

The Missouri
Master Natu-
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Extension
University of Missouri

MISSISSIPPI HILLS Newsletter

July, August, September 2021

Volume 3

Missouri
Master Naturalist™



MISSOURI BUMBLE BEE PROJECT

By Anne Coleman



As a child I had a fear of bees of all kinds due to my uncanny ability to locate and step barefooted on Honeybees (*Apis mellifera*) that were busy collecting pollen in the Dutch White Clover in our backyard.

These days, bees in the clover are few and far between which is why I joined last year's Citizen Science project **Bumble Bee Watch** being offered by our Master Naturalist group for both Advanced Training and a Volunteer Opportunity. But as I attended the advanced training, I realized that I was not going to be just counting or taking some lovely photos of bees. I was going to be doing more--much more!

The training provided not just the "how-to" participate in the Bumble Bee Watch project, but also the "why" we are doing this important work. The following excerpt is taken from the Bumble Bee Atlas website--

"A recent study led by the IUCN Bumble Bee Specialist Group, supported by studies led by Dr. Sydney Cameron, and a status review by the late Dr. Robbin Thorp and the Xerces Society, demonstrate that several of North America's nearly fifty species of bumble bees are undergoing dramatic population declines. Two species, Franklin's bumble bee (*Bombus franklini*) and the rusty-patched bumble bee (*B. affinis*), may already be on the brink of extinction.

The Missouri Master Naturalist program is a community-based natural resource education and volunteer service program for adults, sponsored by the Missouri Department of Conservation and the University of Missouri Extension.

Its purpose is to develop a corps of well-informed volunteers to provide education, outreach and service dedicated to the beneficial management of natural resources and natural areas within their communities for the state of Missouri.

The Mississippi Hills Master Naturalist Chapter is located in Hannibal, Missouri and serves the surrounding counties. We are involved in citizen science, community projects, nature interpretation, and community nature education.

FIND US ON THE WEB: <https://www.mississippihills.missourimasternaturalist.org/>

And on Facebook [@MississippiHills](https://www.facebook.com/MississippiHills)

Missouri Bumble Bee Atlas Project, CONT

Bumble bees, key pollinators of crops and wildflowers across the country and essential for a healthy environment, are declining at an alarming rate. Bee biologists discovered that several previously common species are now absent from much of their former territory.

The causes of these declines are not fully understood, but likely playing a role are: loss or fragmentation of habitat, pesticide use, overgrazing, competition with honey bees, climate change, low genetic diversity, and perhaps most significant of all, the introduction of nonnative pathogens.

Regardless of the ultimate cause of bumble bee declines, surviving populations need high quality habitat to persist. Protecting, restoring, enhancing, and creating new bumble bee habitat is the best way to conserve populations of these indispensable animals and hopefully reverse population trends." (*Conserving Bumble Bees*, R. Hatfield, S. Jepsen, E. Mader, S. Black, M. Shepard)

Understanding the loss of pollinators such as the Bumble Bee is very important to me personally because I have multiple gardens, both vegetable and Flowering, that need pollination. However, the loss of pollinators at a regional and/or a nation-wide level has far-reaching impacts to agricultural interests in our food supply chain as well as our ability to maintain biodiversity in our environment.

Participating in this Citizen Science project required the following:

- Attend training
- Adopt a specified area (grid cell) of Missouri
- Agree to travel to an area of observation within the adopted grid cell at least twice during the project period
- Agree to provide a Habitat survey for the areas of observation
- Collect required data
- Enter collected data on the Bumble Watch website

Attending the on-line virtual training was convenient, and I found that a lot of the material was familiar to me from various other training I had taken over the last two years.

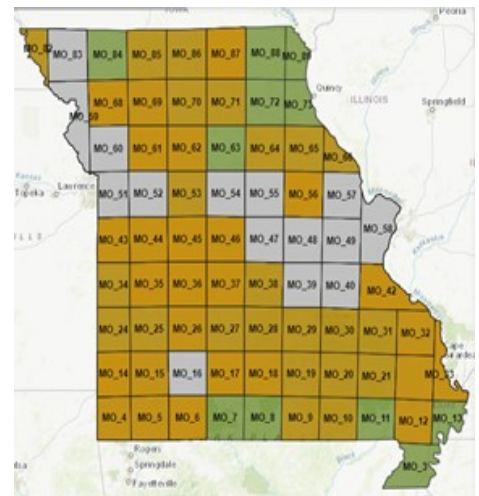
I chose to adopt a cell that included the area where I live (grid cell 65).

This made "traveling" to my area pretty easy. Note that an observation area is a small part of an overall grid cell. Many people can participate in collecting data within a grid and not

overlap observation areas. I later found that Brenda Weiss had adopted grid cell 66. I also noticed that there were Master Naturalists from other chapters adopting grids for their chapters to work in, and so if others wanted to join in the Bumble Bee watch project they could easily do so within our grids (brown) or you can adopt one that is currently open (green). Only the gray grid cells are not available at this time.

