



The diminutive, state-threatened Blanchard's Cricket Frog.

Nature Discovery possesses a special permit from the Michigan Department of Natural Resources to keep our huge educational menagerie of Michigan-native snakes, turtles, frogs, and salamanders. Among many other clients and venues, the MDNR uses our services for presentations and exhibits at state parks and special events. Most of the specimens are wild-caught. Others (especially those with state-protected status) are not taken from the wild but acquired from previously-captive or captive-bred situations, or from thriving populations outside the state.

Through no lack of effort Nature Discovery houses two “grand slams” - all ten turtle species found in the state as well as all thirteen species of frogs. The uniqueness in these accomplishments is evinced in that we’ve never seen these complete collections in zoos or anywhere else around the state. The turtle slam was attained in 2010 with the purchase of our tenth - a captive-bred hatchling Spotted Turtle, Michigan’s only state-threatened species. The frog slam was acquired the same year, but keeping this collection complete has been a far more tenuous endeavor. In fact, we’ve found it nearly impossible to keep all thirteen alive and kicking for as much as a year at a time. Thus, this particular grand slam has come and gone every year since. Currently we have it, but we’re quite certain to lose a species or two before we can replace them come spring.

The relative stability of the turtle slam is primarily due to their longevity. The Eastern Box Turtle may reach one hundred years in captivity. Those with the shortest life spans, like the ubiquitous Painted Turtle, still reach twenty years or more. Keeping all of them well-maintained and healthy assures we’ll keep the complete collection on hand with little need to seek replacements for years to come.

On the other hand, a ten-year-old frog is ancient. Most species don’t come close. The life spans of Michigan’s three smallest species, the Northern Spring Peeper, Western Chorus Frog, and Blanchard’s Cricket Frog, rarely exceed two years. Thus, when a given adult individual is captured, it is already well into its life. Most individuals in our care don’t make it more than a year.

Although we’ve noticed declines, a number of species are still fairly easy to find in the warmer months. These include the Peeper, Eastern Gray Tree Frog, Eastern American Toad, Wood Frog, Northern Leopard Frog, Green Frog, and Bull Frog. The remaining six species are locally absent in the greater

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Keeping Grand Slam of Michigan Frogs Requires Dedication, Tenacity

Lansing Area. Their limited distributions require long drives to secure specimens. Once the destination is reached it is still no easy task. Even within their Michigan ranges all are uncommon-to-rare.

The Chorus, while not rare, is locally less common. To find these during the breeding season, late March to mid-April, requires that I wade into any one of a number of scattered neighborhood roadside vernal ponds after dark. These frogs emit their mechanical-sounding, ascending “creeks” day or night if the temperature is right, but they can be maddeningly difficult to spot during the day, camouflaged among dead tufts of grass emerging from the shallow water. Also, when they notice the movement of a large mammal approaching the pond, they stop calling, making the search even more difficult. However, under the cover of darkness I can slowly wade through the frigid water, close-in on the creaking noise, spot it with a flashlight beam and catch it. Did I mention the water is *cold*? Numbingly!

To secure a Chorus Frog outside this short breeding window requires a warmish, rainy night and abbreviated sleep. Such nights offer ideal conditions for frogs of any species to disperse to distant habitats. Rural roads, especially in proximity to wetlands, are busy with frog-crossings. I creep the car along any neighborhood back-road after midnight. The high-beams illuminate the wet asphalt. I lean forward in the driver’s seat peering through the intermittent wiper slash and rain-dappled windshield for tiny, hopping frogs. My attention is especially keen as I approach specific roadside wetlands where I have heard Choruses calling in the spring. Every frog that appears about an inch in length – hopping or remaining still – requires me to quickly shift the car to “park,” then run in front of the vehicle and snatch it before it hops into the overgrowth. Now, is it a Peeper or Chorus? The lines on its back will tell. Within a lightly clenched fist I carry the frog in front of a headlight and carefully open my hand to catch a glimpse of its back. The lines on a Peeper always cross, often forming a perfect X. Those on a Chorus run parallel. Since Peepers are much more common than Choruses I open my hand to an X far more often. When in need of a Chorus Frog only about one in four such rainy night drives - lasting about an hour on average - results in a proper reward. On most nights I return wet, tired and mildly frustrated.



