



THIS ISSUE

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Around the State in September

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Not Taking Climate Seriously

***The UNaggressive
Watersnake***

On a May morning in 2021, Carol and I were visiting a state park in east-central Illinois. We pulled the car into an empty boat launch parking lot and walked to the water's edge. Carol turned and slowly traversed the overgrowth along the shore to the left of the launch. I turned right.

Stretching away from the boat launch a raised sidewalk skirted the shoreline and led to a series of mooring docks. A wooden retaining wall separated the sidewalk from the water. On top of the wall a green-painted metal railing had been installed for safety. A look over the railing revealed the water below, a few feet deep. Visibility of what was beneath the surface was sporadically interrupted by aquatic vegetation and algal mats into and out of which various small fish darted and meandered.

Starting to walk toward this sidewalk my eyes fell upon a Northern Watersnake about forty feet ahead of me just as it crawled out of the grass and onto the pavement. The mowed slope from which it was coming contained a wet depression under the open end of a small drainage culvert - the effluent from which on rainy days, I supposed, was channeled under the walkway into the lake.

I estimated the snake's length at a bit over two feet; its girth at the widest point not much more than a half inch - definitely a male. Slowly wending its way across the sidewalk toward the water it seemed unaware of my presence. I froze so as to keep it that way. A dark, one-inch gap separated the concrete sidewalk from the wooden wall along its length. Head-first, the snake slowly disappeared into this crevice.

As soon as it was out of sight I tiptoed quickly to the spot, took the binoculars and camera from around my neck, laid them on a nearby bench, then stretched my body belly-down onto the sidewalk. Leaning on my forearms I slowly pulled my torso forward with the intent of peering into the gap where it had gone. My eyes, only a few inches above the ground, were almost in position to look into the gap when... the watersnake's head re-emerged!

I didn't move or even breathe as it pulled the front few inches of its body onto the pavement, quite literally, right under my nose. The snake seemed to still be unaware of the large mammal looming so closely. Its forked tongue flicked and waved a few times. If it could smell me, the odor must not have conveyed danger.

I marveled at such a refreshingly up close view of a wild snake that was *not* squirming in the hand after having been caught, nor in any sort of outward duress over its proximity to me, as most encounters with wild snakes go. Instead, it displayed an undisturbed naturally comfortable demeanor, as if I were not there at all. A minute passed. I wondered if it was enjoying the warmth of the sun's rays on its scales and the warmth of the sidewalk on its belly scutes.

Suddenly, about two feet to the right of it another watersnake head appeared from the crevice. It, too, was small – a bit smaller than this male's head - and therefore, definitely another male. The head of the snake in front of me turned toward the motion and its tongue flickered at a faster rate. The second snake slowly pulled its neck and body up and onto the edge of the sidewalk then inched toward the first. Neither displayed a hint of aggression toward the other; quite the opposite.

The newly emerged snake's head passed that of the first so closely that they may have brushed against one another. Its body then crossed up and over the neck of the first snake then stopped. The other snake reciprocated by moving its own head and neck in the opposite direction across the other's scaly back.

I could see most of the length of the second snake now but only perhaps the front six inches of the first. They had calmly and quietly curled their necks around one another to form a simple braid. In this manner of repose they rested, only inches below my gaze, soaking up the morning sun's warmth.

How well did these two know each other? I surmised that they had probably met and interacted in similar ways many times before. As I gazed at them now it was hard to imagine that they had ever acted aggressively toward one another whenever they crossed paths. They were probably like this all the time.

What a terrific photo this would have made, but I was in no position to retrieve my camera. I knew that any movement at all would startle the snakes and send them into the safety of the crevice. I continued to remain motionless and enjoy the intimate commune, simultaneously aware that this special moment - as all moments - would be fleeting.

About ten minutes had passed since Carol and I had parted. As she made her way back she couldn't see me because of my prone state.

"Jim?" she called.

"I'm over here," I called back, and with that utterance the close encounter came to an end. In an instant the frightened snakes had vanished into the crevice.



In well over three decades educating the public in these matters we've heard more than our share of "snake stories." By the content and delivery of most of the accounts about the Northern Watersnake, in particular, one could get the impression that the demeanor of the species is the complete opposite of that described above; aggressive, menacing, and yes, potentially dangerous.

A combination of education and personal experience changes this perception. Know the snake; its range, habitat, identification, behavior and ecology. Those that do will not view a watersnake in a negative light, but from a more objective and empathetic point of view.

