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**THIS ISSUE**

**Coffee Break, February 7**

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**LCC Saturday Youth Classes, Feb 15**

**Around the State in February**

**Thank you!**

**Nature Columns by Ranger Steve**

**World War Zero**

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**Exhibit “A”:**

***Our Michigan-native  
Reptiles & Amphibians***

The small private nature center attached to our home happens to house the state’s largest zoo of Michigan-native reptiles and amphibians. Visitors can view and experience forty or more combined species of snakes, turtles, frogs, salamanders and lizards, all found within our state’s borders, either by appointment or on one of our monthly open Sundays. With about twenty aquariums in addition to a small pool of swimming turtles on the floor it is one reason we sometimes call this “the biggest little nature center in Michigan.” There is a lot going on here, and zookeeping tasks are unending.

On a weekly basis every aquatic tank needs to be dismantled and scrubbed, but, on average, several times more each month they are dismantled, loaded into our *Town & Country*, and driven to a distant location to be reassembled, stocked with designated herps, then staffed as a temporary exhibit for a walk-by audience at a school, library or some special outdoorsy event.

To call an exhibit “labor-intensive” is an understatement. To wit, a full exhibit takes up almost fifty linear feet of table space at one of these events, and approximately twenty “peripheral” man-hours outside of the event’s duration are required to pull it off. Of course, amid any large event with myriad booths and displays from other educators and vendors, our animals all by themselves are going to be an attraction, especially for kids and families. However, it would be a brief visit if all remained in their tanks and we just sat like bumps on chairs behind the tables letting audiences do an unguided, non-interactive, zoo-like walk-by.

Our exhibit stands out at any event, if not for the size, then for the crowds that build in front of the tables. Three staff people are continuously engaged with visitors, lending additional information beyond the interpretive signs about what they’re viewing - often taking lids off tanks, lifting individual animals up to point out critical field marks, or to hand-feed one in front of clicking cell phone cameras.

Typically we will split our duties, each person staffing one of three sections: turtles on one end, amphibians on the other, and snakes taking up the center tables.

**Frogs, toads and salamanders** are more interesting to view in tanks that are purposely arranged to mimic a small slice of their natural habitat. The arrangement also gives visitors a strong sense of how well certain

species can use camouflaging abilities to melt right into a natural background. For tanks that house terrestrial salamanders, toads, and tiny frogs, we cut a rectangle of mossy turf measured to proper dimensions, and press it snugly into place.

Salamanders are largely nocturnal and shy away from light. On the other hand we need light to see them, so we solve the dilemma by placing a piece of bark on top of the turf large enough for individuals to gather underneath. A small sign affixed to each tank encourages visitors to reach in and carefully lift the bark to view them. What would happen if we simply let the salamanders roam the tank with no ready hiding places? They begin to burrow almost immediately. A determined salamander can disappear into the turf and out of sight within a minute or two, and bright light is a great motivator.

Tanks for medium to large frogs and for the mudpuppies are basically aquatic, but we adorn the mudpuppy tank with flattened chunks of limestone plucked from river beds specifically for this purpose. We arrange them as submerged shelves so that, just as they would do in their natural habitat, they can hide within the crevices. Passers-by see them peeking their dog-like muzzles out to see if a dangling worm may be offered.



In addition to turfed toad and spring peeper tanks, aquatic tanks hold our large bull and green frogs and a variety of medium-sized species. These, too, are adorned with rock and turf “islands” on which they can perch that also naturally-enhance the view.

We engage visitors in learning how to tell the difference between similar-looking species of frogs and toads: a common green frog from the less common bull frog; a spotty leopard frog from the similarly spotty but much rarer, pickerel frog; a commonly-seen spring peeper from a harder to find chorus frog; a common backyard American toad from the rare and range-limited Fowler’s toad, etc.

Background ambiance is provided by natural tunes from our educational and environmental CD, *Frogs of the Great Lakes Region*. It features the breeding calls, which we recorded, of all thirteen frog and toad species found in the state. We explain to visitors that any of these species can be identified in the environment simply by its unique call on a wetland. We then take requests, cuing any species’ song on demand.

