

## **THIS ISSUE**

**Coffee Break, January 7**

**Sunday, January 12, Open Hours**

**LCC Saturday GATE Youth Classes**

**Thank You, Donors!**

**Resolution Rerun: Get Serious!**

## ***Hatchling Turtle a “Wood-be” Educator***



The delivery arrived on Sunday, December 15. Jenn Kirts, program director at Chippewa Nature Center in Midland, met us at our door with two hatchling Wood Turtles in critical need of veterinary attention.

The center had received a call a couple of days earlier from a citizen who wanted to turn the tiny turtles over to them. The larger of the two “turtle-lings,” with a carapace about the diameter of a half dollar, appeared somewhat alert and sporadically stirred; this, in contrast to the near-catatonic state of its slightly smaller sib. I was struck immediately, upon picking this one up, by how incredibly soft the carapace and plastron were – an indication of severe vitamin deficiency.

No doubt, the Wood Turtles hatched late this summer, but not in the wild where they should have been. From Chippewa naturalist Michelle Fournier’s account, the people who possessed them had found a wild Wood Turtle in the process of egg-deposition earlier in the summer, and decided to take a couple home to see if they would hatch.

First thing the following morning I paid a visit with the turtles to Cedar Creek Veterinary Clinic, south of Williamston. (In addition to providing standard veterinary care for the usual gamut of mammalian household pets, CCV specializes in veterinary care of birds and reptiles. The clinic’s support for Nature Discovery’s mission has been an incredibly valuable asset over many years, ensuring that we are able to present and exhibit healthy specimens among our huge menagerie of state-native herpetofauna.) On the smaller turtle’s condition Dr. Derek Nolan commented that he had never seen a turtle with a shell that mushy and suggested that its malnourished condition might be too advanced to save it. He prescribed a regimen of subcutaneous shots to restore critical vitamins and calcium to both turtles.

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The Wood Turtle is one of ten species found in the state, and one of four that is rare enough to warrant special protected status by the Michigan DNR. (The Spotted Turtle is currently listed as “state-threatened.” The Eastern Box, Blanding’s and Wood are designated with “special concern” status.) It is unlawful to purposely kill, collect or possess one without a MDNR-issued permit.

In Nature Discovery presentations and exhibits we regularly discuss the four leading human-related factors that contribute to turtle population declines around the state and beyond: 1) road-kill; 2) habitat loss; 3)

raccoon depredation of eggs; and 4) illegal collecting. Some or all of these factors have proven especially damaging to populations of these four species.

**Road-kill.** Cars and turtles don't mix. Indiscriminate of species, wherever there are roads near water, turtles die. This particular source of mortality also upsets reproductive cycles. Females of aquatic species leave the water in late spring and early summer then traverse the landscape sometimes for substantial distances to eventually settle and lay eggs. In the month of June rural highways near natural waterways are often littered with the remains of these victims.

**Habitat loss** effects should be expected to vary between turtle species depending on the type of wetland occupied by an aquatic species (or forest habitat for the terrestrial box turtle). Statewide, populations of broad wetland generalists like painted and snapping turtles - while definitely negatively-affected - are not going to be as decimated as would the populations of specialists that occupy a more defined wetland type.

The Wood Turtle is the most riparian, or river-dwelling, of any Michigan turtle, thus, a *very* distinct wetland specialist. It occupies shallow stretches of rivers which are bordered by forested or otherwise



naturally-vegetated shoreline. This is the only aquatic turtle in the state that utilizes both aquatic and terrestrial habitats in which to forage. It routinely leaves the water to feed on invertebrate and plant life in a riverside forest much like a box turtle. Any alteration to the river itself or to the surrounding floodplain habitat can doom a given population. In Lower Michigan these necessary qualities have been severely diminished if not completely eliminated by agricultural, urban and transportation infrastructure. It should come as no surprise, then, that the Wood Turtle has been extirpated from the bottom

third or so of the Lower Peninsula.

