

# Good Water Ripples



Vol. 9 • No. 1 | Feb 2020

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## 2020 Good Water Master Naturalist Spring Training Class

By Mary Ann Melton

Good Water Master Naturalist Spring Training Class starts on March 3 through May 12, 2020.

The class meets on Tuesday afternoons from 1:00-5:00 p.m. Some classes and field trips will be on Saturdays. Cost is \$150 and includes the comprehensive Texas Master Naturalist Program manual

and a one-year membership to the Good Water Chapter. For couples who plan to share the manual, there is a discount for the second student.

Visit this link for online registration: <https://txmn.org/goodwater/Training-class-online-application/>.

Check back on the website: <https://txmn.org/goodwater/texas-master-naturalist-training-program/> after February 15 for the link to the final schedule.

Texas Master Naturalists are people who still like to play in the dirt and are willing to get their feet wet and their hands dirty. We are a volunteer organization and we have many opportunities to serve. Good Water Master Naturalists volunteer at many parks in Williamson County, provide nature education to

children and adults in many different settings, and participate in many Citizen

Science projects such as Texas Stream Team Monitoring, Cornell's eBird, and iNaturalist. To become a Master Naturalist, one takes a training class of over 40 hours of expert training about almost every aspect of the natural

world – soils, backyard habitats, prairies, rangeland management, forest ecology, birds, mammals, fish, insects, botany, climate, geology and archaeology.

Here are some comments from people who took the training class last fall: “The passion of the speakers about their subject was contagious.” “The quality of the instructors: Topics that I wasn't

sure about were all very interesting. “The program was something we thoroughly enjoyed and are proud to be a part of. It was refreshing to develop relationships with people whom truly care for our environment. After completing the training, we see our natural world through an improved lens.” “I found the hidden gem of Berry Springs as a result of this class.”

People took this class “to learn more about the natural world in order to share it with others.” They also took it “to learn how to help the community appreciate what wonderful parks we have.”

To complete the certification process, each volunteer completes 40 hours of service and an additional 8 hours of training. To maintain their certification each year, volunteers are encouraged to take their knowledge and volunteer for 40 hours and take 8 hours of additional

training.

Visit this link for the Good Water Website for more information about the Good Water Chapter: <http://txmn.org/goodwater> 🌿



# Meet Joel Chamberlain

Insanely curious. I'm just a kid that wants to play in the creek. If it's outside and naturally occurring, chances are I like it. To me, nature is the ultimate teacher and provides robust and intrinsically rewarding learning opportunities. As a true "nature nerd," the complexities, dependencies, and interrelationships found in our natural world hurt my head in an exciting way.

As a self proclaimed bird nerd, who knows where my interests and passions will take me in the years to come.

Born and raised in Central Illinois, I moved with my wife and two sons to Williamson County in 2015 after traveling for seven months in our minivan. During our epic family road trip, we visited just about every corner of the continental U.S. Our nature highlights included swimming with manatees, watching sea otters frolic in kelp beds, and "bathing" in the ambiance of towering old growth redwoods. After numerous corporate relocations and the untimely loss of a college friend to cancer, we decided life was too short to waste on future plans. I left my corporate leadership role, put myself on sabbatical, sold our house and hit the road. We are happy to call

Texas home and my wife is very happy to avoid the Midwest winters. As they say, we weren't born here, but got here as soon as we could.



One of my hobbies is a love of building "stuff," with emphasis on woodworking and outdoor-oriented landscaping/carpentry. In fact, I spent all of 2016 taking our "fixer upper" house down to studs and restoring it to new condition. Today, projects like building screech owl boxes help me scratch my "build" itch. This fall I built three screech owl boxes to donate to nonprofit organizations, including the TMN State Meeting Auction.

I became a Texas Master Naturalist to meet people who share my passion for nature and to accelerate my learning specific to Central Texas. I hope to inspire others to notice something "cool" when they are outside. Awareness and awe open the door to the rewards of intrinsically motivated learning and growth.

