



DECEMBER 2019

Chapter News

A MESSAGE FROM PRESIDENT KRISTINE RIVERS

Well folks, it's my final President's Message, and as I reflect on the past three years, I am overwhelmed with a feeling of gratitude to all of you. I greatly appreciate your faith in me and the opportunity to work with and learn from so many amazing people both on the Board and within the chapter.

One of my main objectives as President has been finding new ways for our members to share their knowledge and skills with each other and with the community. I am so grateful to everyone for being receptive to my ideas and for never failing to far exceed my expectations when bringing them to life. I am so incredibly proud of everything that we have accomplished. The Cradle of Texas chapter is recognized statewide for developing and providing a higher level of advanced training to interns and experienced Master Naturalists alike.

We are working more closely with our sister chapters, providing intern training, participating in outreach events, and tackling boots-on-the-ground projects together. We have also established a relationship with UTMB's Osher Lifelong Learning Institute (OLLI) in Angleton to offer continuing education to the community on a wide variety of topics related to the importance of our natural resources within Brazoria County. I have no doubt that our chapter is making a

lasting impact on both children and adults through its outreach and education efforts.

Please note that our December chapter meeting will begin at 11a.m. at the First Presbyterian Church in Angleton. We will be holding elections for the executive officers of the Board, followed by project team presentations by the 2019 graduating intern class. I can't wait to see what they have put together! Afterwards, chapter members and their significant others are invited to attend the Hog Wild Party, a tradition started by the 2004 intern class and generously hosted by Ed Barrios and others. It's a great chance to kick back and welcome in the holidays with friends.

While I have greatly enjoyed my tenure as President, I am looking forward to having more time to spend on other volunteer activities. I am also excited to see where our next President will lead the chapter in 2020 and beyond. Please join me in giving all our new Board members a warm welcome in January. In the meantime, best wishes and happy holidays to you and your families. I'll see you soon!



Kristine Rivers is the president of the Cradle of Texas Chapter. She can be reached at rivers@tmn-cot.org.

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<https://facebook.com/TMN.COT>

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The Texas Master Naturalist program is coordinated by the Texas A&M AgriLIFE Extension Service and the Texas Parks and Wildlife Dept. Texas Master Naturalist programs serve all people without regard to socio-economic level, race, color, sex, disability, religion, age, or national origin.

Masthead photo by Charles Jesse Miller Jr. Baby alligator riding on momma at BNWR.

Texas Master Naturalist Program
Cradle of Texas Chapter
Chapter News – December 2019

REMINDER: Sign-up NOW for Bonus AT Day on January 25; registration opens to other chapters on December 15

**Texas Master Naturalist Program—Cradle of Texas Chapter
General Meeting and Advanced Training
Wednesday, December 11, 2019, 11 a.m.**

