humans. However, until just a few years ago, botanists were probably the only people for whom Latin remained a working, technical language. This presentation will cover the story of how we got from Classical Latin to modern Botanical Latin, the people (mostly botanists) behind that story, and where Botanical Latin is today. The presentation includes some lecture as well as an activity best completed in small groups.

Saturday Afternoon One-Hour Sessions

2:00PM – 3:00PM

Moths - The Mysterious Majority – AMES MEETING ROOM (7TH FLOOR)

Valerie Bugh

Of about 2000 species of lepidoptera found in the Hill Country, only 150 are butterflies. Moths are far more numerous and diverse than butterflies, including more varied lifestyles, far greater size range, and some rather surprising survival strategies. This program will cover both caterpillars and adults, identifying the major families as well as some oddities, and a look at the beauty of these often overlooked insects.

Thinking Like a Quail: A Guide to Habitat Evaluation – SAN GABRIEL A

Amanda Gobeli, Reversing the Quail Decline Initiative

Evaluating habitat is simultaneously one of the most important and one of the most challenging aspects of quail management in Texas. However, with a little knowledge and consistent practice, anyone can conduct a habitat evaluation and use its results to improve the landscape for quail and other species found in the Texas grasslands. It helps to "think like a quail"--to interpret habitat from the point of view of a 6-inch-tall ground dwelling bird whose survival depends on the availability of food, shelter and

space. In thinking like a quail, you'll become familiar with the ecology and physiology of this important species while learning to recognize its preferred habitat.

Butterflies, Wasps, and Bees. Oh My!! – SAN GABRIEL B

David Riley and James Hall, Plateau Land & Wildlife Management

Rarely do land managers think about the small non-game wildlife that affect their property and even more rarely do they think about the butterflies, wasps, and bees. Texas has a wide array of native and non-native pollinators throughout the state that affect our daily life as we know it. These pollinators are not only a benefit to the ecosystem, but are a benefit to the agricultural economy. During this presentation I will identify the common pollinators seen throughout Texas, discuss the different eco-services that they provide, and outline different management recommendations for your land to encourage native pollinators.

Armchair Botanist: Engaging the Online Community to Improve our Knowledge of the Texas Flora – SAN GABRIEL J

Tiana Rehman and Jason Best, Botanical Research Institute of Texas

Approximately 3 billion scientific specimens documenting the world's biodiversity are preserved in natural history museums around the world. In order to make these valuable resources more accessible to science and the public, museums are actively digitizing their specimens to make images and data available online. The monumental task of digitizing all specimens requires significant effort so museums are teaming up with the public to help classify specimen images, transcribe specimen information, and georeference specimen vouchers. In this session, we'll explore various projects, platforms, and technologies that have been created to allow citizen scientists to help accelerate the process of digitization and to access a wealth of biodiversity data. We'll focus on ways citizen scientists can help digitize Texas plant specimens and how the botanical data can be accessed and used to better understand our state's flora and biodiversity.

Saturday Afternoon Two-Hour Sessions

3:00PM – 5:00PM

TMN VMS Administrators Training 201 – SAN GABRIEL H

Cheryl Foster, Brad James, Clyde Camp and Dale Hughling, TMN VMS Help Team

Join us to review some of the more advanced features of the Samaritan TMN VMS system and procedures that coincide with the usage of the system. We will go over the process of transferring volunteers to and from your chapter. As well as handling volunteer opportunities in neighboring chapters when your volunteers join them. We'll discuss maintenance of your chapter's data. Cleaning up logbooks, opportunities and volunteer entries, and managing the Volunteer's drop-down box in eRecruiter. Advanced topics will also include along with a thorough discussion of opportunity categories, exporting data to excel and using the email functionality for logbooks entries. Do you have a need to see data in a unique way? We will show you how to create grids for your chapter. Need to modify a large group of volunteer records? We will show you how to run an 'Automation' event to make those changes.