Northerly populations are hardly in the clear. Dams installed for power and recreational purposes are prevalent on a number of rivers in the northern L.P. that in the past would have been deemed prime wood turtle habitat. The effect literally dams any opportunity for population dispersal and recruitment in a species which occupies such a uniquely linear habitat. As if this wasn't bad enough...

**Raccoon depredation** of eggs in Michigan is a significant factor in turtle population declines, in general. Jim Harding, adjunct specialist in wildlife education and herpetology at MSU, and author of several field guides to Michigan and Great Lakes Region herps, has spent decades researching Wood Turtle habitat and conservation issues. Harding and others have found that nearly a whopping three-quarters all turtle eggs laid in Michigan, regardless of species, end up consumed by raccoons; but for eggs of Wood Turtles on his study sites, nearly *one hundred percent*.

The raccoon is intelligent, opportunistic within a landscape altered for human purposes, and burgeoning across the state. It also exhibits a special affinity to wetland habitats in which to forage for small animal protein. Now, imagine a female Wood Turtle occupying the linear habitat described above with eggs to lay. On an early summer day she crawls up the bank, digs a hole, deposits perhaps a dozen eggs, back fills the hole, and returns to the water. That night raccoons awaken in trees, climb to the ground, and head to the riverbank to forage. Individuals are generally averse to fording the current but manage to find adequate sustenance by merely following the riverbank in one direction or the other. In this way a riverbank can be envisioned as a raccoon highway; at one point in the middle of which emanates the telltale odor (to a raccoon's sensitive nose) of these freshly-deposited eggs.

**Illegal collecting** occurs in various forms and with a range of impacts to populations. In Michigan, it is unlawful to remove any turtle from the wild without obtaining either a fishing license or a scientific collector's permit from the DNR Fisheries Division. Each year's fishing guide contains a page devoted to

regulations for taking turtles and other reptile and amphibian species. Over the years, as populations of various species continue to slip, the list of those not to be taken without express authorization continues to grow. Of course, the Eastern Box, Blanding's, Spotted and Wood turtles all make this list: ([https://www.michigan.gov/documents/dnr/2019MIFishingGuide-Feb26\\_647890\\_7.pdf](https://www.michigan.gov/documents/dnr/2019MIFishingGuide-Feb26_647890_7.pdf))

Mass-poaching of rare turtles is ongoing, and largely unnoticed in Michigan and throughout the contiguous U.S. Even turtles residing in designated sanctuaries are in persistent danger of being stealthily collected then smuggled overseas to feed a black market pet trade. The sale of a single Wood, Eastern Box, or Spotted Turtle can fetch a thousand dollars or more in an overseas market. Some smugglers are caught and detained. No doubt, most are not: <https://www.registerguard.com/news/20191127/man-accused-of-smuggling-315-endangered-turtles-to-china-with-eugene-co-conspirator>

Many more incidents of illegal collecting occur on individual bases, albeit, sans such nefarious intent. Blame these particular removals merely on a lack of education. Outside of, perhaps, the common painted and snapping turtles most citizens have never learned to tell one turtle from another, much less their relative rarity or possible protected status. Thus, a chance encounter with a wild Wood Turtle may elicit the knee-jerk reaction that *it would be neat to keep as a pet*, with no other consideration prior to removal from the wild. When its protected status is brought up to the taker by nature center staff or by a conservation officer, the typical and truthful defense is *I didn't know*.

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Ergo, the fate of these hatchlings, lifted as eggs from a Wood Turtle's nest, then kept for months in sub-standard conditions. Perhaps, after the excitement of the hatch, the daily maintenance of the little turtles lost its appeal. Perhaps the little turtles were kept in a cool room without any supplemental light or heat source. Maybe they were fed a limited range of food items deficient in the amount of protein and vitamins critical to early growth. Their condition upon arrival at our door points to at least some or all of the above.

