

THIS ISSUE

Around the State in October

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More Turtles Make the Michigan 'Threatened' List



The Wood Turtle (above) and the Eastern Box Turtle were added to the state threatened list in a 2023 update.

Photo courtesy Jim Harding.

Last occurring in 2009, the Michigan Department of Natural Resources updated its endangered and threatened species list again in May of this year:

<https://www.mlive.com/public-interest/2023/05/bumblebees-bats-birds-and-more-added-to-michigans-threatened-endangered-species-list.html>

At the state level species that are known to have seriously declined are labeled as 'special concern,' 'threatened,' and 'endangered.' In the latest update, two of Michigan's ten species of native turtles - the Wood Turtle and the Eastern Box Turtle - were removed from special concern status and added to the threatened list. They join a third rare species, the Spotted Turtle, which has been listed as such for many years now. Another notably declining species, the Blanding's Turtle, retains its special concern status, but most of those who know Michigan turtles would agree that a threatened listing for this one, too, is merely a matter of time.

While special concern status protects against purposeful killing or removal of individuals from the wild, threatened status expands protection to occupied habitats, as well. Of course, exceptions and loopholes do exist, and developers, energy companies, and other well-monied lobbies seek to exploit them. It is in their best interest, therefore, if the general public is *not* aware of a certain declining species and its downward sliding status. Lack of public education translates into less opposition at hearings. The business of circumventing protective laws can be accomplished with little fuss or muss because the public doesn't know enough to care.

To wit, regarding our state's turtles, ask a random adult to simply name the ten species native to our state; few would come up with all of them. Certainly, most would run dry of names quite quickly after *painted* and *snapping*.

If they can't name them they sure as heck wouldn't be able to identify most if encountered in lake, stream, or on the road. By continued extension, forget about their ability to specifically identify any of the four Michigan species granted state-protected status, much less, the human-induced factors that put it there.

We believe every Michigan citizen should receive a more detailed education regarding the myriad wild life that occupies our woods, fields, air and water than they currently get in our public schools. For instance, any second grader could come to ‘recite’ the Michigan turtles as easily as their ABCs or the Pledge of Allegiance. Combined with images (i.e., MDNR Turtles poster), or better yet, live specimens (i.e., like ours) and repetition they could also connect the turtle’s name with the face. Imagine the additional impact on young students by introducing a hatchling snapping turtle into the classroom, allowing them to nurture it through the first perilous months of its existence, then release it - now notably larger and stronger - into a local wetland at the end of the school year.

A middle school or high school *Michigan Turtles* curriculum could introduce ranges and habitat requirements, unique behaviors, and ecological niches and associations across the species. This detailed content is so much more complex and interesting than the generally held simplification that *a turtle lives in the water*.

Additionally, then, students can learn what we’ve pegged as *The Four Biggest Human-induced Threats to Turtle Survival*. They are: 1. habitat loss; 2. road-kill; 3 illegal collecting; and 4. raccoon predation. Weighing the degree to which each of these threats affects the ability of a given species to exist within its unique ecological profile would create a firm understanding of how and why a specific population is in its current state of decline. It would further facilitate not only empathy and concern, but lay the groundwork for students to come up with informed solutions to help minimize each threat.

In a nutshell, here is what such content might look like for the recently-dubbed ‘state-threatened’ Wood Turtle.



A Wood Turtle devours a worm. Photo Jim Harding.

Profile. The Wood Turtle is a long-lived species that can take up to fifteen years to reach reproductive maturity. It currently inhabits riverine habitats in the northern half of the Lower Peninsula and in the Upper Peninsula. Stretches of shallow, meandering current through forested or otherwise naturally-vegetated areas are especially suitable. Highly omnivorous, this turtle also has the distinction of being the only Michigan turtle capable of feeding both under water and on land. Individuals routinely leave the river to forage in the adjacent floodplain. Aquatic and terrestrial invertebrates and plant life comprise the majority of its diet.

Habitat Loss. Such a linear combination of aquatic and terrestrial habitat means that degradation or loss can occur in or adjacent to the river. A power company’s construction of a dam creates two dilemmas for the Wood Turtle’s survival. The deep reservoir that arises behind the wall may be ideal for boating and water skiing but it is completely unsuitable to the turtle. Additionally, since Wood Turtles swim and disperse linearly up and downstream, a dam and the uninhabitable lake behind it becomes a permanent barrier to Wood Turtle movement and dispersal. The continuous Wood Turtle population – once as free-flowing as the waters it occupies - becomes effectively cleaved into two populations isolated from one another both physically and genetically. Each additional dam constructed along the same waterway fragments and increasingly isolates sub-populations.