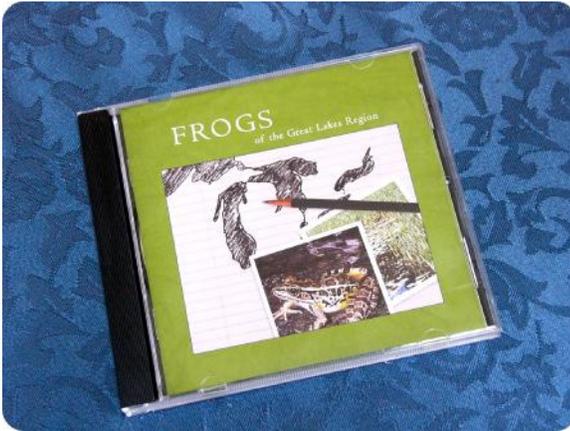
The Mink Frog has a Canadian range. In Michigan, the U.P. is the southern limit, however, you won’t find this species in just any roadside pond. It has declined dramatically over the past few decades. We still find individuals in relatively undeveloped, undisturbed or more pristine wetland habitats. There is a good population at Seney National Wildlife Refuge. We secured ours by kayaking up the Indian River northwest of Manistique, then spending hours amid many misses before netting a couple over the side.

Conversely, the Fowler’s Toad and state-threatened Blanchard’s Cricket Frog are southern species. Lower Michigan is the northern limit of their ranges, and both species’ populations continue to slide. The Fowler’s Toad can be found sporadically across the bottom row of counties, then northward along those that border Lake Michigan – an L-shaped distribution. The Blanchard’s Cricket Frog population has been reduced to only around twenty wetlands in the southern quarter of the Lower Peninsula. Under no circumstances are we permitted to remove this species from the wild within Michigan’s borders.

The Cope’s Gray Tree Frog offers its own unique challenge. It looks so identical to the much more common Eastern Gray Tree Frog the MDNR only uses one photo to represent both species on its *Frogs of Michigan* poster. The sole means of distinguishing between them in the field is by nuances in their vocalizations. Both emit a burst of a trill, but that of the Cope’s is harsher and more abbreviated than that of the Eastern. To complicate things further, these two species are highly nocturnal and seldom call during the day. No wonder the exact distribution of the Cope’s Gray Tree Frog is poorly understood!

In June of 2009, our family embarked on a two-week driving vacation to southern Arizona. On the return trek we stopped at a lake in central Illinois just as the sun was beginning to set. To our amazement Fowler's Toads, Blanchard's Cricket Frogs and Cope's Gray Tree Frogs were vocalizing abundantly from a shallow, weedy inlet. By nightfall we had secured specimens of all three species, so rare north of the Michigan border, yet, dirt-common just a couple hundred miles south of it. Indeed, the Blanchard's Cricket Frog, fading toward extinction in Michigan, may be the most abundant frog across southern wetlands. Every year since then, Carol and I make a 700-mile round trip to replenish specimens of these three species. We feel good knowing we are removing our handful of educational specimens from within dense, thriving populations rather than from the sparse populations closer to home.

Our most recent act of perseverance to keep up the Grand Slam of Michigan Frogs occurred this September. The Pickerel Frog is a starkly spotted frog that could easily be mistaken for a Leopard Frog. However, where the spots on a Leopard's back lean more toward circular and ovular, those of the Pickerel are more chunky or squarish in appearance. While not officially granted any special state-protected status yet, it definitely warrants it. This species has a special affinity to cold, clear, spring-fed wetlands. In any other wetland it is virtually impossible to find.



Through most of the 1990s I set out to accumulate quality audio recordings of all thirteen Michigan frog species with an eye toward making a CD with educational and environment components to help interested people learn to identify and appreciate Michigan's frogs and their vocal diversity. (Check out the website for more about *Frogs of the Great Lakes Region*.) By the end of the decade, the Pickerel Frog was one of the last recordings I needed to attain, yet, I had never even seen one in the

wild. A biologist at MSU's Kellogg Biological Station (located in Kalamazoo County just south of the Barry County Line) informed me that a number of spring-fed wetlands in this area harbored Pickerel populations. Unfortunately, most were on private properties.

He gave me the contact information of a retired couple who shared a small spring-fed lake on the back of their acreage with several other landowners. The couple allowed me to explore this wetland during any season. While I did not get recordings of Pickerels from here (I found some calling on a roadside wetland in the same neighborhood.) I was able to secure live specimens to add to our growing zoo.

I last visited Shirley and Jack Wood's property on Hickory Road in southwest Barry County over the summer of 2006. At that time, I caught a couple of small, first-year Pickerels to replace the first pair that had grown old and died. In 2011, the first of these died. Amazingly, the second still hangs on today. At eight years old, this frog looks its age. It is feeble compared to the livelier younger frogs sharing its tank. It is slow and clumsy in its attempts to catch crickets dropped into the tank. Really, our geriatric Pickerel Frog could croak any time.