To me, sharing information, ideas, and passion are akin to Live Oaks producing acorns. Not every acorn will find itself in fertile soil and become a tree, but many do. 🌳

years. He was an incredible teacher.

Chris was a regular at the Annual Meetings, lugging boxes of rocks, posters, maps, and printed field guides (many times providing those out of his own pocket). He gave instruction to thousands of Master Naturalists at the Annual Meeting, and local chapter trainings, traveling hundreds of miles throughout Texas to spread the geologic history gospel!

Forever a guide to the natural wonders of our state, he was a true Master Naturalist, one of us from the start! 🌳



## In Memoriam

**Dr. Christopher Mathewson**

**April 12, 1941 - January 21, 2020**

Dr. Christopher Mathewson taught the geology segment of our training class for

## 2020 GWTMN Board

### Officers

President - Nancy Phillips

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Past President - Wayne Rhoden

State Rep. - Charles Grimes

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Youth Dev. - Mary Ann Melton

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New Class Rep./Spring - Erin Buhl

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Angler Education - Jim Nelson

Balcones Canyonland - Maggie Bond

Berry Springs P&P - Susan Blackledge

Blackland Heritage Park -

Mary Ann Melton

Blue Bird Count/Nest - Christie Gardner

Garey Park - Jim Hailey, Bob Waring,

Deb Hailey, Patricia Lopacki

Gault Site Wildlife Survey - Bob Waring

GW Book Club - A. J. Sencheck

GW Library - Judy Grimes

GW Stream Team Monitoring -

Randy Spurlock

Habitat Dev. SGU Church -

Billye Adams

McNeil Bridge Bats - Christie Gardner

Odonata Research - Mike Farley

Pollinator Garden - Elizabeth Sartain

River Ranch Co. Park -

David Armstrong

Nature Trackers - Mike Farley

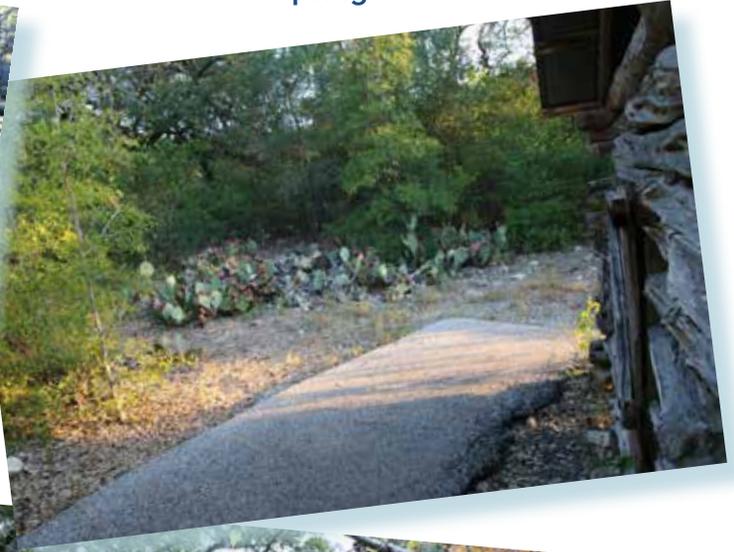
# Four Seasons of Texas in Pictures

By Todd McCann

I hate to admit this, I really hate to admit this, but I was wrong. There are seasonal changes in parts of Texas. You just have to look for them. My error was when asked I said there were four seasons - brown, brown, browner and some green. It took a couple of years but I have photographic proof of my error: Spring, Summer, Fall and Winter. [Balcones Canyonlands, Doeskin Ranch Creek Trail Shed.] (Photos: Public Domain US Fish and Wildlife Service, Photos by: Todd McCann/USFWS Volunteer) 🌳



Winter



Spring



Summer



Fall

## Mark your Calendar

\*Feb. 10 - Master Gardeners

\*Feb. 13 - Native Plant Society (NPSOT)

Feb. 22 - Hands On In The Garden Training: Bee Keeping & Bee Friendly Plants

\*Feb. 24 - Austin Butterfly Forum:

Discovering Leafmining Insects

\*Feb. 27 - GW Master Naturalist

March 7 - Berry Springs "Spring Clean-up"

\*March 9 - Master Gardeners

\*March 12 - NPSOT

March 19 - GWMN Book Club - A

Journey Through Texas: Or a Saddle-Trip on the Southwestern Frontier  
\*March 23 - Austin Butterfly Forum

\*March 26 - GWMN

March 28 - Hands On In The Garden Training: Irrigation & Rainwater Harvesting

\*Denotes Chapter Meeting

# Bugs Have Much to Say

by Emily Morales (Spring 2020 Class Applicant)

As an environmental technology student, I am taught numerous water quality assessment methods.

