



*A flashlight beam illuminates a trilling American toad on a shallow wetland that is slated for development.*

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# ***Bearing Witness for Wetlands***

To open our [April 2019 newsletter](#) I related my personal discovery as a fourteen-year-old naturalist of a small vernal wetland on a sunny April day in early-70s Chicago. It was blaring with breeding chorus frogs. Upon returning to the pond the following spring I became unwilling witness to the habitat's destruction. Idle bulldozers and other earth-moving equipment were haphazardly parked amid muddy ruts and mangled piles of trees and brush where the wetland used to be. The chorus frogs were gone; the silence deafening. Near the road in front of the destruction a development company's sign promised an apartment complex in the near future.

I describe my devastation over what had happened as an "environmental" loss of innocence. As Joni Mitchell's [Big Yellow Taxi](#) played on my transistor radio, I identified with the words in the song's refrain. This snapshot of a moment in my youth contributed to a purpose and drive that would last a lifetime. I had to dedicate mine to helping people know what they've got *before* it was gone.

## **VOICING TESTIMONY**

According to the Merriam-Webster Dictionary "bearing witness" is to show that something exists or is true. The Collins English Dictionary defines it as to give written or oral testimony.

Of course the whole purpose of bearing witness becomes lost if it falls on deaf ears. The ears may be fully capable of hearing but fail to listen and react perhaps because an opposing agenda dictates that they disregard the testimony; or, likely for most, they never developed the ability to listen discernably to what they were hearing.

Does a habitat or natural community have a voice? Definitely! Hundreds of species of birds, some dozen or so frogs, and dozens more species of katydids and crickets in Michigan each bear vocal witness not just to their existence. They speak for the entire natural community of organisms of which they are a part. The more varied the "vocal chords" within a specific habitat, the more biodiverse, and therefore, ecologically significant you should expect it to be. The vocalizations happen to reach a crescendo, now, in the spring

and into the summer as each species bears witness to still one more reality - its attempt to reproduce so that the species may continue to exist into the future... That is, if the habitat they occupy is still there.

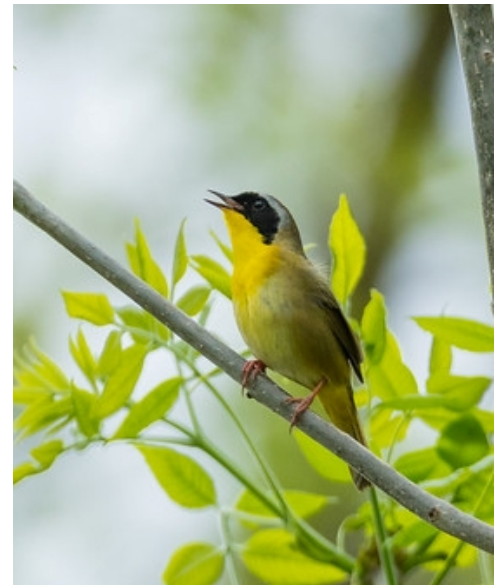
Yet, how few among us are capable of distinguishing any of their varied testimony - delivered often loudly - from the habitats around us that they are evolutionally fit to occupy? In fact, we are trained in our youth, through educational omission, to disregard them, to relegate their testimony to white noise. We segregate ourselves from it so as to focus on ostensibly loftier anthropocentric concerns.

## HEARING HEALTHY HABITAT

I began learning to “bird by ear” and “frog by ear” in my youth and have been teaching it in the classroom and in the field to kids and adults alike for all my professional life. Through the 90s I amassed recordings for an educational and environmental audio production entitled [Frogs of the Great Lakes Region](#) that features vocalizations of all thirteen species found in the state (Currently available in CD form on our website, a downloadable app will be available later this spring.).