Specimen Transcription Blitz – SAN GABRIEL J

Tiana Rehman, Jason Best, Botanical Research Institute of Texas

While more than 3 million botanical specimens exist in Texas herbaria, only a small fraction of these are digitally accessible for observation or inclusion in scientific studies. Producing images of these specimens is the first step in liberating these data; the second step is engaging our citizen science community to help us extract the label information from these images. Bring your computer to join us as we transcribe the labels from historical Texas herbarium specimens and do some virtual botanizing! Skills learned will enable participants to continue transcribing specimens throughout the year, from the comfort (and cool temperatures) of their homes.

Saturday Afternoon One-Hour Sessions

3:00PM – 4:00PM

Glowing, Glowing, Gone: Fireflies of Texas – AMES MEETING ROOM (7TH FLOOR)

Benjamin Pfeiffer, Firefly Conservation & Research, Lindheimer Chapter

A highly educational and fun talk on the types of fireflies (Lampyridae) in Texas. Ben will be presenting his research on Texas firefly taxa with an emphasis on central Texas fireflies and also detail his ongoing field research during both firefly seasons in Texas. He will show attendees how to identify Texas firefly taxa and discuss their distribution across the state. Ben will discuss why fireflies flash and how they use light to communicate to potential mates. He will also talk on how to create a good habitat for fireflies on their land and specific threats to why fireflies are disappearing in many areas of Texas. This presentation will touch on areas such as land management conservation practices, citizen science, riparian and waterways education, discussion on ecological regions of Texas, light pollution issues, and native plants.

The Geography of Grassland Bird Conservation: How International Bird Conservation Efforts are Linked to Actions in Your Backyard – SAN GABRIEL A

James Giocomo, American Bird Conservancy

Many grassland birds are in steep decline. These grassland bird population declines in North America are largely driven by habitat loss and degradation through conversion of functioning grassland ecosystems for human land uses, like agriculture and urban development. There are many international, national, regional, and local conservation efforts that are working to address declines in the grasslands and the species that depend upon them. An understanding of these various efforts and how they link together at different scales can help give us a better picture of how our actions in our own backyards can contribute to the larger scale efforts; Think Globally, Act Locally. For example, in central Oklahoma and Texas, a number of governmental agencies and Non-Governmental Organizations have partnered through the Oaks and Prairies Joint Venture (OPJV) to collaboratively deliver conservation actions. The OPJV partners work together at multiple scales to conduct biological planning, landscape conservation design, habitat tracking and population monitoring in support of conservation efforts for a variety of bird and pollinator species that depend on healthy grasslands. This regional partnership of organizations works together to make state, national, and international conservation plans a reality by working one acre at a time. We will discuss how National and International bird conservation plans based upon citizen science data collection are used to prioritize which species and what kinds of grassland conservation actions are needed in central Texas and Oklahoma. Then we will discuss how participating in citizen science efforts like Breeding Bird Survey, Christmas Bird Counts,

iNaturalist, and eBird are contributing to our understanding of when and where we can focus our conservation efforts. Finally, we will discuss various conservation programs available to local landowners that provide financial incentives and technical guidance to help our grassland species through conducting practices like prescribed fire, prescribed grazing, native grass planting, and brush management.

Monarch Heroes in Texas – SAN GABRIEL B

Karen Bishop, Marya Fowler, National Wildlife Federation

This session will include an overview of three ways that Texas Chapter can get involved in project work to support the monarch butterfly and its habitat needs. First, we will share the National Wildlife Federation's K-12 Monarch Heroes program, including a review of how schools become involved, how Chapter can help with the establishment and maintenance of school pollinator gardens, and successes the program has had to date. Next, we will share information on the Mayors' Monarch Pledge program, including a review of the Mayors' Monarch Pledge Action Items, the process for taking and implementing the pledge, and the benefits related to participating in the pledge program. We will end with a review of the monarch networks that the National Wildlife Federation facilitates in major cities across Texas, including a description of resources created by NWF for the benefit of the participating communities, and how Chapter can get involved with their local community network to increase native habitat for the monarch butterfly and other wildlife species.

Organic Your Way to a Healthy Neighborhood; Organics + Water Conservation = Healthy Soil – SAN GABRIEL C

John Kiser, Stone Oak POA

The Stone Oak area is known for its 11 miles of landscaped medians with emphasis on sustainable landscape, tree preservation, and water conservation efforts – making Stone Oak one of the most unique areas within San Antonio. This presentation will focus on the benefits of the use of organics, as well as water conservation efforts and education, xeriscaping, and utilizing community resources.