One method that will always be my favorite is to use benthic organisms (macroinvertebrate that live at the bottom of a body of water called the benthic zone) as a water quality parameter in a wadable stream sample.

These organisms include worms, crustaceans, and immature forms of aquatic insects such as stonefly and mayfly nymphs.

These organisms are assigned tolerance values based on their ability to survive in different conditions. Some can tolerate poor conditions and others might not survive. Some parameters that affect macroinvertebrate are PH, temperature, salinity, dissolved oxygen, nutrients, and turbidity.

Organisms are caught, separated by type, counted, and interpreted. This technique can be done by anyone if they have the right equipment!

So, if your sample turns out to have many poor water quality tolerant organisms and little to no intolerant organisms, this can give you an indication that the water quality of the stream is poor.

There are two sample methods that can be done to catch these organisms.

## *Wadable Stream Method*

Using a Seine net in four locations in the stream, starting at the most downstream location. Two people hold each side of the net while one person stands in front of and kicks the ground for one minute to lift any biota living under rocks

so that it can be caught in the net.

After each sample is taken from four locations, the net contents must be emptied into a clean pan for field observations.

## *Variable Habitat Location Method*

Three different locations within the stream are sampled to create one composite sample. These three areas provide the most diverse habitats: riffles, undercuts, and snags (tree roots).



## **Wadable Stream Method**

A D-net is used to scrape or rub rocks back and forth at each location to catch any organisms. After each sample is taken from one of the three locations, the net contents must be emptied into a clean pan.

## *Assessing Water Quality from Findings*

Different types of macroinvertebrates are placed into separate compartments of an ice cube tray.

Similar looking organisms are placed

into the same ice compartment. Each type of macroinvertebrate can be identified using a dichotomous key. The total amount of the same organisms must be counted. For example, three Mayflies and 4 Scuds, etc.... Now that totals are counted, tolerance levels can be assigned to each group of organisms.

Using a general tolerance scale for benthic organisms which can be found online, the organisms can now be categorized from very low to very high tolerance according to their known sensitivity to pollutants.

You can stop there if you just want a qualitative answer. For example, my sample had more pollution tolerant species than intolerant. This is an indication of poor water quality and pollution.



## **Variable Habitat Location Method**

**Family Level Biotic Index (FBI)**

If you want more quantitative data, then you can input those tolerance numbers and organism amounts into the following formula to come up with the Family Biotic Index number:

ai: tolerance value of organism

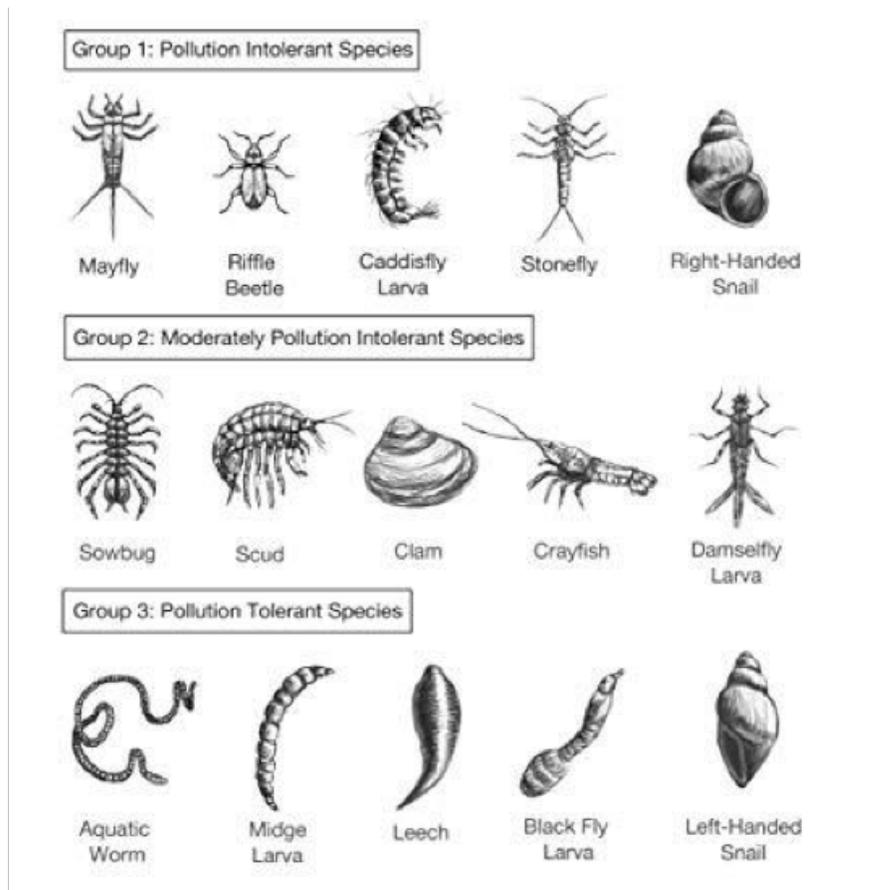
ni: total number of specimens in each family in sample

N: total number of all specimens

$$FBI = 1/N \sum (ni \times ai)$$

The number you get after solving the equation is the Family Biotic Index.

Sampling benthic organisms in streams is an easy and fun way to assess water quality in any wadable stream near you! Kids can get involved with separating organisms and taking samples also. Anyone can do this fun experiment and I hope more people do.



**Credits:**

The first picture:  
Seine fishing. (January 12, 2020)  
In Wikipedia retrieved from [https://en.wikipedia.org/wiki/Seine\\_fishing](https://en.wikipedia.org/wiki/Seine_fishing)

The second picture:  
D-net and it's a screenshot from a Youtube video.  
Biological Sampling & Recording: Kick Sampling. (June 2, 2015) In Youtube retrieved from <https://www.youtube.com/watch?v=yoFK4hCu42c>

The third picture:  
A chart of pollution intolerant Species unavailable.

The fourth chart is from a PDF file:

A Key to Stream Invertebrates. Retrieved from [http://cfb.unh.edu/Stream-Key/html/biotic\\_indicators/indices/Hil-senhoff.html](http://cfb.unh.edu/Stream-Key/html/biotic_indicators/indices/Hil-senhoff.html)

0	1	2	3	4	5	6	7	8	9	10
Very low		Low			Moderate		High		Very high	

Family Biotic Index	Water Quality	Degree of Organic Pollution
0.00-3.75	Excellent	Organic pollution unlikely
3.76-4.25	Very Good	Possible slight organic pollution
4.26-5.00	Good	Some organic pollution probable
5.01-5.75	Fair	Fairly substantial pollution likely
5.76-6.50	Fairly Poor	Substantial pollution likely
6.51-7.25	Poor	Very substantial pollution likely
7.26-10.00	Very Poor	Severe organic pollution likely





## Friends of Berry Springs

By Karen Schnell

Many dedicated members of the Good Water Master Naturalists have pulled together and established a 501(c)3 not-for-profit organization to benefit Berry Springs Park and Preserve. The organization is named the Friends of Berry Springs.

The Friends of Berry Springs (FOBS) support the park through fundraising, volunteerism, and advocacy. In December, FOBS hosted a holiday photo opportunity with the donkeys and it was a big hit. A spring event is in the works to highlight the beauty of Berry Springs in bloom.

River Ranch has developed a Friends Group also, which still needs approval by the Williamson County Commissioners Court to be official and fully functioning. That approval is anticipated at the January court meeting. The park officially opens this year.

