



*We use the Black Ratsnake as an “ambassador” to humans for the benefit of all persecuted serpents.*

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### **On the Life, Trials & Teachings of the Michigan Black Ratsnake**

Our personal experience with the Black Ratsnake spans nearly twenty-five years. Some encounters have taken place in the wild, but the most contact by far, involves daily interaction with an in-house serpentine clan that has now extended over two decades and three generations.

In the wild this is a snake of southern forests of the Eastern United States – an adept tree-climbing constrictor that, in the summer months, spends more time over our heads than on the ground. Its primary prey are small and warm-blooded – birds, mice, squirrels and their nest contents. (From a purely ecological slant if this snake is to be named for a common prey item in its natural realm rather than for that of a non-native barn denizen, we’d vote for “Black Chipmunksnake.”) The northern limit of its range extends about half way up Michigan’s Lower Peninsula, however, the range extends still further along the west side of the state due to Lake Michigan’s moderating effect on winter temperatures. Specimens have been reported on occasion as far north as the Sleeping Bear Dunes area.



Within our menagerie of over 40 Michigan-native reptile and amphibian species, the Black Ratsnake, by far, gets the most usage. Why? In short, we call it The “Wow” Factor - a combination of superlative traits and elements that make it the perfect educational specimen: 1. Size, 2. Behavior, 3. Rarity, then, ultimately, and most importantly, 4. Conservation/Education message.

1. Size. Largest snake in the state! Good or bad, snakes in general elicit strong reactions from people of all ages. Of seventeen species found here, this is the largest. Some field guides list its

maximum size up to eight feet, however, from our experience most individuals seem to max-out closer to six... Still an impressive-sized snake for a northern state! Not surprisingly, the larger the snake the more impressed the audience.

2. Behavior. Ridiculously gentle and highly handle-able! During one of our many presentations and exhibits throughout the year a first reaction on seeing one of our ratsnakes out in the open, either in hands or across shoulders, often ranges from caution to alarm. We encourage skeptics to closely observe its movement and demeanor – far from stressed or alarmed. We describe it as “calmly exploratory.” The snake appears to be happy to be out of the tank or traveling cloth bag. It moves in slow motion across arms, then up, and around shoulders as if it were climbing a human tree. The snake knows it is above ground, and, just as it would do on a limb high in a forest tree, often coils its muscular body and tail firmly around a forearm, a shoulder or even a neck to ensure it doesn’t fall. Indeed, handling this snake makes you feel as though you are more accurately “wearing” than holding it!
3. Rarity. Very! By far, most Michigan citizens will never see one in the wild. It bears mentioning that this snake’s existence is already stressed here due to longer, colder winters than more southerly populations. Surely, it has never been as common as in the deciduous forests of Georgia. Therefore, it takes much less of a push from human populations here to nudge it toward the brink of existence. Currently, the Michigan DNR lists it as a species of “special concern.” This status protects the snake against direct persecution (highly unenforceable, btw), but gives no consideration to habitat protection, granted to species listed as threatened or endangered.

Three widespread societal factors lend to the collective push: 1) land use, 2) infrastructure, and 3) ophidiophobia. For the ratsnake these, respectively, translate into habitat loss, road-kill, and direct persecution.



*Its cryptic pattern makes a hatchling ratsnake less detectable to potential predators.*

- 1) Obviously, most forest habitats in the lower half of the LP have been cleared for agriculture and urbanization. Scattered postage stamp woodlots cannot sustain populations of such a large snake. Viable populations require larger tracts.
- 2) Like many other reptiles the ratsnake experiences a naturally-high mortality rate in its first year or two of life. Smaller individuals fall prey to a larger pool of potential predators. However, the handful of lucky ratsnakes that survive to adulthood have almost no natural predators. These chosen few are responsible for continuing the species to the next generation. Enter a world with ever-increasing roads and cars. How can this snake’s natural reproductive order not be dealt a lethal blow? A road-crossing adult ratsnake spans nearly a full traffic lane. The motorized vehicle acts as an unnatural, yet, formidable predator that specializes on large snakes. It is easy to visualize how an increase in road traffic can severely decimate populations of large snakes regardless of adjacent habitat quality.
- 3) Again, irrespective of habitat quality widespread ophidiophobic tendencies, particularly in those individuals that translate their fear into aggression, pose a significant threat to local populations. Just as with the impact of road-kills, the larger the snake the more likely it will fall victim to direct persecution at the hand of such a person.

A Black Ratsnake encountered in the wild responds in a shy manner toward larger approaching fauna, including humans. Given the chance it always retreats. A nervous ratsnake will often let you know by vibrating its tail. However, like so many other animals that would prefer to go the other way, if cornered, grabbed or struck, the wild ratsnake will coil, flatten and prepare to defend itself. For the record, as with most non-venomous species, the bite is hardly a big deal. Its sharp, short teeth are meant for gripping prey, not killing. Indeed, a ratsnake is incapable of killing even a mouse with its teeth. If you were to be bitten by one, I think you'll survive. We have.