State Parks as Training Grounds – SAN GABRIEL D

Ben Horstmanm, Texas Parks & Wildlife Department

Join State Park Staff for a brief description of the types of training opportunities at Texas State Parks. Training topics include interpretation, outdoor recreation, resource protection and management, and a just about anything else! We will discuss current sites near you offering training as well as identify sites that you may want to contact. We will also discuss the types of chapter volunteer project opportunities at your local state park.

Introducing the Recovering America's Wildlife Act: Congress takes action to preserve imperiled plan – SAN GABRIEL G

Richard Heilbrun, Texas Parks & Wildlife Department

The Recovering America's Wildlife Act is the best opportunity we have for transformative conservation funding since 1937. Passage of this bill would provide permanent, dedicated funding to restore imperiled fish and wildlife, create and enhance educational programs, and improve nature-based outdoor recreation. The bill, lauded by both conservation and business groups, ensures that America's "Green Infrastructure" is financially and ecologically sound. Join us for a lively discussion that includes an overview of the proposed program, the organizations and networks that support and

don't support the bill, and how TXMN Chapters and individuals can support this funding. Even in "today's politically charged" environment, this bill is getting surprising bipartisan support in Congress. What would you do with $64 million? Would you reintroduce Texas Horned Lizards? Build nature centers? Fund field trips for students? Restore Texas watersheds? Whatever your interests, be a part of the solution! You won't want to miss this!

Saturday Afternoon One-Hour Sessions

4:00PM – 5:00PM

Spiders of Central Texas – AMES MEETING ROOM (7TH FLOOR)

Sheryl Smith-Rodgers, Heart of Texas Chapter

General biology of spiders and discussion of common spiders in Central Texas region.

Galveston Bay Injured Bird Response Team – SAN GABRIEL A

Tim Long, Galveston Bay Area Chapter

The Galveston Bay Injured Bird Response team is a group of volunteers formed in January 2017, led by local GBAC Chapter, in response to an identified need to rescue and transport injured or sick birds found on Bolivar Peninsula, a coastal area with no Animal Control support. It quickly grew in scope to cover all of Galveston County, including all of Galveston Island. Birds are transported to the Wildlife Center of Texas in Houston, a 100 mile roundtrip from Galveston, since there are no wildlife rehabbers in the Galveston area. The group now has about 40 active volunteers (more than half are TMN's) who are periodically called upon to transport injured birds to WCT, and some also help with actual bird rescues/captures. Several training sessions have been held to ensure safe handling of birds and the safety of the volunteers. A Facebook group page setup to help report injured birds and the group's activities now has almost 1000 members. We are partnered and work closely with the Wildlife Center of Texas, Galveston Animal Control Services, Galveston Island Humane Society, Audubon Texas, and Plastic Pollution Prevention Partnership. Since Jan 2017 the group has transported over 500 birds of more than 85 different species. This effort was presented as a chapter project at the 2017 State meeting, and won the Project of the Year award. This presentation will focus on the history of the group and success to date, lessons learned, use of social media and electronic communication to facilitate group response, and helpful pointers on how to start a similar effort in your area.

A Visit to the Monarch Overwintering Sites of Michoacan – SAN GABRIEL B

Diane Russell, Coastal Prairie Chapter

In February 2018 I visited the fabled monarch overwintering sites of El Rosario and Sierra Chinqua in the Mexican state of Michoacan with a tour group led by Dr. Tom Emmel with the University of Florida. This presentation includes photos and videos of these unique endangered habitats, as well as updates learned from nightly lectures about how the monarchs make this 3000-mile trip, and the threats to this incredible phenomenon.

Training Class Recruitment Methods – SAN GABRIEL C

Carol Hawkins, Coastal Prairie Chapter

A focused discussion forum/round table on the topic of successful training class recruitment methods. Chapters with success in this area are strongly encouraged to send a chapter representative(s) to the session in order to share information on the topic. Best practices as well as unsuccessful strategies are to be offered. Robust participation by chapters with successful training class experiences will benefit both new and veteran chapters with their respective training program efforts.