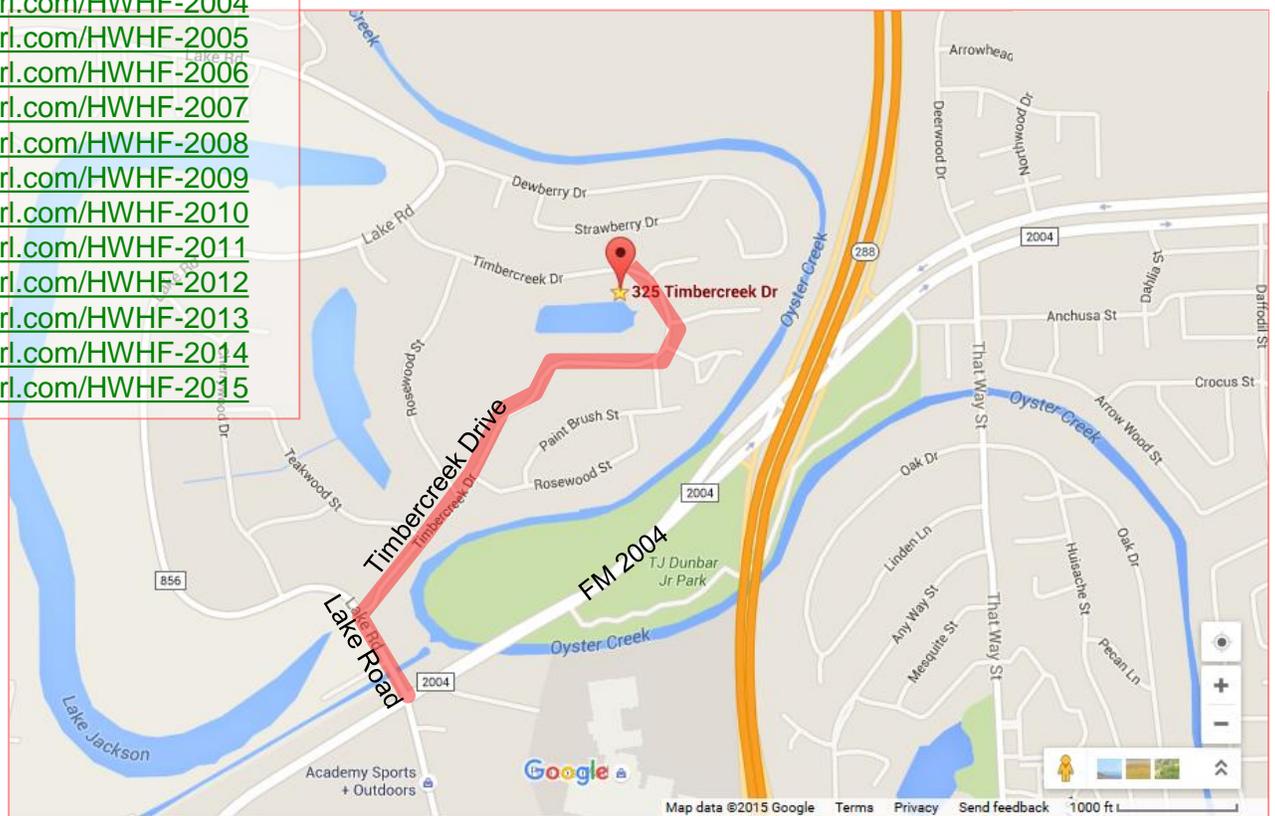
First Presbyterian Church, 130 S. Arcola St., Angleton

10:30 AM – 11:00 AM	Fun and Fellowship Snack Team: Mike Bettorf, John Boettiger, Neal McLain, John O'Connell, Krissy Plunkett, Don Sabathier
11:00 AM – 11:30 AM	General Meeting Agenda Election of Officers for 2020 The business part of the meeting is approved for 1.0 hour of Volunteer Time THERE WILL BE NO GUEST SPEAKER
11:30 AM – 12:30 PM	Intern Class of 2019 Presentations and Graduation <i>AT for presentation to be announced at the meeting</i>
12:45 PM – ??	15th Hog Wild Holiday Feast (Sign up with Pam West to bring goodies; donation for wine) Hosted by Ed Barrios, Marty Cornell, and Roy Morgan Location: 325 Timbercreek Drive, Lake Jackson, 979-297-1815 (Ed Barrios)

**Directions to Hog Wild Holiday Feast for
members and spouses/partners at
Ed Barrios' house, 325 Timbercreek Dr.,
Lake Jackson, 979-297-1815**

New to the Chapter? Here are photos of some past Hog Wild Holiday Feasts:

- <http://tinyurl.com/HWHF-2004>
- <http://tinyurl.com/HWHF-2005>
- <http://tinyurl.com/HWHF-2006>
- <http://tinyurl.com/HWHF-2007>
- <http://tinyurl.com/HWHF-2008>
- <http://tinyurl.com/HWHF-2009>
- <http://tinyurl.com/HWHF-2010>
- <http://tinyurl.com/HWHF-2011>
- <http://tinyurl.com/HWHF-2012>
- <http://tinyurl.com/HWHF-2013>
- <http://tinyurl.com/HWHF-2014>
- <http://tinyurl.com/HWHF-2015>



Membership Data Report

by Pete and Peggy Romfh, Data Managers

Congratulations to those who will be receiving awards milestones and recertification at COT's December 2019 General Meeting:

Entomology Certification

Lisa Myers

Initial Certification 2019

Paula Hanson Luanne Salinas Barbara Yoder

Recertification 2019 (Warbler Pin)

Donna Graham Marlies Greenwood Mary Holler

500 Hour Milestone

Regina Tippett



At the November General Meeting, John Boettiger (far right) announced seven members as having recertified for 2019. Pictured with President Kristine Rivers (second from left) are Anna King, Connie Stolte, Patty Brinkmeyer, and Michael Lasseter. Not pictured: Sandy Henderson, Mike Mullenweg, and Sherry Summers. Photo by Dick Schaffhausen.

Impact Data YTD—January 1—November 30, 2019

15,411 Adults 32,877 Youth 48,288 Total

Hours Totals YTD—November 30, 2019

15,398 Hours VT 1,738 Hours AT 118* Volunteers

* 123 active members and interns

THANK YOU, NEAL AND DAVE!!