The Friends of Berry Springs has elected a board: Karen Schnell - President; Holly Zeiner - Vice President; Krystal Hard - Secretary; August and Eddie Wusterhausen are the volunteer and fundraising chairmen.

FOBS still needs a Treasurer. If anyone is interested in becoming Treasurer or participating in the Friends of Berry Springs, please email [friendsofberrysprings@gmail.com](mailto:friendsofberrysprings@gmail.com). The next board meeting is Monday, February 17. Contact Karen for more information.🌱

## TX Conservation Symposium 2020

by Mike Farley

The Texas Conservation Symposium (TCS) was January 9-10, 2020, in Georgetown. The event, sponsored by Williamson County Conservation Foundation, was held in the new Agrilife building.

The symposium highlighted salamander conservation. This year *Eurycea* had plenty of attention, including the study of a tagged individual found five years later.

Other discussions included:

A Texas Coral Snake bite victim refuses treatment and survives. Knowing that available antivenoms were outdated and ineffective against *Micrurus tener*, James L. Christensen, Professor Emeritus, decided to document his painful journey through the experience. (And this ineffective Eastern Coral Snake antivenom is an astounding \$25,000 per dose!)

Ant invasions are here! Argentine ants invaded Florence, TX, and a local business forced employees to quit to prevent ants from riding home with them and spreading further.

Science of the future, Environmental DNA (E-DNA) is here and on its way to benefitting science. With a simple collection of water from a source and filtered through a device, scientists can learn if invasive species are in the source, and whether alive or dead.

Nature Tracking and Citizen Science is in the future!🌱



# A Tale of Two Hikes: “Who cooks for you?” ~ Barred Owl

by Amy Flinn

It was time to pack the hike backpack. Two groups wanted a short hike in late November and, if the weather held, there was adventure calling at Berry Springs Park and Preserve.

Berry Springs\* is one of those magical places that provides enough area and activities for many different hikes. Ours would cover some of the basics because it was a first visit for each group.

We shared John Berry’s story, short summaries of a few ongoing citizen science projects - Texas Tracker game camera monitoring, Amphibian Watch, Eastern Bluebird monitoring, and so much more. The hikes presented a few challenges as I had recently broken my ankle and the hikers were adult students from the State School for the Blind and very young (5, 6, and 7 year old) new scouts.

Little Bob and Pedro greeted each group as we prepared to investigate the park (it is hard to go wrong after a visit with the donkeys). Then the hikers planted a few wildflower seeds nearby. We found turtles basking on a log in the creek so we examined turtle shells and plastic turtle replicas. We listened to bird and amphibian calls, learned how to “speak” cricket, frog, and Barred Owl,

and we discussed the other creatures that make the park their home.

The hikers examined trees in the pecan orchard, stopped to feel the “tracks” on the paved path, and asked good (and difficult) questions. It is always exciting to experience the park with new visitors. They notice things I overlook. And they encourage activities I have not yet experienced.

These hikes provided an opportunity to examine and experience some challenges of accessibility. Berry Springs Park is a remarkably accessible property. But whether it is a temporary impairment or a permanent one, these hikes were an invitation to become more aware of and ask some questions:

- How do/can we make what we do accessible to all?
- What in our policies/practice (at both the local and state level) may be preventing people from fully participating in our programs and activities?
- How can we be more mindful, inclusive, and accommodating so that everyone can experience the wild - especially in

our local and state parks.

I hope to see each of these groups of fearless wanderers back at Berry Springs in the spring to observe their wildflower fields. We are already planning the return field trips.

I suspect these folks may have found their park. Have you?

*[Special thanks to Susan Blackledge, Mike Finn, Tonja Hamel, and April Roblich. The hikes would not have happened without them. A little more about the hikes can be found here: <https://walkinthepark-padimus.blogspot.com/2019/11/who-cooks-for-you.html>]*

NOTES:  
<https://www.wilco.org/Departments/Parks-Recreation/County-Parks/Berry-Springs-Park>  
[If you cannot make it “in

person” you can take virtual tour.]