Quiz Bowl V – SAN GABRIEL G

Richard Heilbrun, Texas Parks & Wildlife Department

Join us for a fun-filled, low-stakes, but high energy trivia contest battle between the chapters! Participants will compete for prizes 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. Bribes are welcome, but not guaranteed to work in your favor.

Saturday Evening Excursions

8:00PM – 9:00PM

Mothing 'til Midnight!

Sam Kieschnick, Texas Parks & Wildlife Department

Moth moth moth moth moth moth moth moth. We'll set up some black lights and mercury vapor lights outside and see what comes! Learn to be a great moth-er.

Sunday - October 28th, 2018

6:30 AM - 8:00 AM
Chapter President's and Chapter Advisor's Breakfast – BRIX AND ALE RESTAURANT
Michelle Haggerty, Mary Pearl Meuth, Texas Master Naturalist Program

This session is for Chapter Presidents, Chapter Advisor's 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.

Sunday Morning Three-Hour Sessions

9:00AM – 12:00PM

Providing the "Invaders of Texas" Anti-Invasives Citizen Science Workshop Training – SAN GABRIEL A
Hans Landel, Lady Bird Johnson Wildlife Center

Learn to train citizen scientists to identify and report invasive species as members of the Invaders of Texas program. There are currently only two trainers in all of Texas providing training about this effective and important program. To expand the program's reach and ensure its sustainability, it is imperative that more individuals learn to provide this impactful training. Participants will learn to teach future citizen scientists about invasive species biology, impacts and management; how to identify local invasive plants; and how to report them using the Invaders of Texas and Sentinel Pest Network Programs (see www.texasinvasives.org/invaders/). Participants will also learn how to give a presentation and how to organize and plan a workshop. This is a great way to ensure that your Master Naturalist chapter can continue to provide these Sessions for your members for years to come.

Land Snails of Texas – WASHINGTON BOARDROOM
Ben Hutchins, Texas Parks & Wildlife Department

Beginning with an overview of Texas snails and snail biology, participants will learn how to collect, survey, curate, and identify terrestrial snail shells. Conditions allowing, participants will participate in a field based, hands-on snail hunt. Demonstration snail shells will be reviewed with use of microscopes as about half of our Texas snails are so small that it is hard to see detail without a microscope. Participants will also learn to take photos of shells so that they are identifiable on iNaturalist.

Plant Identification by Family Association and use of Written and Online Botanical Keys – AMES MEETING ROOM
Ricky Linex, USDA Natural Resource Conservation Service

Participants will gain an understanding of how Texas plants have been collected and identified through the past 200 years. Plants will first be identified by use of Family Associations and then followed by written and online botanical keys. Participants will learn how to quickly key out plants arriving at the proper identification. Session will be indoors, copies of the keys needed will be provided for all. Magnifier, tweezers, and knife would be useful but not required. Handouts of Family Associations and list of useful plant ID books will be provided. Never again will you fear the challenge of keying out a plant.

Geology of Texas: Rocks, Soils and Water – BELFORT MEETING ROOM

Chris Mathewson, Texas A&M University

This 3-hour course is designed for students who are not geologists, but are interested in the physical environment that controls and impacts out naturalist world. The course will discuss the geologic evolution of the State of Texas, showing where and why the various rock units were formed and how the bedrock impacts both the soils that develop on the surface and the groundwater that flows below. We will discuss the rock cycle and see how all the geologic processes are related as "Mother Nature" naturally recycles her Earth materials. Understanding how rocks were formed and the conditions that existed when they were formed provides you with a fundamental understanding of the foundation of the environment. Critical to that understanding are the soils that develop on top of the "bedrock" because they reflect the parent material, climate, topography, organisms and time of formation that are associated with your site of interest. The county soil survey for your area is a very valuable and detailed source of information about the area. Finally, it rains and where does this water go? The hydrologic cycle and hydrology associated with your site of interest is critical in influencing the soil development and vegetative cover in the area. Surface water causes erosion, sediment transport and deposition of the soil and weathered materials thus producing a new environment. Rainwater that infiltrates into the ground and moves between the soil particles or along bedding plains or in fractures and faults creates the groundwater system. Surface and groundwater impacts the natural world that we live in. Registered students will receive a copy of the course notes and a Texas Highway Geologic Map as a reference.

