



THE PADDLEFISH

Briefings from Becky

Well, we are one month into the new year! Though it looks like we have a long way to go fighting the Covid battle, at least the vaccines are beginning to give us more hope to start working back to some normalcy.

But another thing that brings me hope is to see the kind of winter day we're having right now. The bright sun and blue skies remind us that spring is a month away (at least in East Texas). Though there is a very brisk wind right now, the cold temperatures have slowed down the chiggers and other biters/stingers. So, I'm looking forward to taking Ebony to the woods this afternoon.

Every chance you have, try to get outside. Be wise. Bundle up. But enjoy nature. AND read the rest of the newsletter carefully. We have a number of updates on opportunities for Cypress Basin Chapter TMN to put their boots on the ground, enjoy nature and help care for and promote our beautiful East Texas lands.

At the February 8th meeting our AT guest speaker will be CLSP Ranger, Nicollette Ledbury. Her presentation is titled, "Diversity, Inclusion and Accessibility in Conservation." She will speak general on the topic and then specifically about CLSP efforts to address those concerns.

Lastly, I'm excited to share the Adopt A Loop information with you! Back in Sep/Oct we discussed (meeting and newsletter) a new VT opportunity called Adopt-A-Loop. It is a project of TPWD spearheaded by Joshua Lee. At that time, several of you expressed an interest in the project. The project has come together much quicker than the state expected! You can view the documentation on our chapter website in the passworded members section where we keep our recorded chapter meetings. There are also training videos available but I've had a glitch with what was sent to me so I'll get with Joshua Lee and see what else can be done.



~Becky Gullette, CBTMN President

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2021 TXMN Dues are Due!

You may send your 2021 Dues (Single - \$25 and Couple - \$40)

to:

**Charles Gillis
709 Lovely Road
Marshall, TX 75672**

"Heaven is under our feet as well as over our heads." — Henry David Thoreau

Cypress Basin Texas Master Naturalists Financial Report for December 31, 2020

Beginning Bank Balance, 12/01/2020	\$ 12,420.03
Add Deposits:	+ 0
Less Expenses:	
Hobby Lobby	- <u>12.93</u>
Ending Balance, 12/31/2020	<u>\$12,407.10</u>
Flotilla Funds	\$ 6,004.42
General Funds	<u>6,402.68</u>
	<u>\$12,407.10</u>

NOTES:

~ Submitted by Charles Gillis, CBTMN Treasurer

Join us for the dedication of the Lending Library in memory of Barry Hughes at Caddo Lake State Park on February 13 at 9:30 am at Caddo Lake State Park. The Library is next to the shower/restroom near the RV sites.



Chemical Compounds in Foods can inhibit a Key SARS-CoV-2 Enzyme

Mick Kulikowski and De-Yu Xie, North Carolina State University

Chemical compounds in foods or beverages like green tea, muscadine grapes and dark chocolate can bind to and block the function of a particular enzyme, or protease, in the SARS-CoV-2 virus, according to a [new study by plant biologists at North Carolina State University](#).



Green tea has chemical compounds that effectively blocked an important SARS-CoV-2 enzyme. De-Yu Xie, NC State University

Proteases are important to the health and viability of cells and viruses, says De-Yu Xie, professor of plant and microbial biology at NC State and the corresponding author of the study. If proteases are inhibited, cells cannot perform many important functions – like replication, for example.

“One of our lab’s focuses is to find nutraceuticals in food or medicinal plants that inhibit either how a virus attaches to human cells or the propagation of a virus in human cells,” Xie said.

In the study, the NC State researchers performed both computer simulations and lab studies showing how the so-called “main protease” (M^{pro}) in the SARS-CoV-2 virus reacted when confronted with a number of different plant chemical compounds already known for their potent anti-inflammatory and antioxidant properties.

“ M^{pro} in SARS-CoV-2 is required for the virus to replicate and assemble itself,” Xie said. “If we can inhibit or deactivate this protease, the virus will die.” Computer simulations showed that the studied chemical compounds from green tea, two varieties of muscadine grapes, cacao powder and dark chocolate were able to bind to different portions of M^{pro} .