4. Conservation message. The components responsible for destroying Black Ratsnake populations in Michigan are tricky to curtail. It is difficult to slow the momentum of the wheels of such a large and complex society to initiate any change of direction. Shrink cropland to allow more forest to grow? Not likely... Fewer roads and less cars? Get real...

However, an accumulation of enlightened individuals can and will decrease the impact of each one of these devastating components. The faster the better if this impressive snake is to continue to have a future within our borders. A conscious, state-wide effort in public education has the potential to significantly lessen the detrimental effects of habitat loss, road mortality and direct persecution, and there is no more logical place to start than in our schools.

The result of no education is already staring us in the face. A poll of adults in Michigan would surely reveal that the vast majority cannot even name the largest species of snake that resides here. With that basic inability comes ignorance of every other aspect related to the life history, ecology and behavioral demeanor of the Black Ratsnake mentioned in this essay. Really, how effectively can the MDNR's "special concern" protective status actually *protect* this snake in the face of such widespread oblivion?

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*Kids at a Nature Discovery day camp get an ultra-close look at a ratsnake constricting a deer mouse. Far from being repulsed the children are accepting of each one's respective role in the food chain.*

Most of us, even armed with awareness and conscious effort, may never cross paths with this rare snake in the wild. So, how can we make a positive impact? Support the work of conservation groups like Michigan Nature Association ([www.michigannature.org](http://www.michigannature.org)) or Michigan Nature Conservancy ([www.nature.org/michigan](http://www.nature.org/michigan)). These groups target, then purchase and protect large swaths of acreage throughout the state that are known to harbor rare species of flora and fauna. In the lower part of the state, not too surprisingly, the Black Ratsnake is confirmed on the inventory at a number of sanctuaries.

The Black Ratsnake is the perfect poster child and attention-grabbing prop for our mission: "enhancing awareness of, and sensitivity toward Michigan's diverse living resources through natural science education."

Thanks to past breeding success here, we've had opportunities to pass young ratsnakes on to other educational settings, including Binder Park Zoo in Battle Creek, Gahagan Nature Preserve in Roscommon, DeGraaf Nature Center in Holland, Sarett Nature Center in Benton Harbor, and Chippewa Nature Center in Midland. Two private area schools in which we are regular weekly specialist teachers on Michigan wildlife topics have their own class mascots. A kindergarten classroom at Montessori Children's House in Lansing is now home to a two-year-old ratsnake. An elementary classroom at Stepping Stones Montessori in East Lansing acquired a young ratsnake from us five years ago. It is now



*Our annual "portraits with snakes" of students at local Montessori schools is a hit with kids and parents alike.*

an adult nearly six feet in length. None of these kids fear them. The snakes are taken out and handled regularly. The children know, understand, appreciate, and – ask any of them - would like to see wild ratsnakes continue to survive in their state.

Finally, we can't help but mention that our ratsnakes (as well as a number of others) are internet stars, made famous through an MDNR video series on Youtube called *Sixty-Second Snakes* ([www.youtube.com/watch?v=LtJbYI4fh1s](http://www.youtube.com/watch?v=LtJbYI4fh1s)). It has now received over 20,000 hits! The entire video was recorded with our specimens and at our facility.

During open hours on Sunday, December 13, we've got plenty of entertaining, educational, and hands-on opportunities with our famous Black Ratsnakes. For details, read on...

*-Jim McGrath*

## **OPEN HOURS**

### ***Michigan's***

### ***Black Ratsnake:***

### ***Extra "LRG"***

***Sunday, December 13***

***1 to 5pm Admission \$5***



That's Extra "Large, Rare and Gentle!" Few Michigan citizens could name our state's largest snake, much less, know anything else about its habitat, its behavior, its struggle to survive among us, and its gentle disposition. Meet and interact with Black Ratsnakes of all sizes all afternoon. At 2pm, we will present *Michigan's Black Ratsnake: Extra LRG*. Through Powerpoint images and use of live specimens learn about the identification, behavior, and ecology of this forest-dwelling tree-climbing constrictor.

Learn the human-related factors contributing to its decline, and what you can do to better its chance to survive here.



Meet and hold rat snakes of all ages and sizes. Wear the large ones around your shoulders! After the presentation, we will feed frozen, thawed mice to each of the ratsnakes. Audience members will also have the opportunity to witness a snake constrict and consume a wild deer mouse! Photo ops, galore! We'll even take your photo with a ratsnake of your choice and email it to you. Visit the rest of our huge interactive Michigan reptiles & amphibians zoo, too!

## *Catch Jim on Coffee Break Dec 17*

Jim is scheduled to appear on Thursday, December 17 at 9:45am, discussing the annual Christmas Bird Count and other wildlife 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).