Wild Game Processing – TAYLOR MEETING ROOM

Steve Hall, Texas Parks & Wildlife Department

Learn how to process wild game from field to freezer – giving your family and/or friends a tasty, completely organic and nutritious meal! Through hands-on participation, you will understand how to field dress big game, small game and game birds including transporting and butchering game (e.g. roast, steaks, hamburger, sausage and jerky). Techniques and tips regarding knife safety, equipment, supplies, handling, legal considerations, public image, freezer wrapping and wild game cooking will be included. Whether you hunt yourself, or get donated meat from friends, this class is for you!

Sunday Morning One-Hour Sessions

9:00AM – 10:00AM

BINGO! Engaging Kids with Nature When You're Stuck Inside – SAN GABRIEL B

Lori Buffum, Gideon Lincecum Chapter

Our chapter was invited to participate in a local school's "family science night" – an indoor event at the junior high gymnasium. The challenge was to find a way to actively engage kids in learning about nature. A simple bingo game scavenger hunt proved to be a fun and popular activity that we have presented at several science nights and at county-wide "Ag Day" events. Along with display boards depicting a variety of natural subjects, the game encourages interaction with volunteers as players hunt for answers. Learn how to design your own game and adapt it to a variety of audiences and venues.

Distance Learning and Chapter: Expanding your impact through live on-line nature-based educational experiences with children – SAN GABRIEL BALLROOM

Victoria Serna, Craig Hensley. Texas Parks & Wildlife Department

During the 2017-2018 school year, Texas Parks & Wildlife Department staff launched TPWDiscover Distance Learning, interacting live with 18,000+ students and teachers during programs related to natural resources, state parks, citizen science, and ecosystems. We'll review our first year successes, how we see this program expanding, and share how you can become involved to further expand our outreach impact in Texas and throughout the country. Effective distance learning experiences can bridge economic and logistical barriers that often keep children from creating a connection with the natural world.

Is this City for the Birds? Tracking Grassland Birds in an Urbanizing Texas – SAN GABRIEL C

Tania Homayoun, Texas Parks & Wildlife Department and James Giocomo, American Bird Conservancy

Texas provides critical habitat to grassland birds, which collectively have seen serious declines over the past 40 years. This presentation will briefly discuss grassland bird conservation in Texas and introduce a new citizen science project using the iNaturalist platform that tracks how spreading urban development intersects with the habitat use of a select group of grassland-associated birds: Loggerhead Shrikes, kingbirds, Northern Mockingbirds, and Scissor-tailed Flycatchers. Participants are encouraged to download the iNaturalist phone app and create an account.

Record & May the Force (5/4) Be With You – SAN GABRIEL D

Jane Duke, North Texas Chapter

Do you record your first sighting of dandelions or henbit each spring? Do you return to the same trail every year looking for the same plants in the same abundance or find few plants or new plants and wonder what forces impacted these changes? If you do, then you are of kindred spirit with the late Jim Varnum, of the North Texas Chapter, Class of 1999, who walked and led hikes throughout North Texas recording the flora of the region. His observations are now part of a single database that has been compiled and made available to TMN. In this session you will learn how to access the Jim Varnum database, analyze observational data, and generalize about habitat change. Although Jim's observations were made in North Central Texas, this message of the value of documenting species over time is relevant to naturalists across the state.

Louisiana Black Bear Conservation in East Texas – SAN GABRIEL G

Laurie Gonzales, Trinity River National Wildlife Refuge

The Louisiana Black Bear may have been removed from the Endangered Species List but it still isn't found in the entirety of its original range. Let's help this iconic Texas native return to its habitat in East Texas! This presentation will discuss ways to assist the Texas Black Bear alliance in restoring the Louisiana black bear to its original range. We will discuss basic bear biology, educational efforts, habitat needs, and ways we can help the bear come back.

Dendrology and Tree Identification Techniques – SAN GABRIEL H

Christoper Ebling, Blackland Prairie Chapter

This presentation will cover the basics of tree structure and composition as well as provide a primer on the techniques and tree characteristics used in tree identification.