On a sunny day in early September Carol and I had some business in Battle Creek. Since we were fairly close to the Woods' property we decided to take a detour before we returned home. As we approached the driveway I remembered the tasteful plaque with the neatly-chiseled surname attached to a tree next to their mailbox. However, when I last saw them eight years ago this couple appeared well into their retirement years. Could they still live there? Sure enough, as we pulled up to the driveway entrance, not only was the plaque removed, but something much more obtrusive hung in its place. A big hunk of OSB, haphazardly-spray-painted in red, bellowed, "STAY OUT" to any and all who passed. With little conversation we opted to *not* approach the latest residents about froggin' on their property.

Two weeks later: Carol and I were winding down after another long day. It had been a warm one. The overnight forecast called for rain on the leading edge of a cold front. As we started to contemplate turning off the TV and heading up to bed, intermittent drops began rapping the window panes, then quickly escalated into a steady, warm pour.

I yawned and commented, “Frogs are going to be moving tonight.” Carol nodded. Then, I added, “I’m tired, but I shouldn’t go to bed.” Immediately, she knew, and said, “You’re thinking about driving all the way *there*?” The Woods’ old neighborhood is eighty miles from our house. On the other hand, I didn’t have any appointments in the morning so I wouldn’t have to get up very early. Plus, if I didn’t go we’d run the risk of possibly blowing our best chance to secure a fresh Pickerel Frog until next year. I had to go. The imminent downside? For all the time, miles, gas, and sleeplessness, the chances of finding one on the road would be anything but automatic.

I reached the area at 11:30pm. En route, frogs of a half dozen species were scattered on the roads. The rural neighborhood surrounding the spring-fed lake is less than a mile from the north edge of Gull Lake in the southwest corner of Barry County. I commenced the four-mile circuit westward on unpaved Hickory Road amid intermittently heavy and light drizzle, averaging ten to fifteen mph so as not to miss any frogs on the high-beam-lit road in front of me. My entire route was generously peppered with abrupt stop-and-hop-out frog-checks just to be sure. I passed the old Wood place in a quarter mile, then, eventually made two more lefts on other unpaved roads before T-ing at paved M-43, a major thoroughfare that was devoid of traffic at this hour. Another left and another mile drive would return me to Hickory Road. After a full circuit and forty-five minutes elapsed, I found Green Frogs to be the most common crossers, followed by Wood Frogs, Gray Tree Frogs, American Toads, Spring Peepers and Leopard Frogs. No sign of a Pickerel.

As long as it remained wet and warm I knew frogs would continue to move, so I turned left on Hickory to start Circuit #2. Fast-forward forty-five minutes. I rolled up to the original intersection yet again Pickerel-less. If I made a right on Hickory, I’d be homebound in soaked surrender toward my dry bed. I hesitated only briefly before turning left.

Circuit #3, more of the same. Pickerel Frogs are declining throughout their range. Had they declined here? Were any left here at all? I coasted still again up to Hickory Road. 1:45am... I could *not* give up! As I cut the wheel hard to the left, the realization - unthinkable a few hours ago – struck me. *If I don’t come up with a Pickerel, I’ll be driving this loop until daylight.*

Not a minute into the fourth loop, a medium-sized frog hopped out of the grass at the edge of the road to the left. I braked as it made rapid successive hops toward the opposite side. Was I imagining or did this one show a different cadence to its hop? One, maybe two more hops and it would be in the overgrowth. I rushed into the rain and grabbed it just as it reached the edge. I could barely make out distinct spots of some quality as I closed my hand around it. I rushed in front of a headlight and carefully opened my hand for a brightened view. Chunky spots never looked so good!



I re-entered the car and slipped the prize into a plastic carrying cage with a combined sense of elation and relief. I pulled ahead and started looking for a safe place to turn around on this narrow road, now with muddy, soft shoulders. In another tenth of a mile it widened, and I cut into my five-point turn. Just then, a somewhat smaller frog hopped into the glare of the headlights. It was close enough that I could make out a spotty pattern. *Oh, what the heck...* I jumped out to look more

closely. *Another one?!* The first was an adult frog, but this was only two-thirds the size, and definitely a young-of-the year.

I can't begin to explain sudden back-to-back Pickerel Frogs after searching for hours through well over one hundred other frogs on this rainy night, but what a testament to not only the rewards of tenacity, but the perseverance required to keep up the Grand Slam of Michigan Frogs. What's more, an explanation has materialized with crystal clarity over these past several years as to why we've never seen this complete collection anywhere else.