Any amateur or professional surveyor of avian and anuran (frog) life knows that attaining the ability to identify these creatures by their vocalizations is of far greater value to surveying their presence than merely relying on sight. By association, then, confirmation of the species’ presence and abundance bears witness to the type and quality of the habitat in which its presence has been acknowledged. Basic ecology teaches that the presence or absence, increase or decrease, of key species that are easily observed in a natural community reflect a similar state for many more organisms not so easily observable that also reside there.

It shouldn’t be a surprise that wetlands are known to be the most biologically-rich of all temperate habitat types. Water comprises most of a plant’s or animal’s mass, ergo, the more water, the more opportunity for natural diversity to thrive. Shallow, sunlit wetlands like vernal ponds or pools are the most productive. In fact, more biodiversity and sheer biomass is harbored per acre in these than in any other habitat type in temperate regions like ours. The cacophony of diverse noises generated here in spring and early summer bears this out. There should be no denying it. These shallow wetlands literally scream their biological richness.



*The diminutive but incredibly vocal Common Yellowthroat flies thousands of miles north from the tropics to forage and nest in the dense vegetation around our local wetlands. Photo by Greg Smith.*

We’ve all heard the statement in some form, perhaps so much so that it has become cliché: *Frogs are indicators of environmental health*. Cliché or not, the statement is true. Amphibians are acutely sensitive to environmental change, including the quality of the water, the introduction of chemical pollutants and removal of the natural vegetation in which they seek cover and prey on invertebrate life. Most species of frogs, toads and salamanders *do not* spend their entire lives in the wetland. Naturally, they need the wetland to effectively reproduce in the spring, but the majority spend the rest of the year occupying varied natural habitats adjacent to the wetland. I wrote about this in the opening column of [last April’s newsletter](#). Losing either or both, the wetland and the surrounding habitat, will result in declines in amphibian abundance and diversity, if not, outright extinction.

## MERIDIAN TOWNSHIP WETLANDS

Over fifty years ago, prior to so much of the development and infrastructure that exists today, Meridian Township was swimming in wetlands, the vast majority of which were of the quality described above. I can’t begin to imagine how ear-splittingly loud with diverse frog vocalizations a warm May evening must

have been like. As the township's human population has grown a huge swath of those wetlands - in piecemeal fashion over the ensuing decades - have been sacrificed for sprawling subdivisions, shopping centers and car dealerships.

When I was a student at MSU in the mid-80s I clerked at the Wild Birds Unlimited store on Grand River Avenue in Okemos. At the time, Meridian Mall had been in existence for barely fifteen years. I recall conversations with store patrons, many, avid enthusiasts of the natural world, who would reflect on the loss of the expansive wetland that used to cover the area, and more specifically the diversity of birds, frogs and other wildlife that they experienced while bird-watching, hiking or simply walking the dog. In the decades since then, development has methodically metastasized beyond the mall's periphery and continues to this day to swallow up high-quality wetland habitat across Marsh Road and to the east. Chances are, no matter what biologically-bereft, big box store parking lot you find yourself in, to stand comfortably in the same spot forty years ago would have required a good pair of muck boots.

The [township's website](#) features an [informational pamphlet](#) with wetland figures as well as tips for landowners on how to keep them healthy. It states that 25 percent of the township area is categorized as wetland. It also states that 57 percent of wetlands once present in the township have now been drained or otherwise degraded. The two statements prompt me to ask: Is 25 percent what originally existed across the landscape, pre-development, or is this figure the percentage that currently remains after the destruction of 57 percent of it? How would these figures change if permanent bodies of water like Lake Lansing were removed from the equation? What percentage, specifically, of shallow or vernal wetlands in the township have been destroyed? I made an attempt to contact the township in order to ask these and other questions, but no one responded to field them.

One statement in the pamphlet reads, *Wetlands are considered "nature's nurseries" by providing critical habitat for fish, wildlife and waterfowl.* In fact, fish are not present on the vast majority of the township's wetlands. The surface water dries up almost annually in late summer, and so, cannot support them. Furthermore, only a handful of waterfowl species use shallow wetlands for sustenance and reproduction.