Characteristics include location, form, leaves, twigs, fruit, wood, and bark. Tree structure will include the components of a tree and their function as well as classes of trees. The presentation will detail the characteristics of some trees common to the north Texas region.

Help Put the 'Community' in Community Colleges: An Important Role – and Opportunity -- for Master Naturalists – SAN GABRIEL J

Amy Monroy, Brookhaven College

Universities have tenured faculty, research money, and graduate students. Even freshmen often have access to science field work and chances to travel and participate in studies. Community colleges, by contrast, have very limited budgets, large numbers of contingent faculty, and students who work full time and raise families. Master Naturalists can help by offering on-campus and local projects and programming to support the sciences curricula. We'll see how a pollinator garden at Brookhaven College is kickstarting collaboration between the college and Master Naturalists and learn how the community college structure and current trends toward campus sustainability can make these collaborations possible.

Map Texas Landscapes: Habitat Analysis in TEAM & the New Citizen Feedback Tool –SAN GABRIEL K

Amie Treuer-Kuehn, Texas Parks & Wildlife Department

Texas Parks and Wildlife's Landscape Ecology team has developed a Google maps based application, Texas Ecosystem Analytical Mapper, (TEAM) to deliver the Ecological Mapping Systems of Texas (EMS) data to Texas citizens. The TEAM application is an interactive mapping tool that will assist users in understanding Texas habitats and integrate vegetation data with land management and resource planning of all types. Wildlife biologists, land managers, naturalists, planners, and conservationists are able to use TEAM to view and print the EMS data in relationship to other natural feature layers such as soils, geology, hydrology and ecoregion. Users are able to view and print custom maps and reports of habitat data from both uploaded kml and shapefiles or areas of interest drawn within the application. Other capabilities include; exporting the map and report to a pdf and calculating the number of acres of each vegetation type within the area of interest. TPWD is currently testing a data entry module and individual profiles for users. This module will allow citizens to provide feedback regarding map errors, update needs, and landscape changes. TEAM supports land management and conservation approaches incorporating the most current data. It also provides an avenue for community involvement in habitat understanding.

Sunday Morning Two-Hour Sessions

10:00AM – 12:00PM

Building Your Educational Toolbox: Tips and Tricks for Engaging Audiences of All Ages – SAN GABRIEL BALLROOM

Craig Hensley, Texas Parks & Wildlife Department

Looking for ways to enliven your educational efforts and impact? Join this nearly forty year veteran of environmental education and interpretation as he shares a host of activities, tips and tricks, and resources for improving your outdoor teaching skills. From songs and games to trailside activities, you'll take away plenty of easy to copy lessons and other ideas -- and have fun along the way.

A Refresher Course for Botany Skills and Collecting Scientific Specimens – SAN GABRIEL J

Tiana Rehman, Brooke Best, Botanical Research Institute of Texas

Approximately 5000 vascular plant taxa can be found natively or naturalized in Texas, documented through scientific specimens deposited at herbaria across the state and throughout North America. However, our understanding of the distribution of these species is still poor, due in part to a lack of sampling of these species across their range. This course will include a refresher of basic plant morphology (incl. hands-on plant dissections) and botanical taxonomy for plant identification, and ultimately a guide for how an individual may make their own plant collections and deposit them in herbaria to improve sampling efforts across the state.

How iNaturalist Guides Policy – SAN GABRIEL K

Sam Kieschnick, Texas Parks & Wildlife Department

What good are a bunch of dots on a map? How does an observation of a cardinal make any difference? In this presentation, you'll learn how each and every iNaturalist observation made on public land influences land management and guides public policy. City councils and park boards recognize a constituency of people that care about nature enough to document it! Hear some success stories from the Dallas/Fort Worth region and learn ways that you too can make an impact with citizen science.

Sunday Morning One-Hour Sessions

10:00AM – 11:00AM

Lead a Family Nature Club, Help a Child Connect to Nature – SAN GABRIEL B

Susan Afflerbach, Victoria Serna, Texas Parks & Wildlife Department

Think back to your earliest memories of connecting to nature. Was there an adult, maybe a family member, teacher, or community leader, who guided and shared in your excitement? As volunteer leaders, we have the important opportunity to facilitate connections to nature. Come learn how Western Hills Primary School in Fort Worth ISD started their Wilderness Club and learn tips for starting a club in your community. Leading a family nature club is one way you can foster a child's connection to nature, while encouraging families to discover the joy of being together outdoors.