Property owners who live on or own land along the river need to be mindful to allow most of its biodiverse quality to remain intact so that emerging turtles have suitable terrestrial foraging habitat. Traditional agricultural fields, extensive lawns and other sprawling monocultures, along with the chemicals required to maintain them don’t fit the bill.

Road-kill. Car traffic and turtles don't mix. When they do come together turtles pay the price. The bulk of mature females across the state lay eggs in the month of June. They leave the water then wander through nearby terrestrial landscapes to find a suitable spot to dig a hole and deposit eggs. In so doing, they frequently find themselves traversing a road or highway. Indeed, in our early summer travels throughout the state road-killed turtles - almost unanimously adult females - abound, especially near wetlands. It's why we call June 'Turtle Egg-laying Month' as well as 'Turtle Road-kill Month.'



A Blanding's turtle on the road. Road-kill incidents play a significant role in turtle declines.

The Wood Turtle's tendency to leave the water to forage in terrestrial habitats regardless of age and gender makes it notably more susceptible to falling victim on a road that runs adjacent to a northern waterway. A Wood Turtle can potentially be found crossing one of these roads in any of some five months of the year in which it is active.

Illegal collecting. Wildlife trade experts warn that a growing demand for pet turtles in the U.S., Europe and Asia is contributing to a global decline in rare freshwater turtle species.

From an Associated Press article in November, 2022:

Among the world's most trafficked animals, freshwater turtles are targeted by criminal networks that connect with buyers on the internet then transport the reptiles to black markets in Hong Kong and other Asian cities. From there, they are sold as pets, to collectors and for commercial breeding, food and traditional medicine. In many countries, trade is poorly regulated or not regulated at all.

Matthew Strickler from the U.S. Department of the Interior says, *There's significant demand from Southeast Asia for food and the pet trade, but also from Europe, for pets as well. We've seen this pattern of turtles being depleted in one place, and then poachers and traffickers and traders moving to another place. Southeast Asia was depleted. They moved to Africa. Now, we see them moving to the Americas.*

<https://apnews.com/article/science-united-states-global-trade-business-d2938cf69084cc287f3f0e8050ceef7b>

Rare species, like the Wood Turtle, fetch large prices in the black market pet trade, but a form of collecting with less nefarious intent takes place from a different source: incidental encounters in its riverine habitat. Canoeing, kayaking and tubing have become an increasingly prevalent source of recreation on northern rivers, so potential encounters between man and turtle have certainly increased, too. Should an adult, child or family find and pick up a Wood Turtle there is a chance they will decide to take it home to keep as a pet oblivious to what species it is, much less of its legally-protected status.



A Common Snapping Turtle nest recently ransacked by a Raccoon – a common sight in June.

Raccoon predation. Whether bird, reptile, frog, beetle or snail, deposited eggs of one species often become food for another. In balance, it is a natural ecological occurrence between species in an ecosystem's food web.

Predators of deposited turtle eggs are many, however, today it turns out that one particular mammalian predator, the Raccoon, is taking an outsized portion. Jim Harding, retired 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*.

There are certainly more Raccoons in Michigan and specifically in Northern Michigan than at any time in history. Intelligent and opportunistic within a landscape altered for human purposes, no wonder populations are burgeoning. The species exhibits a special affinity to wetland habitats in which to forage for small animal protein and possesses a keen nose for recently buried turtle eggs.

The fact that the Wood Turtle occupies such a linear habitat may explain the nearly total predation of its eggs by Raccoons. They, in turn, forage in a linear fashion along the banks and shorelines where the turtles settle to deposit eggs. Envision a riverbank as a Raccoon highway - one in which its users never miss the scent of freshly-deposited eggs along the route. Harding notes that Raccoons have been observed preying on adult Wood Turtles that emerge from the river, as well.

Within the 'Michigan Turtles' curriculum imagine a similar outline to the one above, formulated, taught and learned in specific regard to all ten species found in our state. At the conclusion of the unit (which, with this much content may extend six weeks or longer), students would be armed with knowledge that allows them to recognize, understand and appreciate each one, and further, to actively participate in its conservation for the rest of their lives.

