Nature Discovery **WILD TIMES**

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The Grass Spider often finds its way into garages and basements where it spins its funnel web in a secluded location.

THIS ISSUE

A Spider Promotes the Mission?

Absolutely!

Like any business or organization with a purpose that extends beyond itself we've carefully considered the concise wording for our mission statement: "… dedicated to enhancing awareness of, and sensitivity toward, Michigan's living resources through natural science education." Preserving our steadily eroding natural diversity requires more than mere knowledge of its existence (although that's a start). Instilling a personal connection to as many components that make up the "big picture" as possible leads to a deeper understanding, and with that, a deeper sense of value toward a local ecosystem that finds itself under constant threat of degradation in the name of human needs and wants.

For virtually any child, self-introduction to wild animal life comes in the form of abundant invertebrate life – especially insects – discovered in the backyard and around the immediate neighborhood. It only seems logical then, that educational lessons using live specimens of accessible local invertebrates would be especially applicable to their lives now.

At Montessori Children's House, Stepping Stones Montessori, and Okemos Nursery School, where I teach Michigan wildlife topics on a weekly basis, I purposely start the school year with consecutive weeks of invertebrate/insect topics while live specimens are still available before the pending freeze. I often relate accounts from my own childhood including memories of personal discovery of certain organisms. This angle easily segues children of similar age to the "kid-me" - out of their shoes and into mine. Then, as an effective supplement to the account, I secure one or more live specimens for them to experience firsthand.

As a recent example, in mid-August I managed to find and catch a large, female grass spider inside Carol's kayak while extricating the dirt (and webs) prior to an outing on the Red Cedar. It had spun a beautifully-shaped funnel web that extended from within the folded seat. In order to press the hapless arachnid into educational duty I converted a large, empty Earthbound organic salad box into a convenient, portable habitat.

Over the summer a falling tree took out one of our clothesline poles. Another casualty - a nesting box which was attached to the pole was crushed when it fell. I decided to use the wooden lid as a hiding place for the spider. The tips of a few finishing nails protruded from one side creating a sloping crevice when the wood was laid in the bottom of the plastic box. As soon as I dropped the spider from a jar into the box it scurried under this only available cover. By the next day a wisp of webbing protruded from the crevice, out and over the open floor. A few days later the web was complete. A neat funnel at the entrance of the crevice tapered out of view under the wood. I caught a fly, removed a wing and dropped it onto the web. In barely more than the blink of an eye, the spider scurried out of the funnel, snatched it, and retreated back under cover. My live prop was ready.

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I share a distinct memory with a classroom of kids: a seven-year-old boy living in Chicago, and a first encounter with a grass spider (although I didn't know what kind of spider at the time). From our enclosed back porch, a short flight of stairs descended into dimness toward the solid door that opened into our small, inner city backyard. Upon pushing it open a flood of daylight bathed the bottom portion of the stairs. There - protruding from a corner of the long, dark rectangle of space between the bottom stair and the cracked, concrete floor - a sheet-like web. Stooping lower, my gaze progressed along its tipping, tapering surface and came to rest on a neat, round funnel within the dusty shade. At the funnel's opening the tips of a fairly large set of spindly legs were visible, poised and ready for action on the delicate trap that spread before it.

When I showed the web to my older brother he deliberately led me to the hedges that ran along a fence on the side of the house. He pointed to the iridescent, green flies that circled over it in the sunshine. A number of individuals randomly landed on the hedge top, then took flight, circled, sometimes chased one another, then landed again. He inched closer to one that had landed and lingered. Suddenly, his cupped hand swung in an abrupt, taut arc. It passed in a blur through the point where the fly had landed. He then nimbly manipulated the fingers in his clenched fist to reveal a buzzing prisoner, now trapped between his thumb and forefinger. I was *very* impressed. We returned to the stair where he carefully tore a wing off and dropped the struggling fly onto the web, then thrilled as the spider shot out of its funnel to grab the prey and retreat nearly as quickly back into the depths.

I *had* to learn this! Countless, frustrated attempts – an afternoonful of flailing, empty swings – only enhanced the rush of exhilaration upon feeling the first buzzing catch within my curled fingers. From there, the ratio of catches-to-attempts could only rise, and it did. Feeding the spider in this manner blossomed into a daily ritual. I liked "my" spider. The fact that I assumed responsibility to provide its sustenance (although it didn't need or ask for it) made me genuinely *care* about its existence. I informed the rest of the family about the spider but they didn't seem to share my enthusiasm. Inexplicably to me, one of my sisters suddenly developed a strong aversion to setting foot on the bottom back stair.