“ M^{pro} has a portion that is like a ‘pocket’ that was ‘filled’ by the chemical compounds,” Xie said. “When this pocket was filled, the protease lost its important function.”

In vitro lab experiments completed by Yue Zhu, an NC State Ph.D. student in Xie’s lab, showed similar results. The chemical compounds in green tea and muscadine grapes were very successful at inhibiting M^{pro} ’s function; chemical compounds in cacao powder and dark chocolate reduced M^{pro} activity by about half.



Chemical compounds in muscadine grapes effectively inhibit an important SARS-CoV-2 protease. De-Yu Xie, NC State University

“Green tea has five tested chemical compounds that bind to different sites in the pocket on M^{pro} , essentially overwhelming it to inhibit its function,” Xie said. “Muscadine grapes contain these inhibitory chemicals in their skins and seeds. Plants use these compounds to protect themselves, so it is not surprising that plant leaves and skins contain these beneficial compounds.”

The paper appears in *Frontiers in Plant Science*. Zhu is the paper’s first author. The research was supported by the U.S. Department of Agriculture. (Used by permission of Texas A&M Forest Service)

It's Flotilla Time!

April 1st - 24th, 2021

Hello Paddlers!

As you know, 2020 took down the flotilla, which would have been #8. We have scheduled a VIRTUAL Flotilla for 2021 during the month of April. It is a new "take" on the Flotilla, but since we are unsure of the Covid-19 situation this seems to be an opportunity to encourage people to get outside!

Registration will OPEN on 2/1/2021 on EventBrite <https://tinyurl.com/Flotilla2021> . Your registration will include a t-shirt and one raffle ticket per registered paddler. If you would like a t-shirt, please register before 4/10/2021.



Prices: \$20-Adult by 4/10; \$25-Adult by 4/17, no guarantee of t-shirt; \$30-adult same day, no guarantee of t-shirt. Kiddos 13 and under are \$10. SPECIAL PRIZE FOR FIRST PADDLER TO REGISTER.

One raffle item will be drawn for on 4/24/2021. The prize is the coveted hand painted paddle by Diane Jones. This year, Diane captures a Great Blue Heron on Cypress tree knees. Pictures to follow.

If you would like a hand-painted commemorative small canoe, you can purchase one with your registration. You will need to register by 4/3/2010 so we will know how many to paint.

The fun thing? You can paddle ANYWHERE and at ANYTIME during the month of April. This is a link to the paddle trails of Caddo Lake. Paddling Trails Maps and Info | Cypress Basin Chapter This link is for all the paddle trails in Texas. <https://tpwd.texas.gov/fishboat/boat/paddlingtrails/> BUT, you are not limited to Texas paddle trails. Wherever you go counts! If you send pictures, please identify where you are paddling. There might be a special prize for locations far far away from Uncertain, Texas.

Lastly, if you want to come paddle on Earth Day, April 24, 2021, please come on out to Caddo Lake!

For more information visit <https://txmn.org/cypress/2021-earth-day-flotilla/> or email 2021earthdayflotilla@gmail.com

Note: After all expenses are covered, remaining funds will be used to the continued maintenance of the paddle trails.

Scan to Register at
Eventbrite



New Class Training Dates and AT for Meetings Set

New Class Training Dates

Providing COVID lets us go ahead with it, here are the dates for the new class:

- * August 20 & 21 (Friday night at Collin's Academy)
- * September 17 & 18
- * October 15 & 16
- * November 5 & 6
- * November 12 & 13 to be used for bad weather make up days if we need them

Classes will be held at the Refuge HQ building and the Conference Room if it has been opened to the public by August. Stay tuned for more information.

AT Training at Chapter Meetings

AT for monthly meetings, 45 minutes of presentation with 15 minutes of Q&A, is tentatively scheduled for February, May, July or August (depending on cancellation of one of those meetings) and October. Nicolette Ledbury, the new assistant administrator at Caddo Lake State Park will speak in February about the Park's efforts towards diversity, which is one thing the state is encouraging chapters to do as well.