*Tiger Salamanders and other amphibians are not taken into account in the wetland ordinance.*

The majority of waterfowl species to be found in the township migrate through it, the greatest number and variety of which can actually be found on Lake Lansing and other permanent bodies of water. However, dozens of avian species that are not waterfowl use shallow wetlands to feed and reproduce. Songbirds are the most varied among them and they voice their existence for anyone to hear. Somewhat ironically, after perusing many pages of material related to Meridian wetlands and the wetland ordinance I was struck by the complete absence of the following three words: frog, salamander, amphibian - the survival of most of which depends directly on preservation of the very types of wetlands that have mostly been lost.

The township wetland ordinance claims to protect wetlands as small as a quarter acre. Furthermore, a twenty-foot buffer zone is required around one if development is to occur adjacent to it. Since, as mentioned above, the majority of birds and amphibians require intact habitat *surrounding* the wetland, erecting buildings, roads and infrastructure in such tight periphery would significantly erode the wetland's inherent biological abundance and diversity - even result in local extinction for some biological components within a matter of years. Any wetland ecologist would agree. A mere twenty-foot buffer is not nearly enough to maintain the wetland's biological integrity. Try one hundred-feet, at *least*.

Despite the "quarter-acre" rule, don't assume that the township's remaining wetlands are necessarily off limits to development. That 57 percent loss is not a static figure. Wetland destruction is ongoing and



evident today. Would you like to see an example of a vernal wetland at the literal edge of existence? Check out the south edge of the Walmart parking lot off Times Square Drive. An Eyde sign lets drivers-by know it is available for development. A gander around its perimeter already reveals significant degradation, no doubt, associated with construction of the Walmart and its infrastructure.

## BEARING WITNESS

This week's warm days - and especially evenings - will offer a great chance to bear witness to a diversity of frogs as they shout vocal testimony that they exist. For at least one more year they are striving to survive, oblivious to what we know to be their preordained fate.



*A wetland that harbors a diversity of breeding frogs is slated for destruction next to Walmart despite Meridian Township's wetland ordinance.*

On a warm wet evening in mid-April, Carol and I drove to this location with the purpose of identifying which frog species and how many individuals were vocalizing. We lowered the car window at the edge of the lot and listened. So many overlapping [shrill peeps](#) of spring peepers made them nearly impossible to count. Within the piercing din we also heard the [upward mechanical strums](#) of chorus frogs, and a few [chuckling quacks](#) of wood frogs. Drifting through the drizzle from some unseen standing water behind the pond next to the lot we could make out the [descending snores](#) of leopard frogs. American toads do not typically begin to emerge from underground and head to breeding ponds to call and deposit eggs until mid-April. Sure enough, the [high-pitched monotonous trills](#) of several recent toad arrivals joined the anuran orchestra.



*A sea of lights from Walmart illuminate and reflect off the water's surface. A whopping seven frog species are still attempting to breed here.*

On a similarly warm evening last week, even more toads had joined the peepers, chorus and leopard frogs, and they were accompanied by yet one more anuran instrument - a first gray tree frog. This species, which typically doesn't emerge and call until the beginning of May, emits a more musical [burst of a trill](#) compared to that of the toad.

Many more tree frogs are vocalizing there on cue with this week's warm spell. A few of the first green frogs of the year should also begin to lend their [banjo-string twangs](#) to the orchestra. This will make a total of seven species of frogs that continue to attempt to reproduce on this Walmart-side pond, in spite of the disintegration of habitat around them.

To put this into perspective, seven is the *maximum* number of frog species possible in this type of wetland in this part of the Michigan! Of the state's thirteen species, eight of them can be found throughout our tri-county area. By the look of the current surroundings though, what we hear today are mere remnants of what used to be.

The lone species missing from this wetland is the huge bull frog – the only frog species in the area that, like fish, requires permanent water to effectively reproduce. Go to a marshy shoreline of Lake Lansing to hear its [resonant rum](#).

