The Living Natural Features of Our Four Townships Ross, Richland, Barry and Prairieville

Written by Joe Johnson, Wildlife Biologist
Formatted by Karen Charleston, Wildlife Technician

We need your help to look for:

Hundreds of Plants

300 Birds

24 Reptiles

19 Amphibians

44 Mammals

Forest

Lake

Grassland

Wetland

The Four Township Water Resources Council recently sat down with a local biologist, simply known as "Old Joe," to record his wealth of knowledge and experience with the plants and animals of the four-township area. As some of you may already know, Old Joe has been around these parts for a long time. How long? Well, no one really knows exactly how long he's been walking the forests, grasslands and wetlands of the area, but we do know he's been around long enough to know a lot about the four townships that surround Gull Lake. Here is what Old Joe had to tell us…

No matter where you look, our townships have a tremendous diversity of plants and animals. Habitat is the key to wildlife diversity. Let's see if I can help you understand habitat and diversity. Habitat is similar to what we call our hometown. Humans rely upon working farms, schools, government, hospitals, stores and landfills near our homes, just the way the plants and animals depend on habitat for the things they need to live, grow and produce offspring. Habitat equals a home, with food, water, shelter and space. The abundant and diverse high quality wetlands, lakes, streams, forests and grasslands of our four townships are essential to wildlife diversity. The more diverse a habitat is, the healthier it is.

Just as successful human communities require different kinds of people (such as farmers, teachers, doctors and garbage collectors) to do different types of jobs that enhance our survival and quality of life, a wildlife community is also strengthened by diversity. Diverse plant communities are the foundation that wildlife depends on. Most animals eat plants or their seeds, a few animals eat the plant-eating animals, some eat both plants and animals, and a couple clean-up dead animals. So what's wrong with one plant, one herbivore, one carnivore and one scavenger; why do we need more than one of each? Pretend you are a snake and that frogs are a major part of your diet. Now pretend frogs are like ice cream; you need some everyday. Would you rather have a choice of 12 kinds of frogs (or flavors of ice cream) in your neighborhood, or just one? The diversity of flavors is appealing, but of more importance is the trouble you would have getting ice cream if the company that made just one flavor went out of business. Sometimes particular types of frogs fail to reproduce.

Few areas in southern Michigan even come close to having as many kinds of plants and animals as the four-township area has. We all need to learn about our rich natural heritage and how to conserve it for generations to come.

Looking for plants

Photos by John Stage and Bruce Hood

A lot of people probably already know this, but don't think about it enough: "plants are the foundation upon which all animals depend." Of the 2,300 native plant species in Michigan, several hundred can be found in the four-township area. For example, I have seen 98 kinds of plants in a Richland Township wetland no larger than a football field. At least 100 of our plants are very scarce and more than 60 of them are considered rare and protected by law.

Try to imagine what our area looked like in the early 1800s, before the pioneers arrived. Most of the forests were oak/hickory, and smaller areas were beech/sugar maple. There were also large areas of oak/savannas (islands of trees surrounded by open areas of grass and wildflowers). A tallgrass prairie covered part of Richland Township—an area where you can still see the very dark soil when farmers till their fields. A lot has changed since those early days, but some areas remain mostly unchanged and are worth protecting if we can.

Most of the rare plants mentioned earlier are found in prairies and wetlands. The purple coneflower in the restored prairie at the Kellogg Bird Sanctuary is thought to be extinct in Kalamazoo Co. "It can't be" you say, "it's in many of my neighbor's backyards!" Good point. Instead of spending hours mowing your five-acre lot planted with European grass, why not consider restoring a native prairie or wetland, and then go fishing with the time you save. There are sportsman's groups in southwest Michigan that will provide prairie grass and flower seed (for half price) to land owners willing to restore habitat. State and federal money is available for wetland restoration.

