Midwest PARC Quarterly Newsletter - March 2025

Compiled by members of the **Outreach and Communications Team (OCT)**
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Herp Highlight: Timber Rattlesnake

The Midwest is home to seven species of venomous snakes, all belonging to the family Viperidae. Most of these species are Rattlesnakes from the genera *Crotalus* and *Sistrurus*, including this newsletter's highlighted herp; the Timber Rattlesnake (*Crotalus horridus*).

The Timber Rattlesnake is one of the largest rattlesnake species in the region and typically measures between 3 to 5 feet (~1 - 1.5m) in length, with some individuals reaching up to 6 feet (1.8m) (Hotaling 2022). These snakes display two primary color phases: the yellow phase, characterized by a yellow background with contrasting brown or black crossbands, and the black phase, which features dark crossbands along with an overall dark coloration (ODNR DOW 2018). These color variations help the

rattlesnake blend seamlessly into its environment, with each phase favoring different habitats. The yellow phase is typically found in open woodlands, deciduous forests, and field edges, where lighter vegetation is common. In contrast, the black phase thrives in dense forests, thick underbrush, and rocky outcroppings, where it blends effortlessly with the shadowed forest floor. As ambush predators, Timber Rattlesnakes rely on their camouflage to remain undetected as they wait patiently for prey to come within striking distance. When the opportunity arises, they strike, injecting venom to kill and begin the process of consumption (Smithsonian's National Zoo & Conservation Biological Institute).

In the Midwest, Timber Rattlesnakes are primarily found in southern states including Illinois, Indiana, Kansas, Missouri, and Ohio. However, they also inhabit parts of Minnesota and Wisconsin, particularly along the Mississippi River. The range of the Timber Rattlesnake stretches far beyond the Midwest, extending into the southern states. This broad distribution has sparked ongoing debate regarding its classification. While historically the Timber Rattlesnake and Canebrake Rattlesnake (*C. h. atricaudatus*) were considered distinct subspecies, genetic studies have shown that these two share nearly identical genetic structures (Perry 2016). Yet, some still argue that the Timber Rattlesnake and Canebrake Rattlesnake should be recognized as separate species based on their morphological differences.

Like many venomous snakes, the Timber Rattlesnake faces significant threats and has been labeled as threatened or endangered in several areas across the Midwest. Key challenges to its survival include habitat loss, den destruction, snake fungal disease, and intentional killings by humans (Panella et al. 2022). However, it's important to remember that these snakes rarely pose a threat to humans unless threatened or harassed, and most conflicts are the result of accidents or misunderstandings. Conservation efforts are playing a vital role in protecting the timber rattlesnake and ensuring that one of the Midwest's most beautiful and important species continues to thrive in its natural habitat.

Works Cited

Hotaling, M. 2022. The many venomous snakes of the Midwest. https://discover.hubpages.com/animals/VenomousMidwestReptiles
ODNR Division of Wildlife (DOW). Reptiles of Ohio field guide. 2018. https://dam.assets.ohio.gov/image/upload/ohiodnr.gov/documents/wildlife/backyard-wildlife/Pub 5354_Reptiles of Ohio Field Guide.pdf
Smithsonian's National Zoo and Conservation Biology Institute. Exhibit: Reptile Discovery Center Timber Rattlesnake (Crotalus horridus). Smithsonian's National Zoo and Conservation Biology Institute. Available at https://nationalzoo.si.edu/animals/timber-rattlesnake.
Perry, S.M. 2016. 11 North American Rattlesnakes. Reptiles Magazine. Available at https://reptilesmagazine.com/11-north-american-rattlesnakes/?srsltid=AfmBOopj2GjgHRDVYA1Kr0VIxfZvOsN37cjKRxCJVmGbOQBf19apEok-.
Panella, M.J., D.D. Fogell, and C. Rothe-Groleau. 2022. Timber Rattlesnake (Crotalus horridus): a species conservation assessment for the Nebraska Natural Legacy Project. Nebraska Game and Parks Commission, Lincoln, Nebraska.

Image Description: A Timber Rattlesnake (*Crotalus horridus*) sitting coiled on dead leaves, underneath a fallen log. The head of the snake is in the center of the coil, facing the photographer. Photo courtesy of Zander Perelman.

Wildlife Professionals Survey

Seeking survey respondents!
We are looking for wildlife professionals to participate in a research project. The goal of the project is to better understand the public engagement methods used by wildlife professionals, as well as the constraints professionals face when communicating with the public. Your participation would include completing the online survey provided below which should take about 15 minutes.

Please contact Sophia A. yun Loureiro (loureir3@msu.edu) or Dr. Alexa Warwick (awarwick@msu.edu) if you have further questions about this form.