Of course, crickets and worms are at-the-ready to feed to any of the amphibians in front of the ambulant audience. Surprised comments from adults and excited squeals from children are reflexively elicited when a motionless salamander suddenly snaps at a cricket or a frog leaps high to snatch a dangling worm.



**The free-swimming turtles** in adjacent, plastic kiddie pools seem perpetually hungry. They also seem very aware of one immutable truth: food *only* falls from above when large mammals are present. Like begging dogs under the dinner table the turtles swim, jockey and clamor over each other while staring expectantly upward at the looming, transient “food gods.” The Grand Slam of Michigan Turtles - all ten species found here - is completed with the addition of a small, shallow tank on the table next to the pools in which a pair of terrestrial box turtles resides.

Naturally, with no glass barrier separating the turtles from the visitors, kids as well as some adults, are inclined to reach down to touch, pet or even pick one up; this, despite a large sign affixed over the pool stating not to touch the turtles and to keep hands out of the water.

When kids ask why, we give them three reasons that transition nicely into discussion of a turtle's unique physiology: 1) They may bite. After all they think (hope) they're being fed and don't seem capable of distinguishing a hand from the food it may hold. 2) They don't like to be picked up. Their demeanor – head pulled in, or legs flailing – is clear indication that this is not fun for them. 3) The water is getting dirtier and more bacteria-laden by the minute. All aquatic turtles regularly suck water up their cloacae (rear hatches), into the rectum, then expel it. We call it *turtle toilet water*.

However, visitors are encouraged to interact with the turtles by dropping food sticks into the water and watching them feed right at their feet. Meanwhile, a staff person helps them identify each species by pointing out “clincher” field marks. For instance... “The painted turtle is the only Michigan species with dabs of red/orange around the rim of the shell,” or “The Blanding's is the only one with a bright yellow chin and throat.” Then, visitors scan the six or eight paddlers and baskers to locate the ones exhibiting these traits.



We are well aware of the limited time – a few minutes on average – that we have with each group that passes the turtle end of the exhibit. What pithy snippets of information can we give them that generates a positive impact on their attitude toward wild turtles and that ultimately benefits wild populations?

Some quickie lessons for transient audiences include classification, rare species, and factors that contribute to turtle population declines. For instance, we state that three of four turtle families with Michigan-native species only have a single representative found here. Which three in the pool look structurally unique enough to make you surmise that they reside alone in their respective families? Which four species are the rarest and warrant special protected status, and what four human-related factors contribute to turtle population declines?



**The snakes section** is purposely arranged in the center of the spread. Often, a mass of milling humanity accumulates there. Why? Snakes are so broadly perceived as dangerous, mysterious and unpredictable that people seem drawn to the special allure of being able to experience them up-close and hands-on in an ostensibly controlled setting. Sorry, no holding allowed of sensitive salamanders or temperamental turtles, but willing, eager, and even reluctant handlers can have at it with our unflappable and serenely-exploratory snakes. This opportunity makes this portion of the exhibit, by far, the most interactive for visitors.

A couple of six-foot adult rat snakes are almost continuously on hand for handling – or even “wearing” since this is a tree-climbing constrictor. Participants gather to await their turn to try it. Other snake species – milk, fox, water, and garter - are also rotated between the tanks and the handling crowd. Out of necessity much of the staff person's attention and conversation revolves around “officiating” the ever-changing handlers. Each new person, no matter the age, must be instructed on how to hold one. The directives, *open hands, support the body, hold it loosely* and *let it move*, flow as if from a tap when a snake is placed into each fresh set of hands. A staff person's eyes must be continuously on the move between two or three new people holding snakes simultaneously to assure they are being held correctly and comfortably. Mishandling incidents pop up suddenly and with regularity, so the vigilant staffer must be ready to swoop in to rescue a snake that is being tightly-constrained or dangled by an inexperienced or nervous handler.