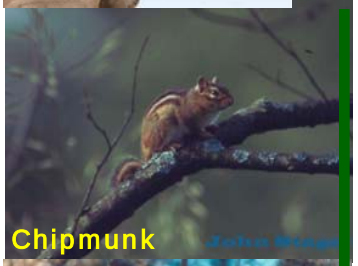
You don't have five acres? Doesn't matter! Why not commit a little or a lot of your flower garden to native species that attract butterflies and hummingbirds. Adopt a rare plant or two and give it a refuge in your backyard. There is a woman in Barry Co. who has a two-and-a-half acre wildflower garden and is truly proud of it. While it is illegal to collect protected plants in the wild, it is not illegal to obtain protected plants from a greenhouse. The rare compass plant on the Sanctuary's restored prairie was purchased in Kalamazoo. A true purist would use plants and seeds from plants grown from Michigan stock. But above all else, avoid planting invasive exotic species. We have made many mistakes in the past. Invasive shrubs like purple loosestrife, buckthorn and autumn olive are destroying many natural areas.

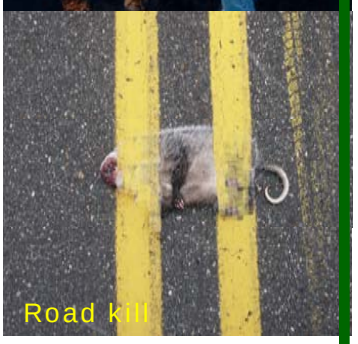
Search the web or contact your local conservation district for help with restoration efforts (see last page).

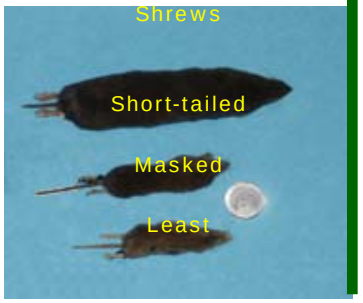
Too many deer? You bet! Many kinds of wildflowers are being completely destroyed by deer. The squirrels are doing their job planting nuts, but the deer are preventing seedling oaks from growing into trees. We need more hunting if we want fewer deer.

Looking for mammals

Photos by John Stage, Larry West, Bob Thompkins and Karen Charleston







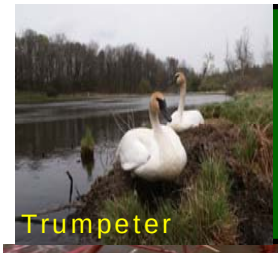
In addition to 10 million humans, 62 kinds of wild mammals can be found in Michigan. Of these, 44 are supposed to live in our four-township area—almost 70 percent of the state total. I am not sure that enough time has been spent looking for mammals. Three of the rare small animals have not been seen in the four townships since 1937 and they may be gone.

How many of the 44 mammals do you know? Considering that 10 of them are mouse-like rodents, seven are bats, seven are weasels, seven are squirrels and five are shrews or moles, I'll bet most people can name only a few of these small mammals. The good news is that it leaves only eight large mammals: opossum, rabbit, beaver, raccoon, deer and three canines. Test yourself to see if you can name at least 22 township mammals, not counting yourself.

Some of our present day mammals were not here in pre-settlement times, rather, they moved in after the habitat changed. White-tailed deer, wolf, elk, bison, cougar and black bear were driven to local extinction by early settlers. The Michigan Department of Natural Resources did not introduce any of these mammals to our part of the state. Dr. Kellogg brought us the gray squirrel, in its black phase in the 1930s. I saw the first deer return here in the 1950s, badgers returned in 1986, gray fox moved in from the south in 1985 and the last to arrive from the north was the coyote in 1993. I have not seen a bear or a bobcat, but they are getting close.

If you pay attention to roadsides, it should be clear that deer, opossum, raccoons, skunks, woodchucks, rabbits and squirrels are common in our area. With 40th Street and M-89 all fixed up for the commuter crunch, the road kill watching can only get better. What can you do to help? Slow down! On a more realistic note, the next time your cat drags in a small shrew less than three inches long, bring it to the Kellogg Bird Sanctuary for identification. If it is a least shrew, you will get free admission, especially if you promise not to let the cat out again.