Once we completed the training and adopted a grid, it was time to begin our survey. This was where I was a bit challenged in that I was not just taking pictures of Bumble Bees, I first had to *capture* them! While our training included how to capture the Bumble Bees in a net and then transfer them to a vial which is placed in ice to put the bees to sleep. I will say it looks easy when someone experienced does it compared to what could be described as a crazy lady swinging a butterfly net out in the yard and running in circles! I'm glad no one was there to take pictures of the captures, but as with most new experiences, once you've overcome the fear and have a few successes, you find you are quite capable of this undertaking.

My observation area had quite a few native plants in bloom, although on the days that I did my surveys I was mostly finding the Bumble Bees on Tickseed Sunflowers (*Bidens Aristosa*) that were blooming in large masses. Fortunately, it didn't take me long to capture my first bee and place it in a vial. All vials were then placed in a cooler of ice with the vial cap facing up and above the ice.



Missouri Bumble Bee Atlas Project, CONT

After the bees were asleep, which didn't take long, I was able to remove them from the vials one by one, identify the species with the help of an App provided by Bumble Bee Watch, take a picture and get all the data loaded including a Habitat Survey.



Each bee was submitted with 1-3 pictures, and a description of the host flower where the bee was found. There was a time limit for each survey (45 minutes), and you only record what you capture during that time. The first survey I captured fourteen and the second survey I captured six bees. All the bees that I captured were Common Bumble Bees (*Bombus impatiens*).



The whole capture, record data and release process was a learning experience. I was amazed at how quickly the bees went to sleep in their vial once it was placed in the ice. I also found it a bit fascinating that I was able to take pictures and carefully inspect them before they began to awaken. They were a bit groggy at first, but then flew off, often landing on the nearest flower, and beginning their pollen collection again. I was in awe!

The project began late in the year for the 2020 surveys but resulted in 436 verified Bumble Bee sightings in Missouri. When you visit their website you can find all the data that has been collected by citizen scientists involved in this project.

The 2021 project has already opened. If you weren't able to join the training offered earlier this year there are recorded sessions available on their website. And if you are interested in joining this year's data collection, let me know because you are welcome to share my or perhaps Brenda's grid. It was a great experience, and I feel good that the data collected during these surveys will help provide a better picture of what may be happening to the bees that are so important to us all!

For more information on both last year and this year's surveys, please can check out the following website —

<https://www.bumblebeewatch.org/>

The Xerces society recommends three conservation practices that help bumble bees thrive—

1. Flowers on which to forage
2. A place to build their nest
3. A pesticide free environment

Here is a link to their website

<https://www.xerces.org/bumblebees>



We are searching for articles for our next Newsletter.

What would you like to read about or to learn more about?

Have you read a good book lately?

Would you like to share an article?

Contact Jan Golian or Anne Coleman for more information & to share your ideas or to provide feedback for our newsletter.

Bumble Bee Conservation

Spring – Early Summer

Include early-blooming plants and maintain a diversity of flowers in your landscape.

To protect overwintering queens, avoid early raking or mowing; raking is best done in April and May.

Keep large patches of land unmowed and untilled to provide secure nesting sites; healthy ground-nesting mammal populations help create future nesting sites.

Because queens are still foraging and colonies are usually very small, avoid the use of pesticides.

Summer – Fall

Include mid- and late-blooming plants such as goldenrod, milkweed, and aster in your landscape.

Leave leaf litter, downed wood, and uncut bunch grasses to serve as potential overwintering sites.

As colonies are producing new queens at this time of year, avoid using pesticides. If pesticides are necessary, choose products that are less harmful to bumble bees, and do not use them at times when bees are active or when plants are flowering.

Winter

Late fall and winter are the best times for mowing. Cut with the mower deck at the highest safe level to avoid disturbing overwintering queens.

To protect overwintering queens, continue to leave large sections of untilled ground.

Small, controlled burns are okay, but burn less than 1/3 of available land annually, and leave unburned patches as a refuge for animals.

If needed, this is the best time to use a targeted herbicide treatment for invasive species.



THE XERCES SOCIETY FOR INVERTEBRATE CONSERVATION

www.xerces.org

Protecting the Life that Sustains Us



Missouri Department
of Conservation

ADVISOROR'S CORNER

I want to thank Anne and Jan for an amazing newsletter. I also want to thank Anne for the reminders and giving your MDC advisor every opportunity to write up something for the first newsletter. I apologize for letting life get in the way and missing the deadlines.