As of January 2020, Both Neal McLain and Dave Brandes will step away from serving on the COT Board of Directors. Together, they represent over 27 years of service on the board—Neal most recently as Director of Publications and Dave as Immediate Past President. We all owe them a huge debt of gratitude for their hundreds and hundreds of hours serving the chapter. Dave will continue to contribute as the new VMS Data Manager and Neal will continue to support the newsletter, order business cards as requested, maintain the Media Library, and assist in the transition of the COT website to the state-supported platform.



Neal McLain



Dave Brandes



Irish Teen Wins 2019 Google Science Fair For Removing Microplastics From Water

by Trevor Nace, excerpted from *Forbes online*, 30 July 2019



An Irish teenager won \$50,000 for his project focusing on extracting microplastics from water.

Google launched the Google Science Fair in 2011 whereby students ages 13 through 18 can submit experiments and their results

in front of a panel of judges. The competition is also sponsored by Lego, Virgin Galactic, National Geographic and Scientific American.

Fionn Ferreira, an 18-year-old from West Cork, Ireland, won the competition for his methodology to remove microplastics from water. Microplastics are defined as having a diameter of 5nm or less and are too small for filtering or screening during wastewater treatment. Microplastics are often included in soaps, shower gels, and facial scrubs for their ability to exfoliate the skin. Microplastics can also come off clothing during normal washing.

These microplastics then make their way into waterways and are virtually impossible to remove through filtration. Small fish are known to eat microplastics, and as larger fish eat smaller fish, these microplastics are concentrated into larger fish species that humans consume.

Ferreira used a combination of oil and magnetite powder to create a ferrofluid in the water containing microplastics. The microplastics combined with the ferrofluid which was then extracted. After the microplastics bound to the ferrofluid, Ferreira used a magnet to remove the solution and leave only water. After 1,000 tests, the method was 87% effective in removing microplastics of all sorts from water. The most effective microplastic removed was that from a washing machine, with the hardest to remove being polypropylene plastics.

With the confirmation of the methodology, Ferreira hopes to scale the technology to implement at wastewater treatment facilities. This would prevent the microplastics from ever reaching waterways and the ocean. While reduction in the use of microplastics is the ideal scenario, this methodology presents a new opportunity to screen for microplastics before they are consumed as food by fish.

At 18, Ferreira has an impressive array of accomplishments. He is the curator at the Schull Planetarium, speaks three languages fluently, won 12 previous science fair competitions, plays the trumpet in an orchestra and has a minor planet named after him by MIT.

Source: <https://tinyurl.com/remove-microplastics>

BASF Planetarium Show December 2019 Season of Light



**Tuesdays December 3, 10 and 17
& 4th Friday, December 27 at 7 pm**

Classic Christmas full dome show celebrating the customs of Christmas and exploring the question, "If the star of Bethlehem was a natural phenomenon, what might it have been?" Wonderful for the entire family and includes a beautiful tour of the winter circle of constellations.

Lobby & Box office open at 6:30 pm

Adults \$5 Children \$3

Card, Cash or Check - Purchase at the door

Advanced online purchase available at

<http://bcfas.org/planetarium>

Recommended for ages 4 – adult

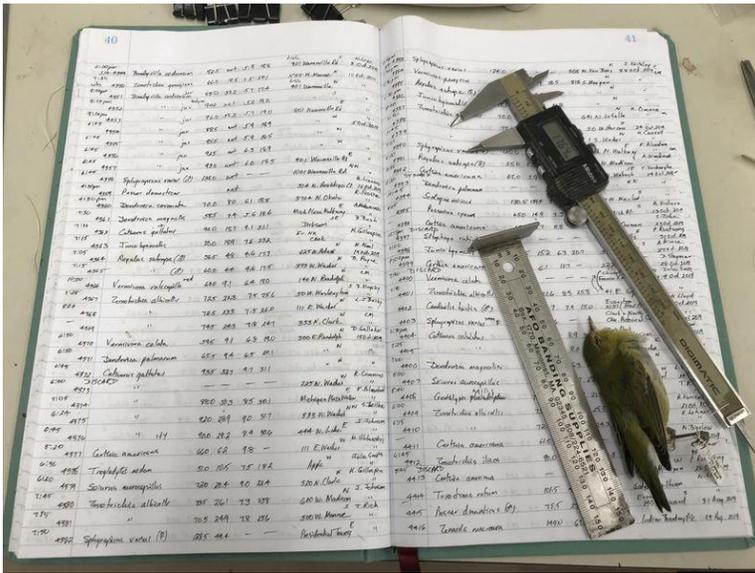


**THE CENTER
FOR THE ARTS & SCIENCES**
400 College Blvd., Clute, TX 77531
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Closed December 24 and 31

