



THIS ISSUE

Sunday, June 14 / Giant Silk Moths

Raise Giant Silk Moths this Summer

Saginaw Bay Birding Day, June 11

Coffee Break, June 17

Around the State in June

Summer Day Camp Openings Remain

A “Consume-Less” Economy?

A Boost for Baby Wood Turtles

These cute, nine-month-old Wood Turtles have been in our care since shortly after they hatched late last August. We acquired them from MSU herpetologist, Jim Harding. We also have a pair of older, larger Wood Turtles that were given to us by Harding about seven years ago when they were juveniles. We use them extensively in educational programs and exhibits. However, these little ones, which have tripled in mass over their time here, are only with us a short while longer. We will be delivering them back to Harding next week for release along a river in the U.P. from which they were collected – still in the egg.

The Wood Turtle is a rare and declining species found in riverine habitats in the northern part of the state. It requires shallow, flowing waters with adjacent woodland or other natural terrestrial habitat in which it is able to forage like a box turtle. The Michigan Department of Natural Resources lists it as a “special concern” species. This status makes it unlawful to remove one from the wild or to possess one without a state-issued permit.

Harding has been studying Michigan’s dwindling populations for decades and has become very familiar with the factors bringing them down. No surprise – each is directly or indirectly related to man’s activities in the environment. While citizens aren’t expected to flat-out give up each of these activities, with an awareness of how they negatively affect Wood Turtle populations there is opportunity to alter activities in such a way that the impacts are greatly minimized.

In Michigan and elsewhere turtle populations, in general, are experiencing slides related largely to four factors: habitat loss, road mortality, illegal collecting, and raccoons. For Wood Turtles, habitat loss may come in the form of dam construction – a literal road block against their ability to disperse up or downstream. Mortality occurs on roads that run adjacent to northern rivers. Illegal collecting may come in the form of a canoeing family that captures one and takes it home for a pet, or as a bona fide poacher motivated to supply a domestic or foreign black market with individuals of this rare species.

For all turtles, but, especially for the Wood Turtle, the raccoon is a persistent and formidable antagonist to their reproductive success. This is an intelligent, opportunistic omnivore with a keen sense of smell. Populations have burgeoned across the state over the past several decades due to the abundant and myriad means by which we unintentionally feed them. From their perspective agricultural areas are all-you-can-eat corn and soybean restaurants. Landfills and roadside garbage cans also provide a well-

balanced diet for the growing raccoon. Backyard birdfeeders, gardens and orchards provide more grains, vegetables and fruits. Road carnage provides nightly protein.

Since raccoons also have special affinity to shorelines for foraging, those that reside in northern river floodplains wake up and emerge from tree dens at sunset, then head straight for the riverbank. From here they tend to search for animal and vegetable food in one of two directions - up or downstream. In this way Michigan's northern riverbanks have turned into busy raccoon highways.

In June or early July female Wood Turtles emerge from the water and climb riverbanks to locate a suitable place to dig and deposit their eggs. (Did I mention the raccoon's olfactory prowess?) By the following morning, the eggs have been unearthed and eaten by coons. Harding believes that, across the state and across turtle species well over half of all nests are found and destroyed by raccoons. For the Wood Turtle populations he studies it is much worse... Egg-depredation rates are nearly 100 percent!

Concerned that, at this rate, there will soon be no more "woodies" left to study, Harding began rescuing eggs on his sites about seven years ago. When a Wood Turtle female is found in the process of laying, the eggs are collected and brought back to his lab at MSU. The hatchlings emerge in late August or early September. While he has taken some hatchlings back to the site immediately for release, many more are kept and raised in captivity for release once they are through their first or second year.



In June, most turtle nests will be detected by some raccoon's keen sense of smell. Here's the result.