A significant number of citizens harbor the false impression that the venomous Water Moccasin is present in Michigan. They routinely misidentify Northern Watersnakes in wetlands as ‘moccasins,’ and, as a result, may even feel justified in killing them. They spread the misconception, and in so doing, make others needlessly wary or fearful of this harmless species.

Any of three Cottonmouth species - the Eastern, Florida and Western - may be called a Water Moccasin, but all are inhabitants of wetland habitats in southern states. A peek at a range map in any North American field guide reveals that the northern limit of each of their ranges comes nowhere near Michigan’s southern border. The Eastern Cottonmouth can’t even be found in Ohio. The northern edge of the Western Cottonmouth’s range barely touches the southernmost tips of Illinois and Indiana.



Our diminutive male watersnake lunges at an offered minnow.

The Northern Watersnake occupies permanent waters throughout the Lower Peninsula. It is less common or absent across much of the U.P. This species needs permanent water because its primary prey is small fish – mostly minnows – that occupy shallow waters of lakes, ponds, rivers, etc. This species will readily consume frogs and tadpoles, as well, yet, I’ve never encountered an individual on a vernal pond. While these shallow, weedy habitats may be flush with amphibians of all sizes, the absence of fish appears to make them unsuitable to this ostensibly obligate piscivore.

By contrast the closely-related Copper-bellied Watersnake, a state-endangered species with an extremely restricted range in the south central L.P., consumes amphibians almost exclusively. Therefore, vernal/temporary wetland habitats with abundant amphibian life are critical to its survival. Historically, and continuing today these scattered small wetlands have been and continue to be under siege from farming, housing, infrastructure, and other development interests; thus, this snake’s grim status.

Some female Northern Watersnakes can top four feet in length. Since they are impregnated in the spring, the young developing internally result in their girth growing larger by the week through the summer. The larger the female the more young she can deliver. A really big one may give birth to fifty or more young in late August or early September.

By contrast an adult male watersnake is so small and wiry it may often be mistaken for a juvenile. In many snake species the female grows larger than the male, however, sexual dimorphism in relation to size appears to be especially stark in the watersnakes.

If you see adult watersnakes around a particular waterway over the spring and summer, expect to see – or even purposely look for – newborns along the shorelines on warm late summer days. When a female gives birth, the seven-inch young are immediately ‘on their own’ and disperse in varying directions. They are far more starkly patterned than their mother, sporting dark brown bands over a light gray, tan or cream-colored background. Also, like their mother’s, the head scales are completely dark brown with no indication of a pattern.



An adult female and juvenile share a soak in the water dish at Nature Discovery. Note the variation in the contrast of their patterns.

As a watersnake grows, the background color steadily darkens. By adulthood a pattern may be hard to discern at all, especially in large females. Indeed, we have fielded many questions over the years regarding the sighting of a ‘big black snake’ swimming through the water.

The quality of a watersnake’s scale texture can affect the perceived color and pattern. Run your fingers across the ovate, dorsal scales of a large watersnake and you’ll notice a somewhat sandpaper-like roughness. The scales of most snakes exhibit a ‘keel’ – a lengthwise, thin ridge that bisects each one. On close inspection the keel on some species is so slight that it appears to have almost been *drawn* on the scale. The sensation on fingers passed over scales like this feels nearly as smooth as glass. On the other hand, the watersnake exhibits the strongest keel of Michigan snakes; thus the coarse feel when fingers are passed across them, like ridges on a file.



Especially in watersnakes that swim in murky or flowing water that contains fine organic matter or suspended silt in the water column, the tiny particles can become lodged within the surface of the rough body scales. The banded pattern often becomes completely obscured. When the snake emerges to sun itself and the scale surfaces dry, they display a dirty, matte appearance. The dusty gray body of a sun-dried watersnake contrasts sharply, however, with the ultra-smooth, glossy, dark, plate-like scales that cover most of its head. In short, if you see a snake sunning itself near water with a glossy, dark head in front of a dusty, gray body, it is most certainly a watersnake.

Field guides correctly refer to the Northern Watersnake as having a nervous, defensive demeanor. Translate this to mean that if one perceives itself as being attacked, it will likely form a coiled posture and perhaps attempt to strike or bite in order to defend itself. If it does bite, the larger the snake the more severe the skin wound, but keep in mind that the barb-like teeth of even the largest of females produces rows of shallow punctures in the skin of a hand that require no more medical care than washing with soap and water.