In the meantime, Nature Discovery can help students at any grade level become more familiar with Michigan's ten turtles. Contact us to give a presentation or to set up and staff an interactive exhibit with the complete collection right in your classroom. For older students live specimens are available to supplement a Powerpoint presentation entitled, *Michigan Turtles in Trouble*, highlighting the state-listed species, the four threats to their survival, and steps informed people can take to help them.



- Jim McGrath

Around the State in October

- ❖ ***Saturday, October 14: 9:30am to 12pm. MI Reptiles & Amphibians Exhibit; Pine River Nature Center, Goodells.***
- ❖ ***Saturday, October 14: 2-5pm. MI Reptiles & Amphibians Exhibit; Calvary Baptist Church, Ypsilanti.***
- ❖ ***Saturday, October 14: 1-5pm. MI Reptiles & Amphibians Exhibit; Cranefest, Bellvue.***
- ❖ ***Sunday, October 15: 1-5pm. MI Reptiles & Amphibians Exhibit; Cranefest, Bellvue.***
- ❖ ***Sunday, October 22: 11am to 1pm. MI Reptiles & Amphibians Exhibit; Edgewood Church, East Lansing.***
- ❖ ***Saturday, October 28: 10:45am. MI Wildlife in Fall Presentation; 12:15pm. MI Snakes Alive Presentation; Stubnitz Environmental Center, Adrian.***



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Visit Our Nature Center by Appointment

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



Our Northern Ribbon Snake grasps a Wood Frog in front of a visiting audience.

The sky's the limit for natural science learning here – with a Michigan twist! Adults, couples and families are welcome to schedule an intimate visit to what we call “The Biggest Little Nature Center in Michigan,” and “Home to the Largest Zoo of Michigan-native Reptiles and Amphibians.” We can take snakes, turtles, frogs and salamanders out of their enclosures to interact with visitors.



Identify and feed “the grand slam of Michigan turtles” - all ten species native to our state! 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, live frogs or tadpoles. Hold or “wear” a gentle 6-foot Black Rat Snake – the largest in the state!

Many more snakes, turtles, frogs and salamanders to identify and feed.

Take a guided walk on our trails to identify birds, bugs, trees, vines, and invasive plants as we encounter them.

Ask us about...

- ... a field trip to our center for academic classes, pre-K thru college.
- ... regular drop-off visits with experiential activities for elementary thru middle school student(s).
- ... volunteer opportunities for middle-high school students and adults.
- ... a guided interpretive experience at a local natural area of your or our choosing for your small group of students, adults or families.



*We appreciate the backing of all our
supporters, including donors
this past month...*

*Laura Chomiuk & Jay Strader * Jan Heminger * Chelly Paige
Annelise Rommeck * Brennan Rommeck
Haley & John Simpkins * Gene Wasserman*

Consider What You Eat and Where You Eat to Minimize Greenhouse Gas Emissions

For Many Big Food Companies, Emissions Head in the Wrong Direction

https://www.nytimes.com/2023/09/22/business/food-companies-emissions-climate-pledges.html?campaign_id=9&emc=edit_nn_20230925&instance_id=103598&nl=the-morning®i_id=97652655&segment_id=145642&te=1&user_id=e2b8dd8c9b543fb8c35d5dd30658067e

Michael Bloomberg Dials Up a War on Plastics

https://www.nytimes.com/2023/09/20/climate/michael-bloomberg-climate-petrochemicals.html?campaign_id=54&emc=edit_clim_20230920&instance_id=103221&nl=climate-forward®i_id=97652655&segment_id=145241&te=1&user_id=e2b8dd8c9b543fb8c35d5dd3065807e

At Sports Stadiums, Reducing Waste is a Team Effort

<https://www.nytimes.com/2023/09/20/sports/stadiums-sustainability-climate-change.html?action=click&module=RelatedLinks&pgtype=Article>

-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

The personal actions that cut climate pollution fast are to go flight-, car-, and meat-free. Start with the one that feels most feasible for you; if you can’t totally go without, aim to cut your consumption today at least in half. – Kimberly Nicholas, Under the Sky We Make

What if we had storytelling mechanisms that said it is important that you know about the well-being of wildlife in your neighborhood? –Robin Wall Kimmerer



Less Beef = Less CO₂
Cowspiracy.com

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



Flightfree.org



RSPO.org



insideclimatenews.org

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