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Along with the boyhood story and the spider in the salad box I also pack a pre-caught, single-winged fly in a jar. Sometimes alarmed, but always excited exclamations erupt from the students circling the box as, just like in the story, the grass spider zips from under the wood to snatch the fly. It's a perfect time to introduce them to a spider field guide. I show them the page with an illustration of the grass spider and a

side illustration of a funnel web. I point out the paragraphs of copy that provide additional information about range, behavior, habitat, and other ecological snippets. Then, I riffle through the pages to reveal hundreds more species of real spiders throughout, each one looking, and living a life, different from the next.

Is developing a close relationship of this caliber necessary to become "aware and sensitive" toward wild organisms in the environment? Not necessarily. However, the more you know, incrementally, about organisms that strive to survive in the yard, neighborhood or state where you live, the more interesting your time spent in the natural world becomes, *and* the better off the natural community is because of your acknowledgement of those myriad components. Finally, this attitude potentially evolves into a broader respect for all aspects of natural diversity, and still further, for the welfare of a properly functioning planet.

Along with a lesson about the commonly-seen Cabbage Butterfly we provide a larva for the classroom to nurture and raise into an adult.

The flip-side to all this is seen in public school classrooms today. Most fifth graders have never even heard of a "field guide" and require that its purpose be explained to them. Few curricula, K-12, encourage the ability to identify and understand the mind-boggling diversity of organisms in the environment. These students then grow into adults with only fuzzy, generic, impersonal ideas about trees, insects or birds. Ultimately, natural communities are dismissed as mere obstacles in the name of a barrage of anthropocentric endeavors for profit, pleasure or convenience.

When offered, kids have a natural and powerful affinity to this kind of education. I see their enthusiastic reactions over the lessons, then hear from parents how it translates into outwardly-demonstrated attitudes toward wild living things beyond school – in the yard, at the park, or on vacation. Kids armed with years' worth of this type of natural science education are placed on a path to making more ecologically-informed, environmentally-responsible decisions as adults than the majority who lack it. Isn't it past time to make this mainstream public school education? In light of the increasingly evident human-induced state of our environment and climate systems, we say "*Absolutely!*"

-Jim McGrath

Around the State in October

- ***Saturday, October 8*: 1 to 6pm. Michigan Snakes Exhibit; Cranefest, Baker Sanctuary, Bellevue.**
- ***Saturday, October 23*: 3pm. MI Reptiles & Amphibians Presentation; Hemlock Crossing Nature Center, West Olive.**

Sandhill Crane with young. *Photo © Steve Sage.*

Crane or Heron?

Sunday, October 9

Admission: $5

Doors open from 1 to 5pm

Michigan's two tallest birds are often mistaken for one another, whether in flight, on land, or in the water. Both, the Great Blue Heron and Sandhill Crane have long legs, necks and beaks, but the similarities end there! In virtually every other aspect these large, stilted birds are nearly complete opposites! At 2pm, sit-in on the original Powerpoint presentation, *Crane or Heron?* With the aid of beautiful color images and audio recordings, learn the differences in flight profile and vocalizations, as well as a host of contradicting behaviors when it comes to diet, foraging, nesting, territoriality, roosting, migrating and more.

Don't forget to visit our highly interactive Michigan-native reptiles & amphibians zoo!


Great Blue Herons and young. *Photo © Steve Sage.*

Whether it's before, during or after the presentation visitors of all ages are encouraged to spend extra time here. Home to over 40 combined species of snakes, turtles, frogs, salamanders and lizards, it's the largest such collection in the state!

Catch Nature Discovery on WLNZ Radio's Coffee Break on Thursday, October 20

Jim is scheduled to appear on Thursday, October 20 at 9:30am, to discuss a Michigan wildlife topic. The show airs weekdays from 9 to 10am on 89.7 FM. Listen live online at lcc.edu/radio/onair/ or watch it live (or later in the day at 6pm) online at lcc.edu/tv/watch. We'll post a reminder on our Facebook fan page.