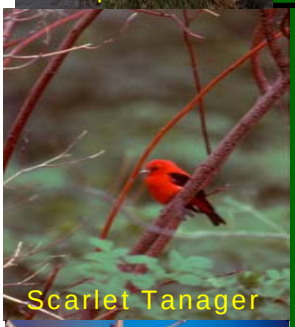
The four rare mammals in our area are the least shrew, Indiana bat and prairie and woodland voles. Indiana bats spend their winter in caves down south (Kentucky, Indiana, and Missouri). The females then migrate north and form maternity colonies under the loose bark of dead trees, often in wetlands.


Trumpeter

Looking for birds

Photos by John Stage, Lynn Stone and Karen Charleston

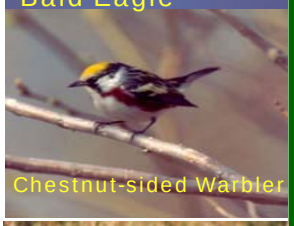

Bald eagle


Scarlet Tanager


Dark-eyed Junco


Tree Sparrow


Bald Eagle


Chestnut-sided Warbler


Eastern Meadow-

Of all the kinds of animals with backbones in Michigan, there are more kinds of birds than any other group, including fish. More than 300 kinds are regularly seen and another 100 or so visit Michigan occasionally.

For six years, from 1983 to 1988, biologists and citizen scientists looked and listened for birds throughout Michigan and then published “The Atlas of Breeding Birds of Michigan” (1991). What impressed me was that of the 167 different birds that nest in southwest Michigan, an amazing 141 kinds were found in our four townships. Ross had 128 kinds, Prairieville and Richland had 104, and Barry had 100. Our four little townships had more kinds of birds than most counties. In fact, of the 1,896 townships in the whole state, only 151 had more than 100 kinds of birds nesting in them! There are very few places in Michigan that are better for birds than our four townships.

In the 1980s, some birds were unique to only one township. Richland had saw-whet owls and a whipoor-will. Prairieville had red-shouldered hawks and black terns. Ross had black ducks and seven kinds of warblers who must have thought that Kellogg Forest was like being way up north where they are supposed to nest, but the coolest birds were found in Barry Township, least bitterns and the most southern nesting pair of common loons in North America. Between 1991 and 2002, the pair hatched 24 chicks and raised 16. Few pairs in Michigan are more successful.

It gets even better. Another 275 kinds of birds migrate through our area and a few of them spend the winter with us after nesting much further north. Three that you probably know are the dark-eyed junco, tree sparrow and the bald eagle. Eagles have a close connection to coots and ducks that use our lakes during migration—breakfast, lunch and dinner! When I was a kid there were only 50 pairs of eagles in Michigan. There was a major problem in the neighborhood—DDT—a persistent pesticide that caused their eggs not to hatch. Today there are more than 400 eagle pairs in Michigan.

To see if our bird community has changed in the past 20 years, the Four Township Water Resources Council worked with biologists from the Kalamazoo Nature Center to look for birds in 2003. In just one summer, they found 124 of the 141 kinds of birds that were here in the mid-1980s. Remember, it took six years to find the 141. Why? Because the 17 that we did not find are very rare in our area and were historically found in less than five out of 144 square miles of the four townships. So, don’t start growing gray hairs yet, we are still looking. You can help by dusting off your bird I.D. guide, and looking in your township for the missing 17 kinds of birds. Get a picture, record the date and exact place, then contact the Kalamazoo Nature Center or the Kellogg Bird Sanctuary to have your find verified and recorded.

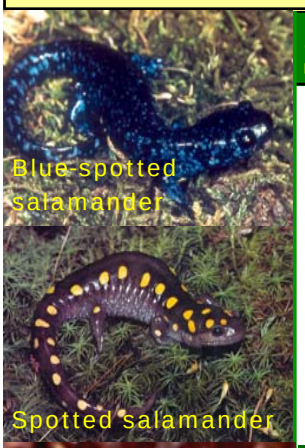
Many kinds of birds that we saw in the 1980s are still common. Others, like the trumpeter swan, wild turkey, sandhill crane, pileated woodpecker and eastern bluebird, have become more common. However, the ruffed grouse, woodcock, bobwhite quail, purple martin, brown thrasher, grasshopper and henslow sparrows, bobolinks, and Eastern meadowlarks are getting a lot harder to find. Most of these are associated with grassland habitat. So, stop mowing and restore a grassland! Help us find 17 missing kinds of birds:

American bittern	Short-eared owl	Worm-eating warbler
Red-shouldered hawk	Night hawk	Clay-colored sparrow
Moor hen	Whip-poor-will	Grasshopper sparrow
Coot	Red-breasted nuthatch	Dickcissel
Black tern	Brown creeper	Western meadowlark
Long-eared owl	Prairie warbler	

Looking for amphibians and reptiles

Photos by Larry West and Jim Harding

Well, Old Joe, what do you know about those animals whose blood runs cold? Let's start with the basics. Frogs and salamanders are amphibians, while turtles, snakes and lizards are reptiles. A biologist who studies these creatures is called a herpetologist. "So what?" you say. Well, I guess I was just trying to get to a point where we could talk about herptiles (all five groups listed above), often referred to as "herps." The Kalamazoo Nature Center is the clearing house for all valid herptile observations for the entire state. The Michigan Department of Natural Resources Michigan Herp Atlas is scheduled to run through 2006, so you, or more likely your kids, have at least two summers to record every herp you can find. I wonder if we can locate all 43 herptiles that are supposed to be in our four townships? This is an excellent excuse to buy or use a digital camera! Many factors are impacting herp populations in our area, including habitat loss, pollution, collecting for pets, and road kills.



Blue-spotted salamander

Spotted salamander

Salamanders

Salamanders are a group of animals that we really don't know much about, because they are very hard to find. Most of them spend 355 days of the year underground, ten days in a preferably fishless woodland pond reproducing, and then back underground. Two kinds, the mudpuppy and newt, spend their entire adult life in the water. Of the 10 kinds that live in Michigan, seven of them should be in our four townships. In fact, I have seen six of them in the past two years. I usually find them near water or in the woods under a log. Sometimes I see them crossing a road in the spring or fall on warm rainy nights. But most often I find them trapped in a wet window well. So start looking! Take a picture, carefully record the date and place, then call a biologist (see last page for more information).

Cricket frog

Bull frog

Chorus frog

Wood frog

Frogs

Since 1996, a couple of biologists and at least a dozen volunteer "citizen scientists" have been surveying frogs in the four-township area every year. Of the 13 kinds of frogs in Michigan, 12 of them have been heard calling in our townships.

In 1998, the spring peeper, gray tree, green and chorus frogs were present in more than 70 percent of the 72 wetlands and seem to be doing okay. But the frogs I remember being common as a kid are not doing well at all. The cricket, leopard and pickeral frogs were only being heard in about seven percent of the wetlands. Can you guess which township had the most frogs? Barry Township, with Ross Township running a close second. We have to look a little harder at Richland and Prairieville townships. There is one rare amphibian in our townships, the tiny cricket frog. It is no larger than my thumbnail and lots of things can eat it.

Are all those unprotected, fishless wetlands worth saving? Think about this: if you were a frog and fish eat you and your tadpoles, where would you like your home to be? However, just saving wetlands may not save these thin-skinned amphibians. Ultra-violet light and chemicals in storm water runoff are thought to be serious problems for frogs nationwide.

Tree frog

Peeper in hand

Turtles

Photos by John Stage, Dick Miller and Larry West

There are nine kinds of turtles in Michigan and eight have recently been seen in our four townships. Some are common, like the painted turtle and map turtle. Others, like the spotted turtle, are very rare. We need "citizen scientists" to help locate turtles. Take a picture when you find one, record the date and the precise location, and contact a local biologist (see last page for more information).