## ACTION

It is up to Meridian Township citizens to decide when enough is enough. What if citizens, recognizing the advanced erosion of “quality of life,” were to get behind a township-wide commitment to the [30x30 movement](#)? Conscious witness to the Walmart-side wetland on a warm spring night is a significant motivator. Meridian Township could become the model for surrounding townships to emulate if its citizens have the will.

Let’s make a community-wide effort to know what we’ve got, value them, then act to protect our paradises before any more are permitted to be paved for parking lots.

Interested in a guided springtime experience to identify birds, frogs, plant life and more on a shallow/vernal wetland? Contact us to make a daytime or, better yet, evening appointment to explore the vernal ponds behind our nature center or elsewhere. It promises to be an ear and eye-opening experience! Details straight ahead...



*The recent warm weather has brought gray tree frogs into full-breeding form on area wetlands.*

*-Jim McGrath*

***An appreciative “thank you” to all our supporters, including to these generous donors this past month...***



*Anonymous \* Laura Chomiuk & Jay Strader \* Marc Dimmitt  
Lars & Alexis Haubold \* Jan Heminger \* Sarah Kwilinski  
Shannon Nobles \* Jessica Robach \* Elliot Zimmerman*

*In memory of Kathy Bricker...*

*This beautiful photo of a Swallow-tailed Kite was taken by her husband, Jim, on a special trip they made to Florida so that she could see more of the birds and other wild things that she loved her whole life, mere weeks before she passed. Read more about Kathy in [April's newsletter](http://naturediscovery.net/pdf/WILD%20TIMES%20Apr22.pdf): <http://naturediscovery.net/pdf/WILD%20TIMES%20Apr22.pdf>*



# Nature Discovery

5900 N. Williamston Road Williamston, MI 48895  
517.655.5349 [naturedisc87@gmail.com](mailto:naturedisc87@gmail.com) [www.naturediscovery.net](http://www.naturediscovery.net)



## Visit Our Nature Center by Appointment

*Suggested Minimum Donation:*  
**\$5/person/hour**

The sky's the limit for natural science learning here – with a Michigan twist! Individual adults, couples, individual families and small groups are welcome to schedule a safe, intimate outdoor or indoor visit to what we call “The Biggest Little Nature Center in Michigan,” and “Home to the Largest Zoo of Michigan-native Reptiles and Amphibians.” The unique, in-person, hands-on experiences here are unrivaled in any conventional zoo or nature center! We will bring snakes, turtles, frogs and salamanders out of tanks to interact with adults or students of any age or grade-level.

Identify and feed “the grand slam of Michigan turtles,” all ten species native to our state, as they swim in pools at your feet! Meet, pet and feed “Milberta”, our always hungry Red-footed tortoise.

Handle any or all of Michigan's three species of garter snakes while learning how to tell them apart, then watch them gobble up worms and live frogs. Hold or “wear” a gentle 6-foot Black Rat Snake – the largest in the state!



*Photo by Greg Smith.*

Many more snakes, turtles, frogs and salamanders to identify and feed. Take a guided walk on our trails to identify birds, insects, trees, vines, and invasive plants.

Ask about arranging weekly or monthly visits, or regarding custom natural science lessons to supplement your student's interests and grade-specific science requirements.

Contact us for more info or to make an appointment.

# *By Appointment at Dawn or Dusk*

## *Guided Birding*

By appointment almost any morning! Did you know there are more birds to be seen and heard here in May than in any other month of the year? Jim will lead any individual, couple or small group through a local natural area of your or our choosing to experience this fleeting avian diversity during peak songbird migration. Personal checklists will be provided for participants to keep track of all the species encountered. Tally up to 50 species or more in a single morning.

Our minimum donation request is only \$20/person/ 2 hrs. Bring binoculars. We can also lend you a high-quality pair.