Despite the start-up booster shots, and despite the fact that I was able to coax it to begin taking tiny bits of cut worm flesh off forceps the small, mushy-shelled turtle expired a few days after we received it. However, the larger one's appetite and vigor has grown by the day. We've kept in communication with DNR Fisheries permit coordinator, Tom Goniea, as well as with Jim Harding on this remaining little guy's progress. It will soon be utilized as a cute supplement to a now twelve-year-old Wood Turtle (obtained from Harding as a juvenile), in addition to the rest of our complete Michigan turtles collection, as we continue our mission to educate the public about the identification, habitat requirements, and human factors leading to their decline.

With so many hurdles that the Wood Turtle must clear in today's world in order to sustain viable populations the irony of this circumstance is hard to overlook. While removal of these two eggs was ill-advised, and, in itself a detrimental act to the welfare of the population, the eggs left behind had almost surely been dug up and eaten by a raccoon before the next morning. Indeed, the spunky hatchling currently in our possession is most probably not one of two to survive, but the lone survivor of the entire clutch.



What better way to make the most of a bad situation. Fulfilling its new role as a live, educational specimen will positively impact countless children as well as adults for years to come. Our goal: that those exposed to it through one of our programs will develop an impetus to better understand the species, its critical habitat, and its losing battle in an increasingly hostile environment. They will know to never take the sighting of a Wood Turtle in the wild for granted, but to take special joy in the fortune. Count on the educated to do the right thing and to champion the fight for its future.

-Jim McGrath





## ***Catch Nature Discovery on WLNZ's Coffee Break January 7***

Jim is scheduled to appear this month on Tuesday, January 7 at 9:45am discussing wood turtles and other topics. 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 Facebook reminder prior to the 6pm airing.

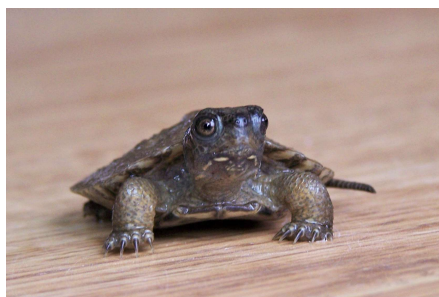
## ***Open Hours Sunday, January 12 Featuring the Presentation Michigan Turtles in Trouble***



***Doors open from 1 to 5pm. Admission \$5/person.***

Of Michigan's ten species of turtles, four have become rare enough to warrant state-protected status. Yet, due to a lack of broad base education the vast majority of citizens would be hard-pressed to name these species, much less identify them if they were encountered in the wild.

At 2pm, we will present *Michigan Turtles in Trouble*. Beautiful Powerpoint images and a complete collection of live specimens are used to enhance your knowledge, and arm you with the ability to give them a fighting chance. Learn the four major threats, directly related to our activities on the landscape, that jeopardize the future of all turtle populations. Specific discussion of the habitat, behavior and ecology of the four protected species - Blanding's, Wood, Eastern Box and Spotted turtles – sheds light on the collective plight facing all of them.



*See our latest addition to the menagerie – this adorable hatchling wood turtle. Help feed it tiny worm pieces, too.*

Enjoy up-close encounters with nearly 100 individuals of state-native reptiles and amphibians in our on-site zoo. Identify and feed all ten species of Michigan turtles including our new hatchling wood turtle. Feed lettuce to our large, friendly red-footed tortoise. Identify a dozen species of Michigan frogs. They'll jump to take a worm or cricket right from your fingers. Identify and handle many of our ten species of Michigan snakes. Even "wear" the large, rare and gentle black rat snake. Photo ops, galore, and so much more!

Knowledgeable staff is on hand to help participants of all ages make the most of their visit.

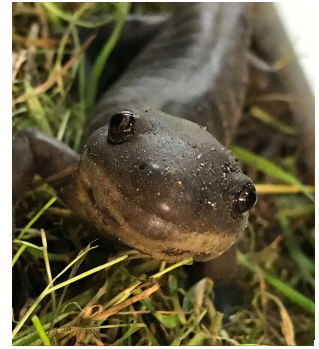
## ***LCC Saturday GATE Youth Classes...***

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.