Questions from visitors are constant, and yet, maddeningly invariant to the staff person who is required to respond to them, sometimes dozens of times per hour. You might guess which, by far, is the number one question... *Does it bite?* And number two... *Is it poisonous?*

An irony exists here that speaks volumes to public perception versus reality. The bite question arises far less often on the amphibian or turtle ends of the exhibit, yet, a visitor that is not monitored is magnitudes more likely to be bitten by a tiger salamander, a bull frog or a Blanding's turtle than by any of the uber-tolerant, ultra-chill snakes.

Since the turtles and amphibians are by and large off limits to handling there is more time available to control the discussion, infusing the visitor with usable information about the subject animal in the environment. By contrast, the snake-handling opportunity is such an overwhelming draw to the exhibit and such a “wow-factor” in itself, it often becomes difficult to disseminate any further species-specific information about them amid the sea of excitement. Indeed, getting a child to walk away simply knowing what species of snake they were holding is a minor success. But hey, for many of our visitors across a gamut of ages it must be remembered that these are their precious introductory minutes of *Snakes 101*. Touching, handling, and learning the *true* demeanor of an unthreatened snake is a powerful lead-in, and enough in a few-minute encounter alone to possibly save a wild snake's life come summer.

**Feeding time** at the zoo is popular for a reason. People like watching various animals eat... Even more so, if the things they are consuming are alive. (I won't try to interpret or judge here what this says about human-nature, but whatever it says, it's *true*.)

We feed crickets and worms to smaller frogs and salamanders in their tanks throughout the event's duration, but near the end we always set up a simple, mini arena right in middle of the floor space - a large bath towel spread on the floor, or a patch of lawn at an outdoor event. A crowd gathers quickly to watch...



- ...our box turtles eat worms, sometimes getting into a tug-of-war on each end of the same worm.
- ...our large bull frog released to then hop after, and greedily gobble wiggling worms.
- ...each of our garter snakes “chase” worms and even rise up to take one dangling from forceps. They will also eat frogs. In the summer we will capture one specifically to feed in this venue.
- ...our water snakes chasing minnows. We place a netful in a shallow Pyrex dish then release a water snake to go after them.
- ... still more predator/prey relationships play out only an arm's length away.

The ooohs, aaahs, laughs and shrieks of surprise are not unlike what you might hear at a circus! We take the opportunity with the captive, captivated audience to relate information about diet necessities, food chains, circles of life, and other tidbits to help them understand that acts of predation are not something to be judged as good or bad, but rather, to be accepted simply, as the way interwoven life on Planet Earth works.

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There are many opportunities – most of them admission free – to attend one of our full or partial exhibits in the coming weeks and months. Our *Around the State* segment in most newsletters highlights a number of special events and school science fairs open to the general public in the near future, at which we will be exhibiting. Stop by!

-Jim McGrath



## *Catch Us on Coffee Break*

*Friday, February 7*

Jim is scheduled to appear on Friday, February 7 at 9:45am, discussing late winter bird song. The show airs weekdays from 9 to 10am on 89.7 FM. Listen live online at [lcc.edu/radio/onair/](http://lcc.edu/radio/onair/) or watch it live (or later in the day at 6pm) online at [lcc.edu/tv/watch](http://lcc.edu/tv/watch). We'll post a reminder on Facebook.

## Open Hours

*Sunday, February 9*

*1 to 5pm; \$5 admission*

## 2pm Presentation

*Birding by Ear*

*Late Winter Edition*

*Tufted Titmouse. Photo © Steve Sage*



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At 2pm, *Birding by Ear – Late Winter Edition*, will be presented. Step outside in the morning now, stop for a minute, and listen... Do you hear it? Just a few weeks ago mornings outdoors were relatively quiet. Now, cued by our lengthening daylight, chickadees, titmice, cardinals and many other winter resident songbirds are beginning to sing their breeding songs. Learning to identify birds by sight is a useful skill, however, when you are able to step outside and “bird by ear,” you graduate to a level of avian awareness that blows away identification by sight alone! February may be the best month to start. A manageable number of common species are singing their breeding songs now, but as migrants return, the number of songs out your window increases steadily. By May, a boggling 40 or more may be heard on a country lot! Powerpoint slides and audio recordings are used to familiarize participants with who is calling now. At the presentation’s conclusion we’ll step outside to identify singers and elicit some responses with recordings. Bring your binoculars!