Hope to see everyone at the meeting!
Caroline & Susan, Co-Directors for Training

"Look deep into nature, and then you will understand everything better." —*Albert Einstein*

JOIN US FOR A VIRTUAL

PLANT PARTY

Talking Ecology

FREE, Informal (and FUN!)
FEBRUARY 24, 2021
10 - 11:30 AM

Topics Covered:

- Everything You Want to Know about Ecological Site Descriptions, *Jason Hohlt, NRCS*
- Using Plants as Indicator Species, *Tim Siegmund, TPWD*
- Strategies to Convert Non-Native Grasses back to Native Grasslands, *Tony Falk, TAMUK-CKWRI-Texas Native Seeds*
- How Weather Changes have Impacted Ecology, *John Nielsen-Gammon, State Climatologist*

Great Deer Prizes!

TO REGISTER: <https://www.surveymonkey.com/r/PlantParty2>

For more information:
Megan.Clayton@ag.tamu.edu, Tim.Siegmund@tpwd.texas.gov or Charles.Kneuper@usda.gov

Transparent Wood Could be the Window of the Future

Amy Androff, Forest Products Laboratory; Robert Westover, USDA Forest Service Office of Communication

Could looking through trees be the view to a greener future? Trees replacing the clear pane glass in your windows is not a work of science fiction. It's happening now.

Forest Products Laboratory (FPL) researcher Junyong Zhu in co-collaboration with colleagues from the University of Maryland and University of Colorado, have developed a transparent wood material that may be the window of tomorrow. Researchers found that transparent wood has the potential to outperform glass currently used in construction in nearly every way.

Their findings were published in the *Journal of Advanced Functional Materials* in their paper, "A Clear, Strong, and Thermally Insulated Transparent Wood for Energy Efficient Windows."

While glass is the most common material used in window construction it comes with a costly economic and ecological price.

Heat easily transfers through glass, especially single pane, and amounts to higher energy bills when it escapes during cold weather and pours in when it's warm. Glass production in construction also comes with a heavy carbon footprint. Manufacturing emissions are approximately 25,000 metric tons per year.

Now, transparent wood is emerging as one of the most promising materials of the future.

Transparent wood is created when wood from the fast-growing, low-density balsa tree is treated to a room temperature, oxidizing bath that bleaches it of nearly all visibility.

The wood is then penetrated with a synthetic polymer called polyvinyl alcohol (PVA), creating a product that is virtually transparent.

The natural cellulose in its wood structure and energy-absorbing polymer filler in transparent wood means that it is far more durable and lighter than glass. It can withstand much stronger impacts than glass and, unlike glass, it bends or splinters instead of shattering.

Switching to transparent wood could prove to be cost efficient as well. It is approximately five times more thermally efficient than glass, cutting energy costs. It is made from a sustainable, renewable resource with low carbon emissions. It's also compatible with existing industrial processing equipment, making the transition into manufacturing an easy prospect.

With all of these potential benefits for consumers, manufacturing and the environment, the case for transparent wood couldn't be...clearer. (Used by permission of Texas A&M Forestry Service)



The piece of glass in the above photo was made from wood. Research work at the Forest Products Lab on using wood to create transparent windows is making great strides.

USDA Forest Service

February's focus is all about "Nature's Best Hope." Particularly, how us humans are nature's best hope by doing something as simple as turning your yard from an ecological desert into a thriving native oasis. Dr. Doug Tallamy will not only provide the information about his experiences, but he'll also discuss practical tools that each of you can implement in your own backyards, whether you're a Texas Master Naturalist or not. Interested in these grass-root approaches to conservation at the local level? Want to help native species by creating wildlife corridors in your own backyard? Then this #TMNTuesday seminar session is for you!



Doug Tallamy is a professor in the Department of Entomology and Wildlife Ecology at the University of Delaware, where he has authored 103 research publications and has taught insect related courses for 40 years. Chief among his research goals is to better understand the many ways insects interact with plants and how such interactions determine the diversity of animal communities. Doug has received many awards for his work, and his new book 'Nature's Best Hope' is a New York Times Best Seller.