Unless grabbed, captured or placed in a position where it cannot escape, a watersnake will always choose to flee over biting or striking. This makes it decidedly not deserving of the moniker ‘aggressive.’ Yet, as people share accounts with us of encounters with watersnakes the word pops up with regularity. Usage of the term serves to make the listener think negatively about snakes and likely be more fearful of them. We explain that ‘defensive’ is actually the correct term for the behavior they just described.



An adult male watersnake curls neatly around spread fingers.

Some of a watersnake’s behavioral habits may unintentionally lead it and the person encountering it into an uncomfortable confrontation. For instance, with its propensity to dive and move under water in pursuit of its prey, a watersnake may occasionally pop up uncomfortably close to a person standing in the water. Imagine a scenario (and we’ve heard several versions of this) where a watersnake is busy pursuing minnows in a vegetated area next to a designated swimming beach. Focused on the fish, it wanders under water into the swimming area, then decides to surface for air in waist-deep water without registering the large bipedal mammal standing only a few feet away.

While the startled person may charge out of the water like Jaws is after them, the snake is equally as surprised. Startled, too, by the sudden movement overhead, it dives and swims away from the perceived danger. Perhaps the person was so busy fleeing they didn't notice that the snake's reaction mirrored their own.

Watersnakes routinely leave the water in order to climb into the low branches of trees or shrubs that overhang the water, then bask. Imagine this potential scenario. A canoeist leans forward to avoid low branches overhanging the water as the vessel passes underneath them. The person might be unaware that a watersnake is basking directly above the canoe's line of passage. The snake suddenly startles and allows itself to drop from the limbs and into the safety of the water as it had done many times before. This time, though, it thuds against the floor of the canoe. A large moving mammal suddenly looms over it. Feeling cornered and threatened it coils and flattens into a defensive posture. When pushed and poked by the blade of the paddle it strikes repeatedly to keep it away.

A hunting watersnake keys on the movements of fish in its immediate vicinity. Imagine a third scenario where someone is fishing. They cast the lure. It splashes a short distance away, then it is reeled toward them. The watersnake misreads the lure's motion for that of a fish and rigorously pursues it. The snake may ultimately bite it and become hooked itself. The angler now experiences the dilemma of how to remove a hurt, frightened, thrashing and, by default, 'bitey' snake from the hook.

The three Northern Watersnakes we currently maintain at Nature Discovery (a very old but still spritely female of sixteen years, a small, six-year-old male, and a four-year-old female that is now nearly as large as the old girl) have had a continuous history of interaction with people since each was captured as a newborn. They never display the slightest hint of defensiveness toward us nor the many thousands of children and adults over the years who have touched and handled them. They are model Northern Watersnake ambassadors to humankind.

In Illinois, I had the privilege to briefly witness wild watersnakes - oblivious to my crazy-close proximity - as they existed in the serenity of an unafraid state. I found their disposition to match the unwaveringly benign mien that our own unafraid watersnakes display around people. Sometimes, since that encounter, I watch one of our watersnakes move calmly through the hands of a child. Conversely, I find myself thinking, *This is the way an unafraid wild watersnake acts, too.*

-Jim McGrath



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Around the State in September

- ❖ ***Friday, September 6: 5-7:30pm. MI Reptiles & Amphibians Exhibit; Washtenaw Promise Block Party, Fireman's Park, Ypsilanti.***
- ❖ ***Saturday, September 7: 9am to 3pm. MI Reptiles & Amphibians Exhibit; Sportsmen for Youth Day, Muskegon Co. Fairgrounds.***
- ❖ ***Sunday, September 8: 10am to 2pm. Michigan Turtles Exhibit; Eastern Ingham Farmers Market, Williamston.***
- ❖ ***Tuesday, September 10: 6:30pm. MI Reptiles & Amphibians Presentation; Jackson Audubon Society, Ella Sharp Museum, Jackson.***





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*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, hands-on experiences offered here can be found nowhere else! 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 10 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 Michigan’s 3 species of garter snakes while learning how to tell them apart, then watch them eat worms and live frogs. Handle a gentle 6-foot Black Rat Snake – the largest in the state!

Many more snakes, turtles, frogs and salamanders, as well as large caterpillars of Luna Moths on display. Take a guided walk on our trails to identify birds, insects, trees, vines, and invasive plants.



Ask about...

- ... arranging a guided interpretive experience at a local natural area of your or our choosing for your small group of students, adults or families.
- ... volunteer opportunities for high school students or adults.

Contact us for more information or to make an appointment.

Citizens, Politicians Continue to Not Take Our Climate Disaster Seriously

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-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



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