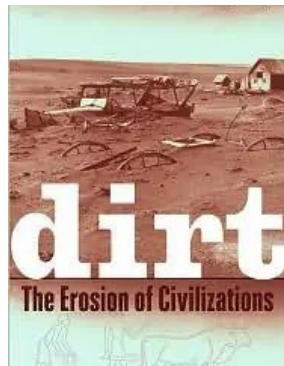
Thank you for all the great conservation work you are putting on the landscape. I'm excited to hear about all the prairie plantings the chapter has planned this year. I appreciate those of you who have checked areas and picked up trash. Current MDC projects include hiking trails at Deer Ridge and 4-H Camp program requests in June.

Faces around the office continue to change. Annie Hentschke has moved from Office Manager to Fisheries Management Biologist (FMB) for public lands and Shelby Lovelace has joined the Hannibal office as an FMB for private lands. Maggie Kopff, receptionist, has taken a job at Busch Wildlife area in St. Louis. Jake Baker and Beth Massey are the two new receptionist greeting customers at the office. Finally, Sam Kozark, public lands Forester has transferred to Moberly to a private lands Forester.

Thanks for all the amazing work you do.
Kathi Moore
MDC Conservation Educator



Reader's Review



Dirt: The Erosion of Civilizations

By: David Montgomery

As Missouri Master Naturalists, we seem to have a strong bent toward our natural resources.

Sam Lord, botanist/ecologist, made a persuasive recommendation to read "Dirt: The Erosion of Civilizations" by David R. Montgomery while presenting to the Mark Twain High School Ag Class in May.

The first chapter of this book takes off on the geology of soils just like an extension of our introductory training from Quinton Heaton. Then, the following chapters keep covering ground and lays out example after example of civilization's soil abuse.

IT IS ALARMING!

There are several book reviews on this book. The one I like best was from Eva Swidler, an environmental and agricultural historian that teaches at Goddard College. Here are excerpts from her book—

Bob Kendrick

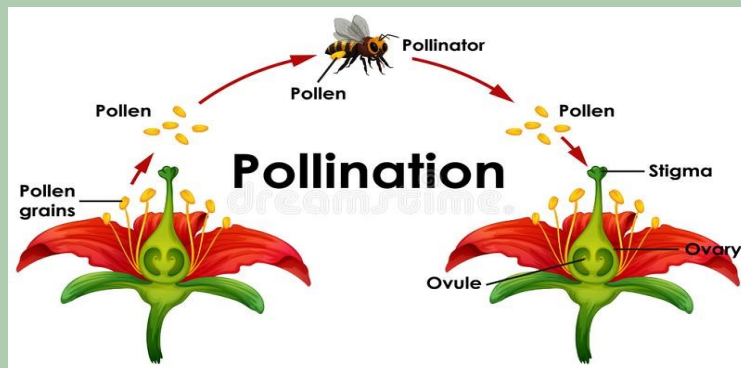
"The humanly caused environmental issues of our current world present us with an imperative. Scientists on the one hand, and those trained in the social sciences and humanities on the other, must begin to not only talk to each other and read each other's work, but to synthesize their knowledge together into a single coherent body which can make observations and recommendations relevant to the world at large and its pressing problems. Dirt is just such a synthetic attempt, bringing the environmental concerns of a soil scientist to the understanding of history and to the public at large, in the hope of addressing human sustainability. Written in an approachable style and aimed at an educated general audience, this book reminds us that, so far, many scientists have made valiant efforts to offer up to citizens what insight their fields have.

The author, David R. Montgomery, is a geomorphologist, a geologist who specializes in landscapes and topography. His book reflects both the strengths and weaknesses of that training.

On the positive side for students of history, who often are ill at ease with the sciences, Montgomery's relaxed presentation of soil science gives the reader the necessary background of geology, chemistry, and biology in a substantial but non-threatening, digestible way. He assumes, correctly, that to understand agricultural history we need to know some science, and he also assumes that any reader can understand that science if it is properly presented.

Montgomery's mission is integrating scientific understanding into human history, of speaking to the larger community about issues we academics have knowledge of, and of advocating for policy based on whatever our best current understandings are. In closing, Montgomery appeals to our moral responsibility to the future in making a plea to treat soil as a communal inheritance rather than a commodity, and on this I could not agree with him more." Eva Swidler

POPULATING POPULATORS



While National Pollinator Week (June 21-27, 2021) has come and gone, many of us continue to work towards improving and maintaining habitat for pollinators every day. Our chapter has several on-going pollinator garden and prairie restoration projects that will contribute to restoring needed habitat and that work will continue through the rest of 2021 and beyond.

During our public outreach work it is encouraging to connect with many like-minded groups and individuals that are reducing the size of their lawns, reducing use of pesticides, and planting more natives. Here are some resources to help with your efforts to restore pollinator habitat.

[Natural Resource Conservation Service \(NRCS\)](#)

NRCS conservation planners helped to develop 100s of conservation plans, implemented dozens of demonstration projects, and worked together closely with other organizations to help implement the pollinator conservation provisions of the U.S. Farm Bill.