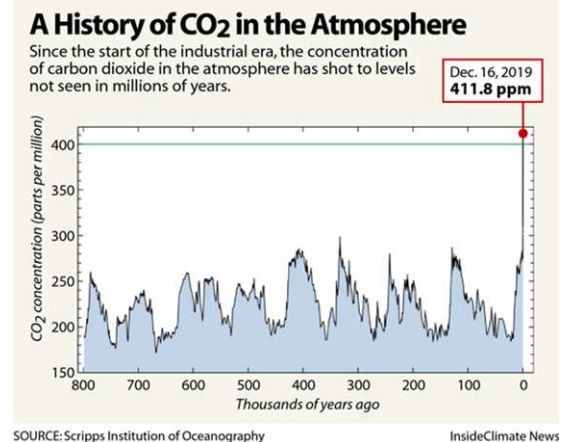


## ***Thank you...***

*to Judy & Allan Marr,  
Steve Mueller and  
Jon Kazsuk for generous  
year-end donations to  
Nature Discovery!*

## ***Resolution Rerun: Get Serious About Taking Responsibility for Your Carbon Footprint!***

Look around. We have the science and the technology. What we're sorely missing is national leadership and personal motivation. Too many of us *say* we're concerned about the devastating impacts of man-made climate change, then disengage when it comes to the imperative political choices and personal lifestyle changes necessary to reduce atmospheric carbon. In line with all the other excuses that eventually make January's resolutions fade back to the same 'ol same 'ol, the *I don't know what to do* excuse doesn't hold water anymore. A slew of suggestions - like eliminating beef from your diet - are also phenomenally impactful to better your personal health, and only a few easy clicks away on the internet. We often highlight some of these in our newsletters. If you missed them just peruse backward in our newsletter archive.



More links worth the time...

[https://www.nytimes.com/interactive/2019/12/12/climate/texas-methane-super-emitters.html?te=1&nl=morning-briefing&emc=edit\\_NN\\_p\\_20191212&section=longRead?campaign\\_id=9&instance\\_id=14478&segment\\_id=19530&user\\_id=e2b8dd8c9b543fb8c35d5dd30658067e&regi\\_id=97652655ion=longRead](https://www.nytimes.com/interactive/2019/12/12/climate/texas-methane-super-emitters.html?te=1&nl=morning-briefing&emc=edit_NN_p_20191212&section=longRead?campaign_id=9&instance_id=14478&segment_id=19530&user_id=e2b8dd8c9b543fb8c35d5dd30658067e&regi_id=97652655ion=longRead)

[https://www.nytimes.com/2019/12/24/climate/trump-bird-deaths.html?te=1&nl=morning-briefing&emc=edit\\_NN\\_p\\_20191224&section=whatElse?campaign\\_id=9&instance\\_id=14781&segment\\_id=19848&user\\_id=e2b8dd8c9b543fb8c35d5dd30658067e&regi\\_id=97652655ion=whatElse](https://www.nytimes.com/2019/12/24/climate/trump-bird-deaths.html?te=1&nl=morning-briefing&emc=edit_NN_p_20191224&section=whatElse?campaign_id=9&instance_id=14781&segment_id=19848&user_id=e2b8dd8c9b543fb8c35d5dd30658067e&regi_id=97652655ion=whatElse)

[https://insideclimatenews.org/news/18122019/decade-climate-heat-drought-extreme-storms-arctic-sea-ice-antarctica-greenland?utm\\_source=InsideClimate+News&utm\\_campaign=0ff5674c4c-&utm\\_medium=email&utm\\_term=0\\_29c928ffb5-0ff5674c4c-327904609](https://insideclimatenews.org/news/18122019/decade-climate-heat-drought-extreme-storms-arctic-sea-ice-antarctica-greenland?utm_source=InsideClimate+News&utm_campaign=0ff5674c4c-&utm_medium=email&utm_term=0_29c928ffb5-0ff5674c4c-327904609)

Here's to a personally and planetarily motivated 2020.

-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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Concerned Scientists**  
Science for a healthy planet and safer world



**350.org**

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