Watching the live or recorded session will count as AT hours for our Master Naturalists—check in with your chapter's VMS Admin on logging the time. Remember that you can view recordings of each session at <https://txmn.tamu.edu/tmntuesdays> after

Note: If you are watching this for AT, make sure you are inputting your hours under the correct opportunity. Some of our members watched the last session but didn't put it the correct category so have to go back in and delete the first entry and re-enter. Don't let this happen to you, use **AT: TMN Tuesday** Any questions contact Linda Richtsmeier.

"All that is gold does not glitter, not all those who wander are lost;" —J.R.R. Tolkien



The Texas Master Naturalists is hosting its second Virtual Volunteer Fair over two days next week: **Wednesday February 3rd** and **Thursday February 4th** from 9:00am to 12:00pm (Central) each day with a series of 10-minute sessions highlighting projects by a variety of partner conservation agencies and organizations. Each day's sessions will be recorded and uploaded to our website post-event for those who cannot attend the live presentations. The agenda for the event is attached and can also be found on the [Virtual Volunteer Fair page on our website](#). A full catalog for the 36 presentations indicating the available Project Presentations and their detailed requirements to be shared later this week.

How do I join?

Registration is now OPEN to attend our Virtual Volunteer Fair! Register for either of the days or for both days **but registration is day specific** so make sure you sign up for the day you want to attend! You can attend any or all project proposal presentations on either of the days – come and go as you please! TMN volunteers will earn Volunteer Service hours for attending all project proposal sessions – please use the "TMN Virtual Volunteer Service Fair" Statewide Project Opportunity for logging service hours. Use the following links to sign up for one or both days of the Virtual Volunteer Fair:

- Event:** Virtual Volunteer Fair 2021 - **Day 1**
- Event address for attendees:** <https://tinyurl.com/TMNVVFDay1>
- Date and time:** Wednesday, February 3, 2021 9:00 am
- Event:** Virtual Volunteer Fair 2021 - **Day 2**
- Event address for attendees:** <https://tinyurl.com/TMNVVFDay2>
- Date and time:** Thursday, February 4, 2021 9:00 am

Adopt a Loop

Volunteers will adopt sites along a loop which is part of the Great Texas Wildlife Trail. They will visit the sites they adopt 4 times a year (once each season). They will make observations and record on the provided form. Hopefully, when possible, they will take photos and upload to the Great Texas Wildlife Trails project on iNaturalist and also for birds, report to eBird. Some information will also be gathered by talking to site owners/managers.



Some main points:

1. A loop can span more than one TMN region. In the CBTMN site there are maps showing loops and sites with respect to TMN region. You'll notice that we share loops with East Texas Chapter and Red River Chapter. At Joshua's direction, Becky is in communication with those chapters. It's possible we may acquire some additional sites.
2. CBTMN currently has
 - * **Lake O' the Pines Loop**
 - * Lakeside Park
 - * Brushy Creek Park
 - * Alley Creek Park
 - * **Caddo Lake Loop**
 - * Caddo Lake WMA
 - * City of Uncertain
 - * Caddo Lake State Park
 - * Karnack Area (Caddo Lake NWR)
3. PLEASE Read the Project FAQs carefully and you'll note that TPWD is being very flexible on many issues including rotating site visits per season if absolutely needed.
4. Becky will start out as the Chapter's Adopt-A-Loop Project Coordinator for now but would love for someone else to take that position.
5. It would be great if we could get started in February (if necessary maybe we could combine training and site visits).

Please note, an individual is not required to do more than 1 site. You should be able to participate and maintain Covid safety guidelines. But then again (with masks and/or social distancing) the more the merrier! As long as we're not so merry that we scare the critters away. LOL.

The link to the above mention documents can be found at <https://txmn.org/cypress/members-area/adopt-a-loop-information/> It will prompt you for a password which is the same password to view the chapter videos.

Please let Becky Gullette know as soon as possible if you are interested in participating in this project.

Updates from CLNWR and CLSP Projects

Official CLNWR Volunteers

We are sorry that Todd and Sue Richardson could not serve as volunteers at the refuge due to Sue's fight against cancer. Our prayers and thoughts are with them.