Link to survey: https://msu.co1.qualtrics.com/jfe/form/SV_8qYZst41WZwBMHk

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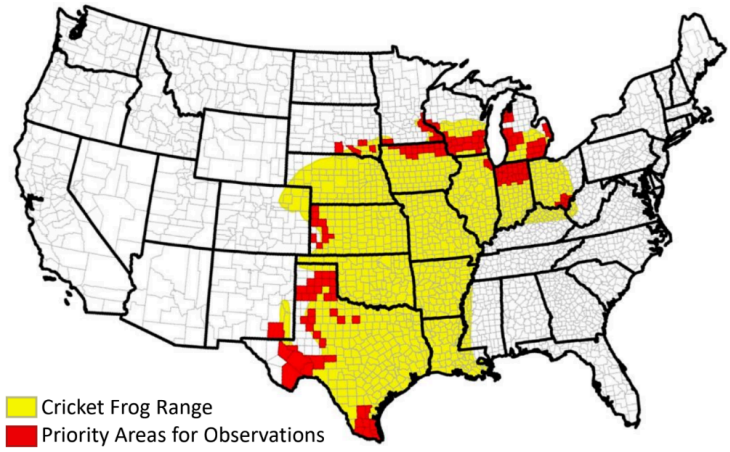
WANTED: Cricket Frogs

Help MWPARC update the status of Blanchard's Cricket Frogs (*Acris blanchardi*)!

We are seeking photos and audio recordings of cricket frogs observed this summer. You can upload these observations to iNaturalist, HerpMapper, or by emailing photos, audio, GPS coordinates, and the observation date to parcmidwest@gmail.com.



The current distribution of cricket frogs is highlighted in yellow on the map (right), with red indicating the priority areas for observations. We are seeking observations from across the United States; especially the priority areas highlighted in red where the status of cricket frogs is currently unknown.

Happy herping!

Image Description: Map of the continental United States depicting the current range of the Blanchard's Cricket Frog (*Acris blanchardi*). Counties colored yellow indicate the current range of cricket frogs while counties highlighted in red indicate priority areas of observation where cricket frog status is currently unknown. Map courtesy of the MWPARC *Acris* Task Team.

Announcing the Healthy Trade Institute

The Healthy Trade Institute, Inc. (HTI) is a 501(c)(3) non-profit that is empowering businesses to champion healthy trade practices that enhance the wellbeing of pets and wildlife. Founded by industry leaders and scientific experts, the HTI launched their healthy amphibian and reptile certification program spring 2025. This certification program consists of 4 program components: 1. Online training,

2. Healthy trade practices, 3. Pathogen testing, and 4. Response to positive pathogen detections. Certified amphibian and reptile businesses must screen their animals for pathogens of conservation concern, including chytrid fungi (*Batrachochytrium dendrobatidis*, *B. salamandrivorans*), ranavirus, *Agama adenovirus*, and *Cryptosporidium serpentis*. All pathogen screening will be conducted by certified diagnostic laboratories.

In addition to launching the certification program, the HTI is launching the **first ever nation-wide herp adoption program** in May 2025! This program will accept surrendered amphibians (all species), Ball Pythons (*Python regius*), and Bearded Dragons (*Pogona sp.*), with an expansion to include other reptile species coming later this year. All surrendered animals will be screened for pathogens of conservation concern and given a health assessment by veterinary professionals. This adoption program will help reduce spread of invasive and non-native herp species and reduce the likelihood of pathogen spillover to wild populations.

The HTI represents a one-of-a-kind partnership between industry professionals and scientific researchers working together to improve the health and sustainability of the amphibian and reptile trade. If you are interested in learning more about how you can participate in or support the HTI, or if you are interested in adopting or surrendering animals for the adoption program, please take a look at the website for more information!

Image Description: A drawing of the earth with a red-eyed treefrog and a leaf superimposed in front of the earth on the lower right side. The text “Healthy Trade Institute” wraps around the top left side of the earth. Image courtesy of The Healthy Trade Institute.

Photo Call!

Attention all photographers! Are your friends and family bored of seeing your field photos? We would love to see them! MWPARC is seeking photograph submissions of midwestern amphibians and reptiles for use in our outreach materials.

You can submit photos using the QR code or by visiting the Google form. This one-stop-shop makes it easy to give us permission to use your images and to bulk upload photographs. Your submission will be directly linked to the images you upload so we can include all image credits for the photographs you provide when published.

Image Description: A black and white QR code that links to the google form to submit your images of midwestern amphibians and reptiles: https://forms.gle/d4kQzEmLv3Z2kiG29.

Fueling Student Travel Award

Calling all students! The MWPARC Fueling Student Travel Award is now accepting applications! If you are currently enrolled as a high school, undergraduate, or graduate student, or have graduated within 12 months of the application date, you are eligible to apply! A total of four awards totaling up to **$500** each will be made in 2025. Awards will support student travel to field sites. All awardees must submit a 1 page reflection and at least two photographs by October 31, 2025. All award applications must be submitted to parcmidwest@gmail.com no later than **April 14**, awardees will be notified by the end of April.

To apply, please complete the application that can be found on the MWPARC Awards page.

Advisory Board: Get to Know Them!

Dr. Jen Lamb is the current Chair of MWPARC and the Webmaster for the Outreach and Communication Task Team.