*Cape May Warbler. Photo © Steve Sage*



## *Tree Frogs @ Twilight*

Make an evening appointment to discover the hidden mini-jungle that is a vernal pond while being loudly serenaded by trilling tree frogs. We will wade in with headlamps, then spotlight and photograph them as they call and breed.

We'll use nets to scoop an array of teeming invertebrates that squirm and dart beneath the surface, then bring filled buckets back to the center. The contents will be poured into trays to allow close inspection and identification under bright lights and magnifiers.

Along the trail we'll turn off flashlights, let our eyes adjust to the darkness, and search for glowworms. They emit dim pinpoints of light that slowly brighten and fade along the dark trail sides. These rarely-seen, oddly-shaped, ground-dwelling larvae are destined to become this summer's fireflies.

Our minimum donation request is only \$15/person for 90 minutes (min. \$30).



# Michigan Field Birding Day Camp

**June 13-16; 8am to 2pm**

*The woodland song of the Black-throated Green Warbler is a buzzy,  
"Zee-zee-zee-zee-zoo-zee!"*

*Photo © Steve Sage.*



**For students, 5<sup>th</sup> grade & older.**

**Enroll your student in this whirlwind 4-day adventure - the focus, to encounter as many birds as possible in a variety of locations and habitats. A maximum enrollment of only 5 students ensures a personable and high-quality experience. Participants will learn first-hand how attaining the ability to identify birds with your ears far surpasses relying on sight alone. Each day we'll head in a different direction within an hour drive to see up to a total of 90 bird species, many of which you can't find just anywhere. Birders will keep their own personal daily checklists. Bring a good pair of binoculars. We can lend you some, too.**

**FEE: \$325 (\$150 deposit).**



## *Invasives*

### *Identification & Removal*

**Make an appointment any day** to take a guided tour through our natural area. Learn to identify a host of invasive growth that is destroying the ecological integrity of natural areas on public and private properties throughout the area, including oriental bittersweet, Amur honeysuckle, multiflora rose, autumn olive, garlic mustard, dame's rocket, catchweed bedstraw, Japanese hedge parsley, and more. Removal techniques are demonstrated *without* the use of herbicides.

Our fee is only \$5/person/hr (min. \$15 for the 1<sup>st</sup> hr), and open to individual adults or individual couples or families. A similar tour can be arranged on your property or at a natural area of your choosing. Same fee plus a small mileage fee. Contact us!

**VOLUNTEER!** Can you help us clear invasives out of our woods? If you have some time to spare AND you like working outside AND you like working in the soil AND you would like to do something that's good for the environment AND you like being surrounded by the sights, smells and sounds of the month of May, please contact us! It's a great outdoor service endeavor for teens and adults now or any time over the summer!



# 30% is Still Not Enough: The “Half-Earth” Argument



Edward O. Wilson, the lauded biologist, naturalist, writer and defender of global biodiversity, died at the end of 2021. In 2014 he published *Half Earth: Our Planet's Fight for Life*. While some have watered down the idea to making 30% the goal that should be off limits to human development, perhaps that figure is more realistic for areas like Meridian Township in the opening column of this issue, which have already seen a substantial degree of habitat destruction for human ends.

Here is a PBS Newshour interview entitled, *How to Save Life on Earth, According to E.O. Wilson*.  
<https://www.youtube.com/watch?v=Zq3w7cldgMU>

For more detail, watch *Setting Aside Half the World for the Rest of Life with E.O. Wilson*, an hour-long lecture on the topic in 2015 hosted by University of California Television.  
<https://www.youtube.com/watch?v=7ANire8E240>

<https://www.half-earthproject.org/>

-JM

*The next generation would be justified in looking back at us and asking, “What were you thinking? Couldn’t you hear what the scientists were saying? Couldn’t you hear what Mother Nature was screaming at you?” - Al Gore*

*Scientific findings should never be distorted or influenced by political considerations.*  
*- from President Biden’s Memorandum on Restoring Trust in Government through Scientific Integrity and Evidence-Based Policymaking.*



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