[Xerces Society](#)

The Xerces Pollinator Conservation Program is focused on four simple principles: growing pollinator-friendly flowers, providing nest sites, avoiding pesticides, and spreading the word.

[Farming for Bees](#)

Farming for Bees outlines ways to protect and enhance habitat for native crop pollinators in the farm landscape. Containing a wealth of information about common groups of native bees, their habitat requirements, and conservation strategies to increase their numbers on farms.

[Habitat Planning for Beneficial Insects](#)

This publication outlines the ecology of many native beneficial insect groups and highlights recommended strategies for conservation biological control—the practice of providing habitat for insects that attack crop pests. Native predator and parasitoid insects can be an important part of an Integrated Pest Management system and contribute to reduced need for pesticides over time.

[Project Wingspan](#)

Project Wingspan seeks to increase monarch and rusty patched bumble bee (RPBB) habitat by engaging public land managers and private land stewards throughout the 9-state target region which includes Missouri.

[HOMEGROWN NATIONAL PARK™](#)

Doug Tallamy is leading this grassroots call-to-action to restore biodiversity and ecosystem function by planting native plants and creating new ecological networks. Their motto is “we can do this one backyard at a time.” The project maps land whose owners have committed to plant natives and remove invasives. They have reached the milestones of 8400+ people signed up on the MAP, all 50 states are represented and over 20,800 acres of native plantings towards their first goal of 20 million.





THIRD CLASS OF MISSISSIPPI HILL'S MASTER NATURALISTS BEGINS

Excitement was in the air when the committee met to plan for our next round of Missouri Master Naturalists training that will begin this fall.

“The Mississippi Hills Master Naturalist program provides those who are interested in nature an opportunity to make a difference in the community we live in by helping others to become more aware of our environment (forests, fish, wildlife) that is all around us.

The Master Naturalist Program in Missouri is an excellent way for naturalists to increase their knowledge and outdoor skills in working with nature and the opportunity to pass that knowledge to others.”

***George W. Wisdom
MHMN President***

Passionate speakers who are experts in their fields were again scheduled to present to our newest round of “like minded people”. They will join the first two groups of Hannibal’s Mississippi Hills Missouri Master Natural graduates. Committee members (Bob Kendrick, chair; Kathi Moore, MDC Advisor, Matt Harris, Gale Rubel and Jan Golian) sought out some of our favorites from past classes for repeat presentations, and several new speakers were sought and contacted. Members have reported that there is ample interest to fill this class of up to 30 people; so get the word out to your own “Like minded friends!”

Orientation for the new class will be at 6–8 p.m. on Tuesday, Aug. 3, at the Burt Administration Building on the Hannibal-LaGrange University campus in Hannibal. Registration for the orientation session can be completed by calling (573) 248-2530.

Subsequent training classes will take place at 5:30–9 p.m. on Tuesdays, Aug. 31–Nov. 30, at Hannibal-Lagrange University in Hannibal. The trainings will also include field sessions on two Monday evenings and three Saturdays.

MHMN members may attend any of the classes, however, only material that has not been previously covered may be counted as AT hours. The completed schedule of dates, classes, presenters and field trips will be published as soon as confirmations are obtained.

Bob Kendrick says he is eager to incorporate this new group into our team enjoying the camaraderie, laughter and the pride of knowing the MHMN group is making our environment better now and for the future.

What do you love & most hope to never lose to Climate Chaos?

THE CLIMATE RIBBON PROJECT

Colorful fabric ribbons hang from a recycled strip of cotton attached to one side of Mississippi Hills Master Naturalist's canopy at the Hannibal Farmer's Market. One hundred ribbons carefully cut out from various fabrics by Sharon Wisdom for this project, are used to capture heart-felt sentiments written down in response to the question, *"what do you love and most hope to never lose to Climate Chaos?"*

When this question is posed to people who stop by our booth, the responses are varied but the thoughtfulness the question evokes is evident on their faces as they think through the possibilities. From young to old, the concern and the desire to protect our natural resources is clear:

*"Clean water" John Field,
Hannibal MO*

*"The Mississippi Riverfront"
Sam Fry, Hannibal MO*

*"Nature for my children" Abby
Smith New London MO*

How to change the outcome of our current man-made climate situation is not so clear, but one-by-one the ribbons with their messages to the world are being shared on our climate ribbon display.

For many the first step of change is to create awareness of the problem and then to put the potential loss in human terms that everyone can relate to. The Climate Ribbon project was launched to bring that awareness and to create stories that could be shared across the globe. The project has been successful at bringing diverse people together to learn more and to share stories of what is dear to many.

*So, the next time you visit the
Hannibal Farmer's Market
on the last Saturday of the month, look for the
Mississippi Hills Master Naturalists' booth
and add your ribbon to the collection.*

*Our connection to nature
as well as our
connection to each other can drive the changes
needed to reduce the impact that Climate Chaos
can have on our lives and the futures of our children.*



"The Climate Ribbon is a massive public art installation and ritual space to grieve all that we stand to lose to Climate Chaos.