It turns out that, independent of man's and the raccoons' detrimental effects, turtle hatchlings have a *naturally* high mortality rate. Over 90 percent die by one means or another before their first birthday. Enter Harding's "head-starting" program for hatchling woodies. To a minor degree it offsets the excessive egg-depredation at the paws of raccoons and gives a higher percentage of young turtles that would normally not make it a better shot at reaching breeding age. However, the odds are still against these individuals. It takes nearly twenty years for a Wood Turtle to reach reproductive maturity! Harding admits that, at best, it is a limited and temporary band-aid stuck on a problem that requires much more than this to get Wood Turtles off the slippery slope toward endangerment and extinction.

With knowledge like this I often find myself telling audiences in our Michigan Turtles presentations that if I were not educating citizens in this area I would feel perfectly content starting a raccoon extermination business – and feel good knowing I am performing a critical service for the continued existence of Michigan turtles. Raccoons not only destroy turtles and turtle nests, but have a serious impact on ground-nesting birds and other small herps, as well.

Most of the head-start turtles are sent to John Ball Zoo in Grand Rapids where they are reared away from the public eye. These are eventually returned to Harding who marks and releases them at the exact locations along northern Michigan rivers where the eggs were laid. Is it working? Years after release, he has found a number of his marked turtles on these rivers as thriving, growing adolescents— and even one nesting adult female!

When I asked Harding if Nature Discovery could get involved in the program, I was thinking about the educational value, as well. He was all for it. We decided to just take these two as our first effort in the program. We are already feeding and maintaining over 100 Michigan reptile and amphibian individuals here. We also wanted to make sure we could be successful with two before taking on the responsibility of more. Maybe this September we'll take four!

Would you like to know what more you can do in the month of June to give turtles in your neighborhood a better chance of surviving cars and coons? Read the opening essays in our June 2012 and 2013 issues. Here are the links:

<http://naturediscovery.net/pdf/WILD%20TIMES%20June12.pdf>

<http://naturediscovery.net/pdf/WILD%20TIMES%20June13.pdf>

-Jim McGrath

Finding & Rearing Giant Silk Moths

SUNDAY, JUNE 14



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



The skin of this 5th-Instar Promethea, like the Cecropia, is a beautiful blue-green hue.

At 2pm, attend our presentation, **Finding & Rearing Giant Silk Moths**. The largest, most impressive moths on the continent can be found right here in Michigan, yet, their numbers have declined dramatically over the past few decades. Beautiful photographs enhance this lively Powerpoint presentation featuring the life cycle and ecology of Cecropia, Polyphemus, Promethea and Luna Moths. Over the past few weeks, females have begun emerging from cocoons, attracting mates, and laying eggs. See and hold cocoons of all four species. See huge newly-emerged live moths in the “mating cage,” and more!

Then, take advantage of this unique opportunity. All paying participants will receive one Cecropia larva to rear at home over the summer, along with detailed care instructions. Additional Cecropia larvae will be available on this day only for \$1 each. Fertile eggs or larvae of other species will also be available for sale with complete care instructions. This is an AWESOME summer project for enthusiasts of all ages.

As always, come early or stay late to take a guided walk on our trails or to interact with the largest collection of live Michigan reptiles and amphibians in the state, including two unprecedented “grand slams” – all 10 turtles and all 13 frogs found in Michigan! Photo ops galore!

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

Raise Giant Silk Moth Larvae this Summer



With wings closed, this freshly-emerged Polyphemus melts into a background of dead leaves.

**A Fantastic Summer Hobby!
A Unique Gift!**

Eggs and young larvae are available for sale now thru early July.

Polyphemus, Cecropia, Prometheus, and possibly Luna Moths!

Inquire about availability of each species.

4 eggs/larvae (per species): \$12. Additional eggs/larvae \$2 each while supplies last. Includes detailed care instructions. Contact us to make purchase arrangements.



A huge, late 5th-instar Cecropia larva eats more than 10 whole leaves a day!