Screech owls-the perfect bird for your backyard. – SAN GABRIEL C

Ed Ellerbe, Blackland Prairie Chapter

Eastern Screech Owls are major predators of critters we don't want in and around our homes in the suburbs or the country. Cheap and effective pest control that they are, they are also ideal for connecting children to nature. Learn about their natural history and how to attract them to become residents of your backyard.

Wild Orchids Grow in Texas!!! – SAN GABRIEL D

Stephanie Varnum, North Texas Chapter

Hexalectris orchids are uncommon to extremely rare mycoheterotrophic orchids found in limited and potentially endangered ecological areas around Texas. A project with a biology professor to identify orchid growth sites forms the basis of current knowledge about these special orchids. The presentation includes the geology that underlies their habitat, information on the five species found in Texas, and an explanation of the

summer field work. Due to the complexity of mycorrhizal fungal relationships growers cannot grow them, so finding and protecting the sites where they grow naturally is the only way to protect them – a perfect opportunity for Texas Chapter.

The Natural History of Mexican free-tailed Bats – SAN GABRIEL G

Fran Hutchins, Bat Conservation International

Bats make up over 20% of all the mammals on Earth; with over 1330 species of bats occupying habitats of all descriptions, bats are the most understudied of all mammals. Expropriated by Hollywood, myths about bats abound. Bat Conservation International is a non-profit group dedicated to protecting bats and educating people about bats and their benefits. Fran Hutchins, Director of Bracken Cave Preserve, will speak to us about the biology of bats (especially the Mexican Freetail bats at Bracken Cave). He will cover the latest research on the bats of Bracken as well as busting myths about bats and dangers to their survival. The benefits of insectivorous bats to agriculture, as well as the benefits of nectar- and fruit-eating bats, make bats one of humankind's unsung heroes.

Fundamentals of Forest Ecology – SAN GABRIEL H

Christoper Ebling, Blackland Prairie Chapter

This presentation will cover ecology in general and forest ecology specifically. Topics will include: What is ecology, and specifically forest ecology? What is an ecosystem, and specifically a forest ecosystem? Basic components and structure of forest ecosystem. Processes associated with living and nonliving elements within a forest ecosystem. Different forest ecosystem/types and factors that contribute to the differences.

Sunday Morning One-Hour Sessions

11:00AM – 12:00PM

STRAWS – A Documentary for a Sea of Change – SAN GABRIEL C

Christine Figgener, Texas A&M SeaGrant

Plastics, especially single-use plastics, constitute a major problem for Earth's ecosystems, as well as our own health. It is estimated that there will be more plastic than fish in our oceans by 2050 and there is already the first evidence of micro-plastics making their way into our diet. There is much we can do to help with this issue, and though recycling is crucial, it will not solve the global problem. Reducing our plastic consumption in our everyday life is of utmost importance. Single-use plastics are usually the least likely to be recyclable, but are also the plastics that are usually just convenience products that we do not really need. I would like to screen STRAWS, a powerful documentary about plastic straws and other forms of plastic pollution that inundate our waterways and oceans. The film illustrates how individuals, groups, and businesses around the globe are reducing plastic straw use through education, collaboration, policy development and utilization of non-plastic alternatives. With colorful opening animation narrated by Oscar winner Tim Robbins, STRAWS is entertaining as well as educational. STRAWS inspires action and empowers individuals to be part of the solution. As Texas Chapter we care about the environment and I would like to have an interactive Q&A session after the screening to discuss ways how the different chapters, but as well as everyone at home, can make a difference in their respective communities by quitting unnecessary single-use plastics such as straws.