We are grateful that Herman Hazard is back from up north and continues as an official CLNWR volunteer. AND Sister Sue is now also an official CLNWR volunteer! She had already been serving as a TMN lead volunteer of the Bluebird Buddies working closely with Sue Richardson and some of our TMN folks.

Bird blind at "old rail trail" (Not an official name)

Ted Barrow will be setting a time for volunteers to help install the bird blind wall at a trail that is actually located where an old railroad track used to be. Some of you have been there before. It runs roughly parallel to Ave E.

Flower Bed at CLNWR Comfort Station

The flower bed at the comfort station is in really bad shape and CLNWR manager, Erik Duerkop, has asked us to help. At our last work day, a number of us checked it out and decided that it needs to be completely cleaned out including removal of landscape timbers. Then we will assess the best way to replant and possibly resize. This was discussed with Erik and members of the Friends board at a recent meeting. Erik is in agreement and will get his staff or volunteers to do the cleanup. It would be really great if some of our native plant folks would be willing to volunteer their expertise to this project. We have many options available. If you are at the refuge, go to the comfort station located on the left as you enter. It is at the parking site for equestrian use and hunting check in. Let Becky know if you are interested.

New Trail Visitor Center to Parade Ground

We've begun investigating and uncovering overgrown sidewalks between the Visitor Center and the parade ground. Several folks have been out with hand tools and the walk-behind trimmers (the beast) but CLNWR and TMN volunteer Herman Hazard has been allowed to use a really big beast! Erik will be requesting a prescribed burn for that area as soon as weather allows. This will really help knock back the vegetation especially the non-native invasive plants. Then we will have a better idea of exactly which sections we will work on to replant with native plants, maybe put some bluebird houses, benches etc. The sidewalks should make a very inviting trail for those who have mobility issues that make regular dirt trails difficult.



L-R: Pictures from the trail clearing at the new sidewalk trail being built between the Visitor Center and Parade Ground. This was after Herman had chopped them!

"Study nature, love nature, stay close to nature. It will never fail you." —Frank Lloyd Wright

Meetings, Training & Volunteer Opportunities

OFFICERS:

Becky Gullette
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Susan Sedberry
Vice President

Kim Deloney
Secretary

Charles Gillis
Treasurer

Caroline Hughes
Susan Sedberry
Training Co-Directors

TBD
Class Rep.

Linda Richtsmeier
Membership Director

Vanessa Adams
Neace
Advisor

Doug Weir
Advisor

Please note: Where field trips or trainings occur on a regular workday, this does not mean there will be no workday at all. Some may choose to do the workday instead of the special activity. We may group up to do trail work, etc. on a different day. **** All events are pending the lifting of COVID-19 restrictions.**

Join the Bird Herd!



Volunteers needed to maintain the bird blinds at the Refuge . Please contact Kim Deloney.

Join Bluebird Buddies



Volunteers to help maintain the bluebird houses and counts. Please contact Mike Woodruff

Please share pictures and updates of any presentations, field trips, etc that is going on! We also can use interesting articles you come across. You can email them to cypressbasintmn@gmail.com

Free Milkweeds for Restoration Projects

We have been pleased with the application process for our "Free Milkweeds for Restoration Projects" program for Spring 2021. This program provides free milkweeds for habitat restoration projects of two acres or more east of the Rocky Mountains. A few areas are wait-listed, however, **we are sorely in need of applications from Texas.** Please visit the link below or pass it on to someone who might benefit. More info and application here: <https://monarchwatch.org/bring-back-the-monarchs/milkweed/free-milkweeds-for-restoration-projects/>



2021 Meeting Dates

Feb 8
Mar 8
Apr 12
May 10
Jun 14
Jul 12
Aug 9
Sep 13
Oct 11
Nov 8
Dec 13

Texas Master Naturalist Program

The 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.

The Need:

Many communities and organizations rely on such citizen volunteers for implementing youth education programs; for operating parks, nature centers, and natural areas; and for providing leadership in local natural resource conservation efforts. In fact, a short supply of dedicated and well-informed volunteers is often cited as a limiting factor for community-based conservation efforts.

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