The launch of the Climate Ribbon was the culminating art installation at the People's Climate March in 2014:

A Tree of Life sculpture hung with thousands of ribbons telling stories about everything we most cherish that Climate Chaos threatens to wipe away: The Gulf Coast, next year's harvest, the future of our children's children, the bees, clean air and water...

The Climate Ribbon project invites people around the country, and the world, to share these stories and thread them together.

Collectively, these ribbons compose a kind of "people's treaty," inspired in part by Northeastern Native American quahog and whelk shell wampum belts that signify the mutual exchange of trust that takes place when commitments are made between peoples."

—The Climate Project Website

<http://www.theclimateribbon.org/project#home>

MEET GEORGE WISDOM

Current President of MHMN Chapter

By Bella Erakko



The roots of a passion for nature begin at different ages for different people. Some cannot remember a time when their lives were not deeply intertwined with the natural world. And happy the child born into a family that passes on that tradition.

So it is perhaps easy to imagine young George Wisdom, abandoning the family car in the North Dakota Badlands campground, racing through trees and up rugged terrain (father in pursuit) ... to see WHAT was on the other side. All he could think of was “over there”—permission completely irrelevant to him. That’s possibly why the family jokes about toddler George, standing afront a stuffed Alaskan Kodiak bear, pacifier in hand. “He killed it with his pacifier.” But in truth,

Wisdom “gets” the natural world.

Wife Sharon calls him, “an active nature person,” and lucky for George, he was raised on the multi-generation family farm in Macon. Nature and he formed an instinctive tight relationship. Nature beckoned; he followed—sometimes with humorous consequences.

Early on, it began with fishing. His obliging dad handed him a cane pole and the adventure began. Like Ahab fighting the white whale, George landed more than one fish in an electric fence.

When he felt the nibble, the pole, the bait, the fish flew over George’s head, leaving his father to sort things out.

Today he takes a more nuanced approach, realizing that “presentation” —the



lure, the bait, the technique—to a fish means everything.

Next came the outdoor magazines piled at his grandmother’s house. Images of safaris, deer, quail, turkey soon danced in his head, landing him his first shotgun for Christmas. His dad obligingly took him hunting. When they located a covey of quail, his father said, “Shoot.” So George shot. Aiming came later, along with bird dogs.

He truly enjoys the challenge of learning, whether it be archery or anatomy. Stumbling upon a local archery club, he soon honed his technique down to using turkey feathers to make the fletching for his own arrows. Anatomy—to be precise, college courses in comparative anatomy—proved a bit harder.

Warned by fellow students (who flunked) he lightened his course load, dove in and managed to get the highest mark possible from this cantankerous professor ... a C.

He persevered. Asking permission to conduct an age determination squirrel study,

the professor challenged him, “Yes, if you can provide 20”—(an exorbitant number to collect over Christmas break). His best efforts with his shotgun only netted him 13. The professor raised his eyebrows in disbelief. Awe. George got his project. Garnering a degree in Wildlife Biology guaranteed a lifetime love of conservation, and his college-learned skills served him well in his professional career in the BASF chemical laboratory.

Now that both Sharon and George are retired (and their daughter living in Pennsylvania as a successful graphic artist),

George pursues his passions: conservation, bird watching, fishing, hunting, archery, mushroom stalking, and of course, MHMN agendas.

Sharon uses the quiet hours to write fiction. In the predawn, George may slip out of the house to seek the sometimes elusive deer, the covey of quail, or the wild turkey. His quietest moments of beauty may occur when he can witness a sunset over a lake. But heart strings always call him back to the family farm, where he may be checking the portion of the 300 acres that has no grain or cattle, but a forest now 15 years old.

One day he hopes all the ancestral farmland will be returned to where it began so many years ago—to the **WISDOM**, and wilderness, of nature.

Touring Three of OUR PRAIRIES

Sam Lord met MHMN members, MDC Jamie Ebbsmeyer, MTHS Ag teacher Brent Ghoullson and guests at Hwy 107 & U to begin the chapter's tour of our prairie reclamation projects.



Members had the opportunity to see a prairie already 4 years into the prairie reclamation process at Hwy 107 & U. They also viewed a site nearby where clearing of invasive species had begun.

Lunch was served at Center, Mo where Lord, Ebbsmeyer, Ghoullson and others measured an acre for MTHS Ag students to assist and observe the reclamation process.

Finishing the day members traveled to the Hannibal Municipal Airport to discuss plans for the City of Hannibal to better use their land for their citizens by establishing a native prairie.

Everyone who attended agreed it was an informative and enjoyable day.

Mark Twain High School FFA members assisted with the controlled burn at the prairie near their campus.



Bob and Alan are prepping their chainsaws at Hwy 107 and U where 10 –12 acres have been cleared of invasive species surpassing the original goal of 5 acres.