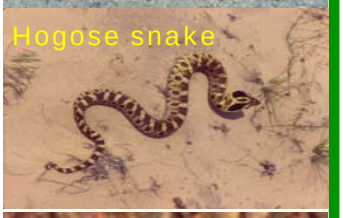
Statewide, the box turtle has become very rare and in some eastern urban areas has disappeared completely. Citizen's reports indicate they are quite common in parts of Ross Township, but rarely reported from other townships. We especially need more reports from Barry County folks! The next time there is trouble in your strawberry patch, look a little closer. It may not be the robins that are to blame! The pattern on the bottom shell of a box turtle is just like a finger print, no two are the same. Take a picture, or keep an album, and you might be surprised how many box turtles live in your woods. Be sure you put them back where you found them. Remember they are becoming rare and poachers are always looking for them.

Gull Lake is known to have six of the eight kinds of turtles. The more turtle friendly your shoreline is (i.e. a natural slope), the more likely they can get out to lay eggs. There are bio-friendly alternatives to vertical seawalls. I received a positive report from Gull Lake. A boy captured and measured at least 12 different young soft-shelled turtles during the summer of 2003. The raccoons didn't get all the eggs! I remember what fun I had when I was a young kid catching turtles and frogs. A kid without a turtle to catch, is not having a good day. Rare turtles in the townships include the box, spotted and blanding's turtles

Like finger

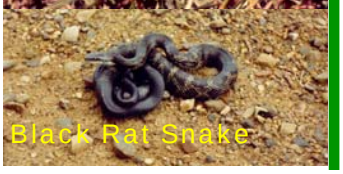
Blanding's turtle

Rattlesnake



Hogose snake

Spotted turtle



Black Rat Snake

Snakes

Photos by Larry West

There are supposed to be 18 kinds of snakes in Michigan and 15 kinds are expected in the four-township area. I have only seen seven kinds in the past decade. The truth is I have never seen five of the 15. I know what you're thinking —even though I'm old and can't see or hear as well as I used to, I believe that snakes really are disappearing from the area. If some kinds of frogs are disappearing from the four townships, it's not surprising that snakes are having a tough time making a living here. Many snakes are associated with wetlands and have a real connection with frogs.

The toad-crushing hognose snake seems to be quite common. It is often confused with the massasauga rattlesnake and both are frequently killed—one by mistaken identity and the other because of ignorance. The Augusta Creek and Gull Creek watersheds have healthy populations of rattlesnakes, two of only a dozen or so places left in Michigan. It is a rare species throughout the Midwest.

How would you like to be eight-feet long like the black-rat snake and try to cross one of our township roads at rush hour? The last one I saw was a road kill 20 years ago. Another large snake is the blue racer. This kind seems to be fairly common; one was recently flattened on 37th Street in Ross Township.

Few moms are thrilled when their kid brings home a snake, but we need your help for the Herp Atlas. Take a picture, carefully record the date and place, and report your find to a biologist (see last page for more information). You will be given free admission to the Bird Sanctuary if your data is accurate. If you find a shed snake skin over five-feet long, an experienced biologist can tell a racer from a rat snake, so bring it in to the Bird Sanctuary. We're not fussy, even a fresh road kill can count. **But do not pick up a live rattlesnake!**

Frog/snake connection

Rare snakes in the townships include the massasauga rattlesnake, black-rat, copper-bellied and kirtlands snakes. The last two have orange or red bellies and live in wetlands. I have never seen either of these and I suspect they are not here anymore. But, there's a rumor that Prairieville Township may have at least one of them. Catch one and surprise me, then we'll put it back.

Vertebrate Diversity Summary

	Michigan	4 Townships	# Rare	Basic knowledge
Plants, native	2300	?	60	Fair
Birds nesting	234	141	15	Excellent
Mammals	62	44	4	Good
Frogs	13	12	1	Excellent
Salamanders	10	7	0	Poor
Turtles	9	8	3	Fair
Snakes	18	15	4	Good
Total w/o plant data	346	227 (66%)		

Checklist for Four Townships
Mammals of the Great Lakes Region
By Allen Kurta, University of Michigan Press, 1995
Possible in four-townships
*Rare