Dr. Lamb is an Associate Professor at St. Cloud State University (SCSU) in central Minnesota. Her research group asks questions about amphibian and reptile conservation (e.g., how can we effectively detect rare species?) but also pursues questions about the ecology and biology of these species (e.g., how and why do amphibians biofluoresce?). Their focus is on species in the midwestern USA, but they also collaborate on other herps in the USA. You can learn more about their work, and about lab members, from their website: https://www.amphibianatic.com/

Image description: Dr. Jen Lamb, Chair of MWPARC, enthusiastically holding a juvenile Snapping Turtle (*Chelydra serpentina*) which is looking back, mouth open ready to snap! Image courtesy of Dr. Jen Lamb.

Stories From the Field Submission: Do you have a story to share? Submit your story here!

Check Out Your State

Midwest PARC has launched a new set of state resource pages under the Region tab on the website. State pages serve as a home for resources for those interested about herpetology in each state. Information ranges from educational (state herps, museum collections, and lists field guides) to regulatory resources, management plans, and community science programs.

Did you know the Black Racer, *Coluber constrictor constrictor*, is the state reptile of Ohio?

Have you thought about getting involved with community science in Illinois?

Are you prepared for your next herping trip in Kansas? Be sure to check out their Laws Pertaining to Field Herping!

Or maybe you just want to learn more about the states and species that make up MWPARC. Hop on over to our State Pages!

***Image description**: The Region Tab of MWPARC's website displaying an outline of each of the twelve states in our region as a selectable link to each state's resource page.*

2025 Meetings and Conferences

Mark your calendars!

2025 Ohio Amphibian and Reptile Conference - **April 2** in **Columbus, OH**. This is Ohio PARC's annual meeting which will feature keynote speaker, Dr. Allison Sacerdote-Velat. Registration closed **March 16th**, but walk-up registration is available while space allows.

International Herpetological Symposium - **June 18-21** in **Fort Meyers, FL**. Early bird registration at a discounted rate closes May 15.

Joint Meeting of Ichthyologists and Herpetologists - **July 9-13** in **St. Paul, MN**.
Students in need of financial assistance to attend this meeting can apply to the Clark Hubb's Student Travel Award, due **May 15, 2025**.

NEPARC Annual Meeting - **August 10-12th, 2025** at the Poconos Environmental Education Center in **Dingmans Ferry, PA**.

Kansas Herp Society Annual Meeting - **November 7-9**, location to be announced.

Hot Off the Presses! - Recent Publications

Scientific Journal Articles Featuring Herps in the Midwest

Modulation of Paternal Care Behaviors in Response to Stream Conditions by Eastern Hellbenders (Cryptobranchus alleganiensis alleganiensis). For offspring to be successful in an environment bound with environmental stressors, changing conditions, and threats; it is vital for parents to adapt care behaviors to buffer offspring to these changes. Fathering hellbenders do increase parental behavior buffering against decrease in dissolved oxygen, however, they do not appear to adapt care to increased silt in nesting cavities and found widespread filial cannibalism.

O'Brien, R.S.M., J. Groffen, A.A. Dayer, and W.A. Hopkins. 2025. Modulation of Paternal Care Behaviors in Response to Stream Conditions by Eastern Hellbenders (*Cryptobranchus alleganiensis alleganiensis*). Integrative Organismal Biology obaf007. DOI: https://doi.org/10.1093/iob/obaf007

Comparison of Baseline Painted Turtle (Chrysemys picta) Health Assessments at a Confined Disposal Facility and a Protected Coastal Marsh in Southwestern Lake Erie, Ohio, USA. A recent study explored the effects of confined disposal facilities (CDFs) for dredged material on the health of Painted Turtles in southwestern Lake Erie. The research compared turtles from a CDF to those from a protected coastal marsh, assessing their physical condition, blood chemistry, and exposure to pathogens. Turtles from the CDF had higher stress indicators, such as elevated glucose levels, compared to those from the marsh.

Vincent, E.C., F. Satern, J. Flint, and M. Flint. 2025. Comparison of Baseline Painted Turtle (*Chyrsemys picta*) Health Assessments at a Confined Disposal Facility and a Protected Coastal Marsh in Southwestern Lake Erie, Ohio, USA. Journal of Wildlife Diseases. 61(1), 46-63. https://doi.org/10.7589/JWD-D-24-00037

Want to see your research highlighted? Have you recently published on populations of amphibians or reptiles in the Midwest? We want to hear about it! Please reach out to **Liam Feeney** (ohioherping@gmail.com) and **Danielle Galvin** (dgalvin2@utk.edu) if you would like to highlight your research.

Header photo description: A Timber Rattlesnake (*Crotalus horridus*) coiled with its head and tail in the center. The snake is sitting on top of reddish brown soil. Photo courtesy of Braden Alexander.

We want your feedback: What would you like to see in future volumes of our newsletter? Give us more information by filling out this survey: https://forms.gle/Hz9ZkznEFfiTE8a48

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