At 3:30am I finally stepped out of the car on our driveway into a frigid, northerly breeze. The cold front had arrived. Carol had said she would "wait up," albeit, from a horizontal position on the couch. She heard me come in and sleepily rose. "Any luck?" I handed her the cage. "All right! They're so *beautiful!*" I agreed.

-Jim McGrath

***Making the Ultimate
Winter
Bird Feeding
Station
for Maximum Birds
& Enjoyment
Sunday, December 14
1 to 5pm; \$5/person***



What's the secret to attracting the greatest abundance and variety of birds to the feeders outside your winter window? Think of them as customers at a "bird restaurant" – with you as the manager! When you consider the preferred menu of your potential guests in addition to the most comfortable "seating" and overall ambiance, you'll turn your feeding station into the squawk of the town.

At 2pm sit-in on this lively 90-minute Powerpoint presentation traversing all aspects of attracting winter birds through the correct management of your own upscale avian eatery. Does offering a mix of seeds attract the most birds? Not necessarily... How does hanging only one style of feeder limit the number of visiting birds? Participants will view beautiful color images while learning the preferences and behaviors of familiar year-round backyard residents as well as a host of songbirds from the far north that would like to adopt your yard as their winter getaway. Seeds, feeders and other considerations discussed in the presentation will be available for inspection during and after the program.

Come early or stay late to visit, and interact with our huge zoo of Michigan reptiles & amphibians. Take a personalized guided walk on the trails, too. Knowledgeable staff is on hand throughout the day to help visitors of all ages make the most of their visit.

Catch Jim on Coffee Break Thursday, December 18

Jim is scheduled to appear on Thursday, December 18 at 9:45am, discussing the annual Christmas Bird Count. 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.



Pre-Holiday Satur-Day Camp Saturday, December 20, 10am to 4pm

Who isn't busy present-shopping and other pre-holiday preparations the week before Christmas? Here's a chance to drop your child or children off for a special wildlife day camp here. Get things done knowing your child, age 4 and older, is naturally-engaged. See the description of our holiday break day camps below for details of the day's activities. Hot lunch, hot chocolate and snacks provided. \$55/student/day. Advance enrollment required.

Holiday Break Birding Day Monday, December 22, 8am to 3pm

Recommended for students, 3rd grade and older with a special interest in wild birds. Join Jim for a whirlwind day of seeing how many species we can encounter in a 7-hour span. We'll drive to Maple River State Game Area, north of St. Johns, then return to bird a number of locations in the Greater Lansing area. Bald Eagles, Peregrine Falcons, Shrikes, Snow Buntings and maybe even a Snowy Owl, are some of up to 40 species we may encounter by day's end. Each student will be provided with a personal Michigan Birds checklist to keep a running tally through the day. At day's end, we may be able to arrange for your student to be dropped right at your door or at another convenient location! Pack a bag lunch and binoculars and dress warmly. \$65/student. Enrollment limited to 5. Contact us in advance to register.



Holiday Break Day Camps Monday & Tuesday, December 29 & 30 9am to 3pm

Recommended for students, K & older. Enroll for one or both 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 Nights By Appointment

Do you have a small group, family and/or friends, looking for a unique night of natural entertainment? Make an appointment with us almost any night, weekday or weekend, before or during the holidays. The two-hour 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, plus one more that's now considered extinct here. We'll offer insight on the identification, vocalizations, behavior and ecology of each species. At the presentation's conclusion we will go into the night and attempt to "call one in" with audio recordings for a close encounter. Dress warmly and don't forget your binoculars and camera! Maximum participants recommended: 10. Not recommended for small children. Contact us for details and rates.



Do the Right Thing: Our Carbon Footprint Shrinks Again

Three years ago we blew a couple thousand dollars'-worth of extra insulation into our walls and attic. Two years ago we converted our home heating from dirty oil to much cleaner geothermal. This past month has allowed us to check off two more carbon footprint-shrinking goals: A new metal roof and a new (used) Prius. The metal roof lasts a lifetime, not to mention a parting of the ways with less-durable, fossil-fuel-based, tar shingles. Whether you re-roof with standard shingles or metal, be sure the roofer sends the old ones to a recycling facility and not to a landfill. The Prius needs no explanation other than "46 mpg." Considering a metal roof, a Prius, or geothermal? We'd be glad to answer questions regarding our experience or show you ours. We'll even let you test drive the Prius! It's all about encouraging anyone to "do the right thing" when it comes to environmentally-responsibility living.

Become a fan of *Nature Discovery* on Facebook!



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