**Do you have an idea for a Service Project??
Do you know an interesting speaker
to talk at our Chapter meeting??**

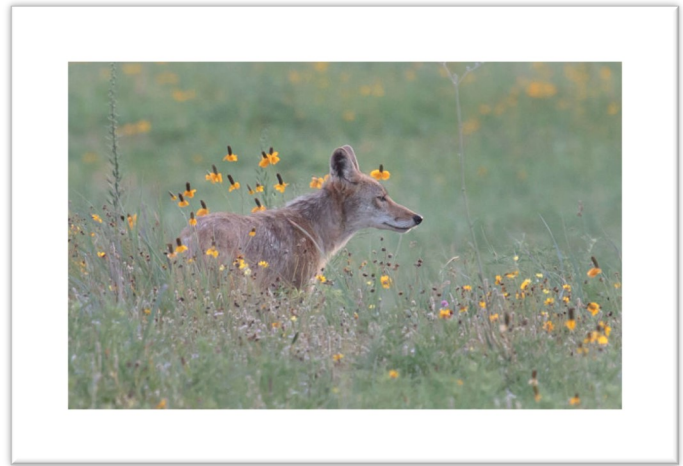
Please share as we are always looking for ideas that can inspire and grow our chapter. Contact George Wisdom for next steps on how to put your ideas to work!!

Spotlight on Species

(*Canis latrans*)

Coyote

Coyotes are medium-sized members of the dog family (Canidae) with small feet, slender legs, a narrow pointed muzzle and erect pointed ears. There are four toes on each foot, with claws and a smaller fifth toe with a dew claw, which does not come into contact with the ground. They are smaller and more lightly built than the wolf. The coyote stands about 24 inches at the shoulder, weighs about 20–50 pounds, and is about 3.3–4.3 feet long, including its tail. The fur is long and coarse and is generally grizzled buff above and whitish below, reddish on the legs, and bushy on the black-tipped tail. There is, however, considerable local variation in size and color, with the largest animals living in the northeastern United States and eastern Canada.



Life Cycle

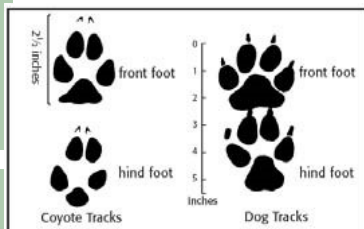
HUMAN CONNECTIONS

Coyotes are noted for their nightly serenades of yaps and yelps with the calls starting just after sundown. As the moon rises and night falls, a lonely howl rises through the darkness. When one coyote starts to howl, nearby coyotes usually join in. The chorus can be heard more than 3 miles away on a clear, calm night.

Coyotes are usually ready to breed at 20 to 22 months of age. They are monogamous and will stay with their mate for life. Coyotes mate between January and March. In spring, females will make dens to prepare for their young and usually bear four to seven pups after a gestation of 58–65 days.

Young are born blind and helpless, but within 21 to 28 days, pups start emerging from the den to play. Weaning occurs at five to seven weeks, and both parents feed and care for the pups until they are fully grown and independent, usually at six to nine months of age. Young typically disperse in the fall, but some older siblings will help raise younger offspring, and family groups may remain together and form packs during winter.

Coyotes may live up to 21 years or more in captivity, but in the wild few animals live more than 6 to 8 years. Most deaths are now caused by humans, whether for the animals' fur, for management of domestic or game animals, or because of collisions with vehicles. In the wild, infectious diseases such as mange, canine distemper, and rabies probably are the most common causes of death.



Behavior

The coyote is primarily nocturnal, running with tail pointed downward and sometimes attaining a speed of 40 mph.

Coyotes are territorial, and both members of a breeding pair defend the territory against other coyotes. Territories are marked with urine and feces, and it is believed that howling may serve to indicate occupancy of a territory. The size of coyote territories varies among habitats and also depends on its abundance of prey. Most territories, however, range from 4 to 15 square miles.

Habitat

Open fields, pastures, meadows, prairies, mountains, forests, and deserts of the continental United States. They are adapting to life in urban areas as humans take over more of their habitat. For most of the year, coyotes simply sleep on the ground in a hidden, protected spot. But in the spring, coyote couples search for a den. Sometimes they remodel a burrow that was once owned by a fox, woodchuck, or badger. Other times, they dig their own den in loose soil. The home-sweet-holes are often in a bank, under a hollow log, or beneath a deserted building.

Mississippi Hills Master Naturalists at work . . .

We have been busy! There hasn't been a shortage of volunteer projects this year—just not enough time to do it all. The need for Master Naturalists in Northeast Missouri has not slowed down. In fact, there are more organizations seeking knowledgeable people to lead outdoor activities than we have active members. It will be great to welcome new Master Naturalists to our chapter this fall!