Don't forget! Our interactive **Michigan Reptiles & Amphibians Zoo** is open for visitation before, during and after the presentation. Help us feed as many as forty combined species of snakes, turtles, frogs and salamanders. Hand-feed lettuce tour always hungry red-footed tortoise, Milberta. Wear a huge and gentle rat snake around your shoulders like a scaly, muscular scarf. Photo ops, galore!

## *Registration Deadline Nears for LCC Saturday GATE Youth Classes*

will be taught by Carol starting next month at East Campus. The classes run for four weeks, Saturday, February 15 thru Saturday, March 7. A recommendation form from a teacher is required.

**Michigan Wildlife Adventures** for students in grades 2-4; 9am to 12pm.

**Advanced Science Experiments** for students in grades 4-6; 1 to 4pm.

For more information or to register please visit [www.lcc.edu/seriousfun](http://www.lcc.edu/seriousfun) and select Spring GATE.



*Thank you...*

*Marge Pestka, for your generous  
donation to Nature Discovery!*

*Horned Lark. Photo © Steve Sage.*

## *Around the State in February*

- ❖ ***Thursday, February 6:*** 6-8pm. MI Reptiles & Amphibians Exhibit; Emerson School, Ann Arbor.
- ❖ ***Wednesday, February 19:*** 6:30-8pm. MI Reptiles & Amphibians Exhibit; Glencairn Elementary, East Lansing.
- ❖ ***Thursday, February 20:*** 5:30-7:30pm. MI Reptiles & Amphibians Exhibit; Ralya Elementary, Haslett.
- ❖ ***Sunday, March 1:*** 2-4:30pm. MI Reptiles & Amphibians Exhibit; Winterfest, Southfield Pavilion, Southfield.



## *More Nature-related Reading from Ranger Steve*

Our friend, Ranger Steve Mueller, is an ecosystem ecologist and manager of Ody Brook Nature Sanctuary, a 61-acre preserve outside of Cedar Springs in northern Kent County. Ranger Steve submits weekly columns on an array of natural topics for the *Cedar Springs Post*. Here is a link to the latest column about the Great Blue Heron. There is also access to an archive of past columns.

<http://cedarspringspost.com/category/outdoors/ranger-steves-nature-niche/>

# *Enlist Today to Fight in World War Zero*

We have. If you haven't already, check out the website, [www.worldwarzero.com](http://www.worldwarzero.com), and enlist in this growing coalition dedicated to taking serious action to abate climate change.

More from World War Zero...

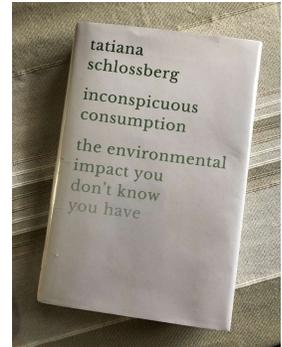
"Powerful forces are denying the climate crisis and standing in the way of policy changes that could save the planet. Join World War Zero to end the climate crisis and move us toward our critical goal: achieving net zero carbon emissions."

WWZ is "a coalition of people who are committed to addressing the climate crisis – scientists, CEOs, military leaders, activists, artists, and so many others from all walks of life and every part of the political spectrum." (Tellingly, the president of the United States is not on the list.)

WWZ's mission is to "unite unlikely allies and bring together powerful influencers to win the future we all deserve. The war will be won through large-scale public education, content, and community-by-community effort to elevate climate change among public priorities."

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Jan Heminger sent us a review of the book, *Inconspicuous Consumption – the Environmental Impact You Don't Know You Have*, by Tatiana Schlossberg. I picked it up from the library and just finished it. "Must" reading for anyone who wishes to be more informed as a conscientious consumer. Thanks, Jan!



-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*

*I don't want you to be hopeful. I want you to panic. I want you to feel the fear I feel every day. I want you to act. I want you to act like you would in a crisis. I want you to act like your house is on fire, because it is. - Greta Thunberg*



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Cowspiracy.com

[ **Union of  
Concerned Scientists**  
Science for a healthy planet and safer world



RSPO.org



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