## *Holiday Birding Day Camp*

**Monday, December 21 8:30am to 3:30pm**

For 3<sup>rd</sup> grade students and older. Join Jim for a whirlwind day of seeing how many bird species we encounter in a 7-hour span. We'll drive to Maple River State Game Area, then visit a number of natural areas around Lansing. Bald eagles, peregrine falcons, shrikes, snow buntings and many, many more. Each student will be provided with a personal Michigan Birds checklist to keep a running tally species through the day. At day's end, arrange for your student to be dropped right at your door! Pack a bag lunch, binoculars and warm clothes. Limited to 5. COST: \$65/student. Contact us to register.



## *Holiday Break Day Camps*

**Monday thru Wednesday, December 21-23;  
9am-3pm**

Recommended for students, K & older. Enroll for one, two or all three days of hands-on Michigan nature. Participants will interact with over 100 animals within our Michigan reptiles & amphibians zoo! Identify, handle and feed many of our 12 species of snakes, 10 species of turtles, 13 species of frogs and 9 species of salamanders. We'll watch and identify birds at our busy feeders and check them off on personal checklists. Lots of time outside and on the trails, as well! A photo of your student in action will be emailed to you. Hot lunch, hot chocolate and snacks provided.

\$55/student/day. Advance enrollment required.



# *Michigan Owls & Owling*

*Sunday, December 27*  
*7-9pm*

The evening begins with a Powerpoint presentation over hot beverages and a snack. We'll present *Michigan Owls Up Close*, featuring all 10 species found in the state, covering identification, vocalizations, behavior and ecology of various species. Weather-permitting, we will then go out and attempt to "call one in" with audio recordings. Dress warmly, and don't forget your binoculars and camera! Advance registration required. Maximum 10 participants, so sign up early. Not recommended for small children. Fee: \$12/person.

## *Guided Mid-Michigan Area Birding*

*Wednesday, December 30*  
*8am to 4pm*

Join an intimate group of only 5 adult participants on a guided trip in our minivan to a few prime Lansing-area birding locations. We will watch local internet bird posts before determining an exact itinerary for the day. Potential destinations include Maple River State Game Area in search of eagles, shrikes, snow buntings and more; also Potter Park, Moores Park, Cooley Gardens and other stops. Specialty birds are commonly found at each of these locations, too, including Peregrine Falcons, which call the power plant across the river from Moores Park home. Participants will be given bird checklists to keep track of the day's finds. We will stop for lunch at a local restaurant to be determined. Advance registration required. FEE: \$45/person.



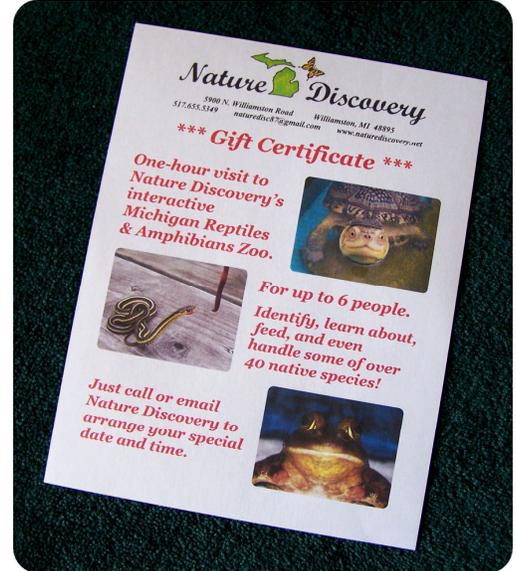
*Merlin through the spotting scope. This small, active, northern falcon hung around the Red Cedar River in Potter Park most of last winter.*



## *Thank you, Judy & Allen!*

Thank you to Judy and Allen Marr for their generous donation to Nature Discovery! Judy has participated in many Nature Discovery programs and field trips over the years. When we mentioned we'd like to extend our thanks in the newsletter, she asked us to add this, for which we are further grateful!: "We consider the McGraths and Nature Discovery among our local gems, and urge everyone to take advantage of this treasure in our back yards to learn nature's lessons."

# \*\*\*\*\* GIFT IDEAS \*\*\*\*\*



**FROGS OF THE GREAT LAKES AUDIO CD: \$15.** If you are ordering locally we may be able to deliver it to your door free of charge! For more info about the CD visit the page on our website.

**“A VISIT TO NATURE DISCOVERY” GIFT CERTIFICATE:** For adults, families. Base price is only \$5/person/hr. Upon payment we will email you a certificate to print and present to the recipient. Gift certificates also available for Owling Nights, Birthday Parties and other ND functions. Contact us for more information!

## “Arctic Deeply” Focuses on Climate Change Impact

Here is a column by *USA Today*'s Rem Rieder about a new informational website due to be functioning on December 8.

[www.usatoday.com/story/money/columnist/rieder/2015/11/25/rieder-immersive-coverage-arctic-climate-change/76374238/](http://www.usatoday.com/story/money/columnist/rieder/2015/11/25/rieder-immersive-coverage-arctic-climate-change/76374238/)

If you visit [www.arcticdeeply.org](http://www.arcticdeeply.org) now, you can enter your email address to receive a launch announcement.

-JM

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