Here are a few of the memorable moments of our naturalists at work in the community—



Hannibal Farmer's Market

Set up is complete and we are ready for visitors to our booth in honor of Earth Day!



Stream Team Cleanup on the Salt River

Look at all the trash this group removed from the Salt River watershed. Great Job!



MDC Discover Nature—Fishing at Huckleberry Park

Successful day with MDC and YESA (Youth Empowered Sports & Activities). George and Phil shared their love of fishing with the kids during the Fishing Savvages event in Hannibal.

4-H Camp at Flower City Park

Learning about Bird Migration with Jan, Dennis and George.



FOLLOW THE LEADERS



CHAPTER BOARD MEMBERS

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George Wisdom

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Opportunity to serve

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Bella Erakko &
Brenda Weiss

Treasurer –
Kristy Trevathan,

Board Members at Large:

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Keith Cline
Vanessa Laatsch
David Mobley
Matthew Harris
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Opportunity to serve

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George Wisdom

Hospitality –
Vanessa Laatsch

Website & Time keeper
Anne Coleman

Core Training
Bob Kendrick

**We'd Love
To Hear From YOU!**

CHAPTER ADVISERS



Kathi Moore –
**Missouri Department of
Conservation**



Daniel Mallory –
**University of
Missouri Extension**

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suggestions and/or corrections

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Janet Golian	Newsletter	573-267-3729	golian@rallstech.com

BY THE NUMBERS

(rounded to nearest whole hour as of June 30, 2021)

2021

SERVICE PROJECTS

Volunteer Service Projects Total Hours = **1265**

ADVANCED TRAINING

Advanced Training Total Hours = **263**

CONGRATULATIONS ON Initial CERTIFICATIONS COMPLETED

Joan Black
Ken Daniels
Anna Banton

Thank you for your Service!
Service Milestones To—

George Wisdom Bronze (250 hrs)
Bob Kendrick Silver (2500 hrs)
Kent Cheek Bronze (250 hrs)
Alan Miller Bronze (250 hrs)
Anne Coleman Bronze (250 hrs)

CONGRATULATIONS ON ANNUAL CERTIFICATIONS FOR

2021

Alan Miller
Janet Golian
George Wisdom
Vanessa Laatsch
Kristy Trevathan
Quintin Heaton
Gale Rublee

Eastern Meadowlark
Recertification
Pin



**2021 Requirements for
Re-Certification**
30 Volunteer Hours &
8 Advanced Training Hours



Kayaking Tips and Tricks for Safe Summer Fun. By Kathi Moore

When summer comes, my thoughts automatically go kayaking. A couple months ago, Travis Moore, Fisheries Management Biologist, offered a great kayaking program. He suggested a great list of equipment. I have a kayaking "go bag" with many items on the list residing in a drybag ready to go at a moment's notice. I grab my kayak, paddle, PFD, lunch, go bag and out the door. .

Here is the Travis and Kathi Moore suggested list of equipment.

- Float Plan and contact arranged – for safety, let someone know where you are going and when to expect you back. Up your game, by texting when you get on and off the water.
- Comfortable life jacket (PFD) – life jackets come in both male and female styles. Try it on and tighten it up before you buy it.
- Lunch/snacks – fuel to paddle
- Drinking water – stay hydrated. Take packets of Gatorade or Liquid IV for electrolytes.
- Polarized sunglasses – protects your eyes from the sun and helps you see into the water.
- First aid kit – band aids, mole skin, etc.
- Sunscreen – SPF 30 or more.
- Insect repellent – buffalo gnats and mosquitos can be suckers on the water.
- Toilet paper/paper towels – Kathi's pro tip... blue shop towels, cut the roll in half. Best all round, for everything you might need them for.
- Bailing sponge – a large car washing sponge is perfect
- Hat – provides sun protection
- Wade boots/shoes – protect your feet. Closed toes and closed heels are best.
- Knife or multi-tool – to cut string, rope, an apple.
- Trash bag – Mesh stream team bags for collecting river or lake trash.

- Additionally, I will take a towel and change of clothes to leave them in my car. I also have a similar "go hiking bag" I keep in my car. Packed with similar essential items for minor outdoor emergencies.

Depending on what other activities you are pairing with kayaking, (fishing, hunting, camping, wildlife watching) you may consider adding the following optional equipment.

- Anchor – will hold your kayak in the perfect fishing spot for hours.
- Siphon Pump – removes water from the kayak while it is strapped to the top of your car. Why is water in your kayak on top of your car? Because you drove through the rain to get to your destination.
- Dry bag – keep stuff dry.
- Binoculars – for bird watching, scanning fields, looking farther downstream, etc.
- Camera – collect memories on the water.
- Snorkel and mask – for fish watching, mussel searches or searching for river treasure.
- ID Books – A guide to Missouri's Freshwater Musses, Fishes of Missouri, etc.
- Camping Gear – for overnight trips. Lightweight backpacking gear makes perfect kayaking camping gear.
- Fishing Gear – kayaking allows you to get into areas where the fish are.
- Hunting Gear – use a floating gun case when transporting firearms over water.
- Extra Paddle

Remember, kayaks, canoes and all boats can transport aquatic invasive species.