Saginaw Bay Birding Day Thursday, June 11; 6am to 5pm

Join Jim and an intimate-sized group of adults on a day trip to the tip of Saginaw Bay. Nyanquing Point State Wildlife Area, Pinconning County Park and Bay City Recreation Area offer a wealth of birds that are difficult to find in other locations. For instance, it is one of only a handful of sites in the state to find breeding Yellow-headed Blackbirds. Rails, Moorhens, Bitterns and other marsh species are common throughout extensive habitat. All participants will be provided with a Michigan birds checklist to keep track of the day's finds. Weather permitting we should top 60 species by day's end. Meet at Nature Discovery.

\$65, includes all transportation. Contact us to register. Enrollment is limited to 5.



Blue-winged Teal are common nesters in area marshes. Photo © Steve Sage.



Catch Us on Coffee Break Wednesday, June 17

Jim is scheduled to appear on Wednesday, June 17 at 9:45am, discussing giant silk moths and more. 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.

Around the State in June



- ❖ Saturday, June 6: 9am-1pm. MI Reptiles & Amphibians Exhibit; Kirtland's Warbler Festival, Roscommon.
- ❖ Sunday, June 7: 10am-2pm. Giant Silk Moths Exhibit & Guided Birding; Williamston Farmer's Market, Williamston.
- ❖ Monday, June 8: 10am. Live MI Insects Presentation; Bath Twp Parks & Recreation
- ❖ Saturday, June 14: 10am-2pm. MI Frogs & Snakes Exhibit; Get Outdoors Day, Baldwin.
- ❖ Tuesday, June 16: 11am. MI Reptiles & Amphibians Exhibit; Charlotte Public Library, Oak Park, Charlotte.
- ❖ Friday-Sunday, June 19-21: 1-5pm. MI Reptiles & Amphibians Exhibit; Milliken State Park, Detroit River Days.
- ❖ Saturday, June 27: 11am-1pm. MI Reptiles & Amphibians Exhibit; Otsego Conservation District, Gaylord.
- ❖ 2-5pm. Michigan Reptiles & Amphibians Exhibit; Ludington State Park.

A Few Summer Day Camp Openings Still Remain

Michigan Field Birding (3)

June 22-25; for 9 yrs & older

Nature Discovery (4)

July 6-9; for 7-9 yr-olds

Butterflies & Moths (3)

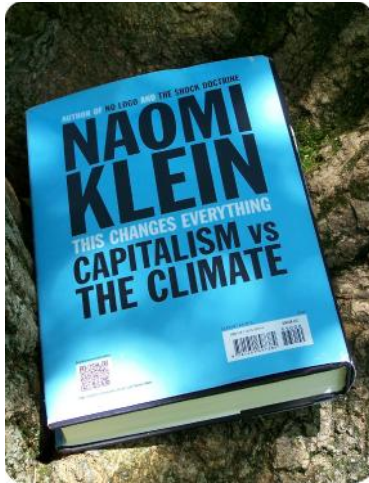
July 27-Aug 1; for 9 yrs & older

Details:

<http://naturediscovery.net/pdf/summercamps.pdf>

The secretive Yellow-billed Cuckoo is more often heard than seen. Students in the field birding camp will learn to recognize its mechanical "ka-ka-ka-ka-kowlp-kowlp-kowlp-kowlp" call. Photo © Steve Sage.





A “Consume-Less” Based Economy?

It's blasphemy to the corporate gurus that strive to keep our runaway “consume-more” based economy on track. In order to hang on to the status quo as long as possible, they've effectively lulled society into binge consuming - living as if under an accepted assumption that we live on an infinite planet with infinite resources and infinite air, water and land in which to dump the byproducts of our hyper-consumption. *This Changes Everything: Capitalism vs. the Climate* by Naomi Klein, explains that the root of our looming carbon-climate problem is, in fact, our investment in a completely unsustainable economic system. If we are to give ourselves a fighting chance to avert ecological disaster, this system needs to be turned on its head, the sooner the better. Must-reading for everyone. Buy it. Borrow it. Read it now. We'd be glad to lend you our copy!

-JM

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