Climate Change May be Causing Birds to Shrink—and Their Wings to Grow

from SMARTNEWS at Smithsonian.com



In 1978, David Willard, an ornithologist at the Field Museum in Chicago, began collecting birds that had died after colliding with large windows—a fate that befalls up to one billion birds each year. Over the decades, Willard worked with volunteers from the Chicago Bird Collision Monitors during the spring and fall migration seasons to assemble a collection of more than 100,000 specimens...with the goal of tracking seasonal trends.

In a new statistical analysis of this vast trove of data, Willard and his fellow researchers reveal an important trend that emerged among the specimens over time. Writing in the journal *Ecology Letters*, the team explains that the bodies of the birds in the Field Museum's collections have gotten smaller, while their wingspans have increased in size—a morphological phenomenon that the scientists attribute to climate change.

The new study looked at 70,716 individual specimens, representing 52 bird species, that had been collected between 1978 and 2016. "Most breed in boreal or temperate forest or edge habitats, but some species are grassland or marsh specialists, and their winter ranges, habitats, migratory distances, life histories and ecologies are diverse," the authors write in the study.

Researchers found that the birds' lower leg bone—a common indicator of body size, according to the BBC's Kelsey Vlamis—shrank by 2.4 percent across all species. The birds' masses also decreased, but their wingspans increased by 1.3 percent.

The researchers looked at several factors that might be driving these changes, among them temperature, precipitation and vegetation in the species' breeding and wintering grounds. They found an inverse relationship between body size and summer temperature.

"In years when temperatures were a bit cooler, we saw an increase in body size, even though the long-term trend was to decline," adds Winger. "So that leads us to believe that temperature is pretty important here." This isn't an entirely new idea. Within a given species, individuals that live in warmer climates tend to be smaller than their counterparts in colder areas, because small bodies retain less heat—a principle known as Bergmann's Rule. The scientists suspect that climbing temperatures may be driving birds to become smaller, which in turn helps them stay cool.

But while the researchers suspected that rising temperatures would be linked to a reduction in body size, the consistency of the trend among winged critters of diverse natural history, habitats and geographic ranges was "shocking," says Brian Weeks, lead study author and evolutionary biologist at the University of Michigan. "I was incredibly surprised that all of these species are responding in such similar ways."

The increasing wingspans were another intriguing phenomenon. Reduced body size means that birds have less energy to complete long and taxing migrations, Weeks tells the BBC's Vlamis. Perhaps, the study authors hypothesize, longer wings represent an adaptation that helps birds compensate for their smaller bodies.

It is not yet clear whether these changes are harmful to birds, but the study suggests that animal size and shape are an important consideration when predicting how species will react to a continually warming planet. The paper also highlights the value of Willard's tremendous dataset, which he began assembling without knowing how the collection would one day be used.

"When we began collecting the data analyzed in this study, we were addressing a few simple questions about year-to-year and season-to-season variation in birds, says Willard, now a collections manager emeritus at the Field Museum. "The phrase 'climate change' as a modern phenomenon was barely on the horizon. The results of this study highlight how essential long-term data sets are for identifying and analyzing trends caused by changes in our environment."

<https://www.smithsonianmag.com/smart-news/climate-change-may-be-causing-birds-shrinkand-their-wings-grow-180973701/>

Cradle of Texas Chapter Board

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Master Naturalist Email Lists

TMN-COT Chapter list

- Instructions http://tmn-cot.org/Email_Lists/index.html
- Send messages to TMN-COT@googlegroups.com
- Message Archive <http://tinyurl.com/TMN-COT-Mail>
- All messages are sent immediately.

State Master Naturalist list

- Instructions <http://txmn.org/staying-connected/sign-up-for-tmn-listserv/>
- Subscribe listserv@listserv.tamu.edu
- All messages are held for moderation by the TMN State Coordinator.

Chapter News is published monthly on Monday before the General Meeting by the Texas Master Naturalist Cradle of Texas Chapter. Submissions are welcome; submission deadline is 5:00 PM on Thursday before the General Meeting. Send submissions by email to *Chapter News* Editor at news@tmn-cot.org. Submissions may be edited for clarity and spacing.