So, after each float... Inspect & remove any animals, plants, mud, water & captured bait at the site where you take off the water.

Then : Clean boat with hot water (104°) for 20 minutes, OR

Clean with cold water and spray with 100% vinegar solution and let dry for a minimum of 20 minutes,
OR

If in warm weather, let dry for a minimum of 5 days, longer if weather is cool, humid, and/or damp.

Re-inspect before next use.

Don't float multiple waters in same day, or on same trip, without treating your boat.

Have a safe enjoyable summer on the water.



Volunteer Opportunity Calendar for July, August, September 2021

Event Date	Event Time	Event Title
7/9/2021	08:00 pm - 10:00 pm	Hannibal Parks & Rec Interpretive Programs :: Summer Night Serenade Night Hike at Sodalis
7/13/2021	06:30 pm - 08:00 pm	Executive Board :: Board Meeting : July
7/24/2021	07:00 am - 12 noon	Hannibal Farmers Market Information Table
7/27/2021	07:30 pm - 08:30 pm	Chapter Meeting : July
7/30/2021	08:00 pm - 10:00 pm	Hannibal Parks & Rec Interpretive Programs :Summer Night Serenade Night Hike at Sodalis
8/7/2021	08:00 am - 12:30 pm	Hannibal Arts Council :: Wild & Wacky in Central Park
8/24/2021	07:30 pm - 08:30 pm	Chapter Meeting : August
8/28/2021	07:00 am - 12 noon	Hannibal Farmers Market Information Table
9/14/2021	06:30 pm - 08:00 pm	Executive Board :: Board Meeting : September
9/28/2021	07:30 pm - 08:30 pm	Chapter Meeting : September

Monthly Meetings

Monthly Chapter Meetings are held on the 4th Tuesday of every month

Bi-monthly Board Meetings are held on the 2nd Tuesday of every other month

Watch for emails and check the Website calendar often as New Opportunities are added all the time.

Don't forget about citizen science or MDC trail/area projects !

Check the website or email Anne Coleman for more info.

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MDC Seeking Surveyors for Sampling Mussels in Henry Sever Lake

During some recent work at Henry Sever Lake, MDC discovered that we have a population of native freshwater mussels in the lake. They would like to sample this population to determine what species are present, where they occur within the lake, and how large this population may be.

MDC will conduct the work in August of this year. Surveyors will identify mussels collected, record that data, and replace the mussels in the substrate. Once a reach has been surveyed, the surveyors will be picked up and may be delivered to another survey reach.

If you are interested, please contact Kathi Moore. MDC needs to know who might be interested and what day/times they would be available.



Advanced Training Calendar for July, August, September 2021

Event Date	Event Time	Event Title
7/13/2021	05:00 pm - 06:00 pm	MDC: Discover Nature: Virtual- Sounds of Summer (Virtual)
7/14/2021	01:30 pm - 02:30 pm	MDC: Wildlife: One Fish, Two Fish, Blue Fish? (Virtual)
7/15/2021	10:00 am - 11:00 am	MDC: Mammals: Armadillos: an Armored March North (Virtual)
7/16/2021	10:00 am - 11:00 am	MDC: Discover Nature: Snakes (Virtual)
7/21/2021	04:00 pm - 05:00 pm	MPF: Prairie Strips for Improved Soil Retention, Water Quality, and Habitat Creation with Timothy Youngquist (Virtual)
7/27/2021	06:30 pm - 07:30 pm	Monthly Meeting--Kyle Monroe
7/29/2021	12:30 pm - 01:30 pm	MDC: Discover Nature: Animal Assassins (Virtual)
8/10/2021	10:00 am - 10:30 am	MDC: Discover Nature: Naturalist Notes Virtual Series: Stinging Insects (Virtual)
8/19/2021	06:00 pm - 07:30 pm	International Dark-Sky Places Program (see G. Wisdom email)
8/24/2021	06:30 pm - 07:30 pm	Monthly Meeting--TBD
9/22/2021	06:00 pm - 07:30 pm	International Dark-Sky Places Program (see G. Wisdom email)
9/28/2021	06:30 pm - 07:30 pm	Monthly Meeting--TBD

Watch for new training that is added.

If you find additional training not on the calendar, please send to George and Anne so that it can be added.

If you aren't sure whether the new training qualifies please ask!

THANKS!!

Note—most events require pre-registration to attend.

Visit MDC website for more training opportunities—both virtual and in-person . You can find their events here:

<https://mdc.mo.gov/events>



OPPORTUNITIES TO SERVE
are available for the positions of
**Vice President &
Volunteer Service Project Coordinator**