P-STEM: Plants & Society Trading Evolved Molecules – SAN GABRIEL D

Rosemary Plank, Chad Huckabee, South Texas Chapter

Terrestrial plants have been producing molecules for one half billion years. During these years, plants evolved chemical responses in order to cope with predation. Plants evolved molecules for protection, not only from micro-predators, but also for macro-predators, including humans. We do not appreciate the biochemical protections plants provide for themselves and for others, such as humans. To the plant, these molecules are utilized for propagation, seed dispersal, antiviral, antibacterial, fungicidal, insecticidal and herbicidal agents as well as the common aspects of what we all think of as plant growth. Paralleling the proliferation of these molecules and their genetic coding has been the adjustments made by animals. Like all living things, the plant molecules consist of a small, finite number of elemental components which can be arranged into an infinite array of possible molecules. During this presentation Rosemary and Chad address simple biochemistry in order to introduce the audience not only to a small portion of the vast array of molecules that plants utilize for protection FROM their invaders, but also how plants provide protection FOR humans. This is an interactive presentation where audience and presenters work together to create a learning experience about plant chemicals produced not only for plant protection, but human protection as well.

America's Big Cat in Texas: The Mountain Lion – SAN GABRIEL G

Monica Morrison, Texas Native Cats, North Texas Chapter

The elusive mountain lion. The cat known by various names. An apex predator and Texas' largest terrestrial carnivore. Why is this cat so intriguing and what purpose does it serve in nature? Think you might have seen a mountain lion where you live? Come find out about our Texas lion and learn about its habitat and two distinct geographic populations, its diet, threats to its existence, current mountain lion research and what the future may hold for this mysterious iconic feline.

Climate Change Journey: Awakening Depression Hope Empowerment – SAN GABRIEL H

Emily Northrop, Southwestern University

In this interactive session we will begin with basic climate science, then review the impacts of climate change in Texas and beyond, move to some hopeful options for addressing global warming, and end empowered by various ways to take action.

Sunday Post Event Field Sessions Sessions

1:00PM - ?

Lady Bird Johnson Wildflower Center

AJ Senchack, Good Water Chapter

Lady Bird Johnson and actress Helen Hayes founded the National Wildflower Research Center in 1982, to protect and preserve North America's native plants and natural landscapes. The Lady Bird Johnson Wildflower Center is a public botanic garden that is dedicated to creating a more sustainable earth through research and education. The Center's 279-acres are filled with gardens, meadows, and hiking trails, which includes 80 acres of research plots. Over 150,000 annual visitors experience a slice of the Hill Country and learn about the sustainable use and conservation of native wildflowers, plants, and landscapes. The Center maintains miles of walking trails, formal and research plantings (performed by on-staff botanists, ecologists, horticulturists and experts in landscape restoration and plant conservation), as well as educational exhibits.

Highlights of the tour include TMN chapter projects such as Wildflower seed cleaning of the millions of seeds from Texas plants collected for the global Millennium Seed Bank project.

Old Settlers Park: Grassland Birds in an Urbanizing Texas
Tania Homayoun, Texas Parks & Wildlife Department & James Giocomo, American Bird Conservancy

Old Settlers Park in Round Rock is typical of many suburban Texas open spaces, featuring amenities for human recreation. However, it is also home to a variety of native birds, including nesting Loggerhead Shrikes, a species of greatest conservation need in Texas and one in decline throughout North America. This field trip to Old Settlers Park in Round Rock will touch on grassland bird conservation in Texas and introduce a new citizen science project tracking how spreading urban development intersects with the habitat use of a select group of grassland-associated birds. Participants should dress for walking outdoors and are encouraged to bring binoculars and/or camera.

Post Oak Savannah Ecosystem - McKinney Roughs
Kathy McAleese, Lost Pines Chapter

Explore the LCRA Park McKinney Roughs as an example of the Post Oak Savannah Ecosystem. This 1,140-acre park, located 13 miles east of Austin-Bergstrom International Airport, has something for everyone. Kathy McAleese will lead a 1 1/2-hour hike at the park. The hike would be approximately 3 miles. There is a $5.00 per person entry fee.

Monday - October 29th, 2018

Monday Post Event Field Sessions

8:00AM – 4:00PM

Burleson Prairie Walk
Lynn Fleming, Central Texas Chapter

The Burleson Prairie Walk Temple, Texas - replicated by Mickey and Bob Burleson. Visit a tallgrass prairie remnant and restoration in the Blackland Prairie. Mickey and Bob Burleson restored this prairie for decades and wrote a restoration guide, available on NPAT's website.

Sheraton Georgetown Meeting Space