Marsupial	Bats	Rodents	Rodents cont.	Getting Closer
Virginia opossum	Little brown bat	Eastern chipmunk	Muskrat	Black bear
Shrews	Indiana bat*	Woodchuck	Southern bog lemming	Bobcat
Masked shrew	Northern bat	Thirteen-lined ground squirrel	House mouse	**Vanished**
Least shrew*	Red bat	Eastern gray squirrel	Norway rat	Cougar
N. short-tailed shrew	Hoary bat	Eastern fox squirrel	Meadow jumping mouse	Bison
Moles	Silver haired bat	Red squirrel	**Raccoons**	Gray wolf
Eastern mole	Big brown bat	Southern flying squirrel	Common raccoon	
Star nosed mole	**Dogs**	American beaver	**Deer**	
Rabbit	Coyote	Prairie vole *(maybe)	White-tailed deer	
Eastern cottontail	Red fox	Meadow vole		
	Gray fox	Woodland vole*		

Checklist for Four Townships
Amphibians and Reptiles of the Great Lakes Region
By James Harding, University of Michigan Press, 2000
Possible in four-townships
* Rare

Amphibians	Amphibians cont.	Reptiles	Reptiles cont.	Reptiles cont.
Mudpuppy	Striped shorus frog	Common snapping turtle	Five lined skink	Smooth green snake
Eastern newt	Northern spring peeper	Common musk turtle	Northern water snake	Blue racer
Spotted salamander	Eastern gray tree frog	Spotted turtle*	Copper-bellied water snake*	Black rat snake*
Blue-spotted salamander	Cope's gray tree frog	Eastern box turtle*	Queen snake	Eastern milk snake
Eastern tiger salamander	Bull frog	Blanding's turtle*	Kirkland's snake	Northern ring-neck snake
Red-backed salamander	Green frog	Common map turtle	Common garter snake	Eastern hog-nosed snake
Four-toed salamander	Wood frog	Painted turtle	Northern ribbon snake	Eastern massasauga*
American toad	Northern leopard frog	Eastern spiney softshell turtle	Brown snake	
Fowler's toad	Pickeral frog		Northern sed-bellied snake*	
Blanchard's cricket frog*				

Local agencies and organizations

If you or someone you know is interested in habitat improvement of any sort—grassland, forests, wetlands, streams—a good place to start is the Potawatomi Resource Conservation and Development Council. They serve both Barry and Kalamazoo counties and can be reached at 269-789-2354.

Remember, there are funds available to help you maintain, develop or restore habitat, especially if you are interested in maintenance of water quality, restoring a wetland or dealing with habitat for rare plants and animals (a new program called Landowner Incentive Program).

Barry County Conservation District
1611 S. Hanover
Hastings, MI 49058
269-948-8056

Kalamazoo County Conservation District
1991 W. Centre Ave.
Portage, MI 49024
269-327-1258

The Natural Resource Conservation Service field offices are in the same building.

Bio-friendly seawalls

Kellogg Biological Station
Land and Water Program
3700 E. Gull Lake Drive
Hickory Corners, MI 49060
269-671-2412

Rare plants/animals

Michigan Department of
Natural Resources
621 N. 10th Street
Plainwell, MI
269-685-6851

Money available for habitat restoration

Selected Web Sites:

Michigan Natural Features:	web4.msue.msu.edu/mnfi/
Wetland Habitat:	www.fws.gov
Wildflowers:	www.wildflowersmich.org
Kalamazoo Nature Center	www.naturecenter.org
Upland Habitat	www.pheasantsforever.org

Want to learn how to remove exotic plants or rescue native plants threatened by development? Volunteer with the Southwest Michigan Land Conservancy (www.swmlc.org).

Want to be a citizen scientist?
This is an excellent excuse to use or buy a digital camera. Take a good picture, carefully record the date and exact place, then contact a biologist. We are looking for frogs, salamanders, turtles and snakes throughout Michigan.

Joe Johnson
Kellogg Bird Sanctuary
12685 East "C" Ave.
Augusta, MI 49012
269-671-2510

Ray Adams
Kalamazoo Nature Center
7000 N. Westnedge
Kalamazoo, MI 49009
269-381-1574

FTWRC
P.O. Box 634
Richland, MI 49083
www.ftwrc.org