I’ve worked at Berry Springs in daylight and darkness, but I have yet to camp there. So, #1 on my resolutions for 2020 - camp at Berry Springs. 🌲



## Two Birding Trips Planned for South Texas in the Spring

The GWMN Board has authorized two trips see the Whooping Cranes out of Fulton, Texas, and the King Ranch from Kingsville, Texas. Trip details below:

Whooping Crane trip (Tentative dates)  
Friday - noon February 28 to noon Sunday March 1. We will bird Aransas, Nueces and San Patricio Counties and take a boat trip the Aransas NWR to

see the Cranes. Estimated cost for the trip will be approximately \$150.00, not including meals, lodging and incidentals. The trip will be limited to 12 participants.

King Ranch - Norris Division (tentative dates) - Friday noon, May 1, to Sunday noon, May 3. We will bird Kleberg & Nueces Counties as well as spend a

day on the Norrias Division of the King Ranch. Estimated cost will be \$175, not including meals, lodging and incidentals. The trip is limited to seven participants or if there are 15 and we can take two vans. The Ranch limits eight per van which includes their driver.

If you are interested, contact Jim Hailley at [irasciblej@gmail.com](mailto:irasciblej@gmail.com) 🌲

# Inks Dam National Fish Hatchery

Inks Dam National Fish Hatchery (NFH) is located approximately 60 miles Northwest of Austin, Texas, in the beautiful Texas Hill Country. The facility borders the Colorado River below Inks Lake and is nestled between Inks Lake State Park and Longhorn Caverns State Park.

The hatchery is reached by traveling State Highway 29 West from Burnet, TX for nine miles, and then Park Road 4 for four miles to hatchery entrance.

The facility can also be reached by traveling approximately nine miles North of Marble Falls on State Highway 281 and turning West onto Park Road 4 and following that for eleven miles to the hatchery entrance. Inks Dam NFH has 30 ponds ranging in size from 0.25 acres to 1.5 acres with a total of 28 surface acres for fish production. The entire facility has approximately 150 acres.

The fish culture infrastructure consists of a feed storage building, holding house for egg and early fish development, Isolation/ quarantine building, four 60-foot

raceways, and four 20-foot circulars housed under a shade structure. The facility also has an isolation building for endangered species containing aquariums of various sizes of circular tanks.



nel catfish and largemouth bass became the major products, and this program continued for approximately two decades. By the early 1980s the facility was

again faced with programmatic changes and recreational/sport-fish stockings on federal lands, primarily Native American waters in the Southwest, became the major focus. In the mid-1990s the Fish and Wildlife Service began to emphasize native species, and accordingly the facility began work with two interjurisdictional species, Gulf Coast striped bass and paddlefish, in addition to its Tribal Trust work.

The current programs consist of restoration and recovery of paddlefish, as well as providing channel catfish for tribal fishery management programs and to fulfill tribal trust responsibilities.

In addition to these programs, the facility has continued its long-term cooperative agreements with Fort Hood and New Mexico Game and Fish to increase recreational fishing opportunities for warm-water fish species. The facility recently re-established a program to provide warm-water fish for stocking on National Forest Service lands in the state of Texas. Additionally, this facility maintains a refuge population of state and federally endangered Clear Creek gambusia. ♡

*Provided by U.S. Fish and Wildlife Services. Photos by Tanja Hamel*



## History

In 1938 the Public Work Administration, established for the purpose of constructing dams along the Colorado River, proposed the construction of a federal fish hatchery to provide fish for the newly created lakes. Congressman

Lyndon B. Johnson arranged an agreement between the Lower Colorado River Authority (LCRA), the U.S. Bureau of Fisheries and the National Youth Administration (NYA) to construct the hatchery in the year 1938, with production facilities to be completed by 1940.

The original purpose of the hatchery was to supply fish for the chain of lakes created by the

dams along the Colorado River; however, in the 1950s and 1960s the emphasis of the Service began to shift toward the farm pond program. At this time chan-



For more information about the Good Water Chapter contact us at:  
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TEXAS A&M  
AGRI LIFE  
EXTENSION