Saturday Gifted/Talented Youth Classes thru LCC

Carol is teaching 5-week Saturday LCC Fall GATE classes (East Campus) beginning October 22.
Creepy Crawlies (9am-noon, Grades 2-3) Learn about Michigan wildlife, plenty of live animals in class each day! Includes a field trip to Nature Discovery.
Fun with Physics-ADVANCED (1-4pm, Grades 4-6) Learn how to build a simple motor, generate electricity from renewable sources, build a solar cooker and more in this hands on, project based class.
To register or for more information visit lcc.edu/seriousfun and click on Fall/Spring GATE.

Visit www.lcc.edu/SeriousFun or call LCC at 483-1415 to enroll.

Northern Harrier. *Photo © Steve Sage.*

Allegan County Birding Day

Wednesday, October 26

6:30am to 4:30pm

On Wednesday, October 26, from 6:30am to about 4:30pm, join us on a guided trip to Allegan County for some great fall birding. Jim will lead and drive a maximum of five participants on this full-day odyssey to tally as many species as possible through a multitude of West Michigan habitats. We'll bird for waterfowl, gulls and eagles along the Lake Michigan shoreline and encounter a slew of other species while traversing field, forest and dune habitats. Rough-legged Hawks, Northern Harriers, kestrels, shrikes, Snow Buntings and many more species are in store. Locations include Saugatuck Dunes State Park, Douglas Public Beach, Morrison Bayou, Allegan State Game Area, and the South Haven Jetty.

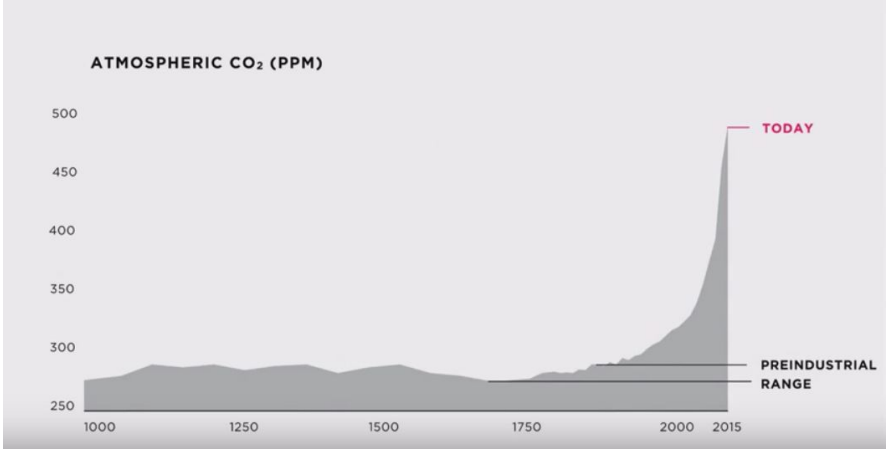
Weather-permitting, we should tally up to 50 species. Most of the birding will be near the vehicle or relatively short hikes from the vehicle. We'll stop for lunch at Crane's Pie Pantry Restaurant in Fennville. Each participant will also receive a Michigan Birds checklist to keep track of the day's finds.

COST: Only $70/person, includes all transportation. Meet at Nature Discovery. With notice, we can also arrange to pick you up at a convenient location for you. Contact us to reserve a spot.

Implications of the Carbon J-Curve

From petri dish contents to populations on the landscape, to larger ecosystems and, yes, especially now to atmospheric systems, scientists are well aware of the universal implications inherent when a J-curve occurs within a closed system of *any* size. Stability is indicated by a relatively flat line. It may waver a bit from the norm but a readjustment always occurs before long. The J-curve is a graphic photo of a system exponentially out of control, careening almost upward into space with a self-regulating thermostat suddenly gone kaput. If the system were one without boundaries the J-curve wouldn't matter. But in a closed system, like within the plastic confines of a petri dish or within the atmospheric confines of a planetary biosphere, the wall is eventually hit. The higher the J-curve from the "norm," the more catastrophic the impending "correction," i.e., crash.

Anyone who adheres to the science (btw, based on stark, unassailable mathematical principles to those who study it) has a duty to inspect every aspect of his/her life then act now to drastically reduce personal carbon output. What you drive, where you go, how extravagantly you live, how wasteful of resources, and what corporations you support through purchases and investments determine your level of contribution to the J.



From http://c1cleantechnicacom-wpengine.netdna-ssl.com/files/2016/08/global-warming-emissions.jpg

If you are taking any steps to shrink your personal carbon footprint we'd love to hear about it!

-JM

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