

KANSAS DEPARTMENT OF WILDLIFE AND PARKS
Petition for Species Review (submission deadline: October 5, 2023)
Endangered/Threatened/Species-in-Need-of-Conservation Status

Kansas recognizes rare or declining species by state listing to categories of Endangered*, Threatened**, or Species-in-Need-of-Conservation (SINC)*** (K.A.R. 115-15-1 and 2). Every 5 years these lists are reviewed as required by statute (K.S.A. 32-960). A Threatened and Endangered Species Task Committee oversees the process and makes listing recommendations to the Secretary of Kansas Department of Wildlife and Parks (KDWP) based on best available science. Any changes to these lists must be approved by the KDWP Commission.

A review regarding a listing, delisting, uplisting or downlisting of Kansas wildlife regarding the above categories is initiated via a petitioning process. To submit a petition for review, please fully complete the requested information attached below. Petitioners are strongly encouraged to provide all substantive biological information with cited references to aid in the review. A completed petition is no guarantee that the listing request will occur. The scientific information in the petition determines whether or not the requested listing change will merit a full review.

At the request of the KDWP Secretary, the Threatened and Endangered Species Task Committee will evaluate all completed petitions and determine if there is sufficient information to justify a full review of the petitioned status change. If the species is accepted for further review, there will be public information meetings conducted in regard to the proposed listing change.

All petitioning documents pertaining to the species under full review will be made available to the public at the KDWP website (<https://ksoutdoors.com/Services/Threatened-and-Endangered-Wildlife/2023-Five-Year-Review>). If a listing change is recommended, a notice of the proposed action will be sent to federal and state agencies and local and tribal governments that may be affected by the petitioned species, and to all individuals and organizations that have requested notification. KDWP will issue news releases concerning the proposed species listing change. In addition, individual petitions and substantiating data will be distributed to and evaluated by: 1) academia, 2) wildlife agency personnel, 3) other professionals, 4) other resource agencies (state and federal) and 5) nonprofessionals who have known expertise/experience with the petitioned species. This entire process, from petition to final vote by the commission, has taken as long as 18 months.

Questions concerning the petitioning and review process should be directed to Jordan Hofmeier, Assistant Director of Ecological Services, KDWP, 512 SE 25th Ave, Pratt, KS 67124 (Jordan.Hofmeier@ks.gov).

Completed “Petition for Species Review” pdf forms should be sent to kdwpt.ess@ks.gov or paper copies to KDWP, Attn: Ecological Services, 512 SE 25th Ave., Pratt, KS 67124-8174.

* Endangered Species: any species of wildlife whose continued existence as a viable component of the state’s wild fauna is determined to be in jeopardy (KSA 32-958c).

**Threatened Species: any species of wildlife which appears likely, within the foreseeable future, to become an endangered species (KSA 32-958f).

***Species-in-Need-of-Conservation: (SINC) any species which are highly specialized, whose habitat is very limited in Kansas, or shows a population decline that warrants data collection concerning its status in Kansas. Conservation efforts focused on this species can prevent future listing as threatened or endangered. This listing is not defined in the Kansas Statutes.

Species Common Name: Northern Map Turtle _____

Species Scientific Name: *Graptemys geographica* _____

Currently listed as:

Endangered Threatened Species-In-Need-of-Conservation (SINC) not listed

Petitioned to:

Endangered Threatened SINC not listed

Note to petitioner: Feel free to expand the blanks below to add sufficient information. When completed, please convert Word document to a pdf prior to submitting.

1) List the survey/research information that has occurred since the last 5-year review (2018) that has prompted your petition to change the listing category of this species.

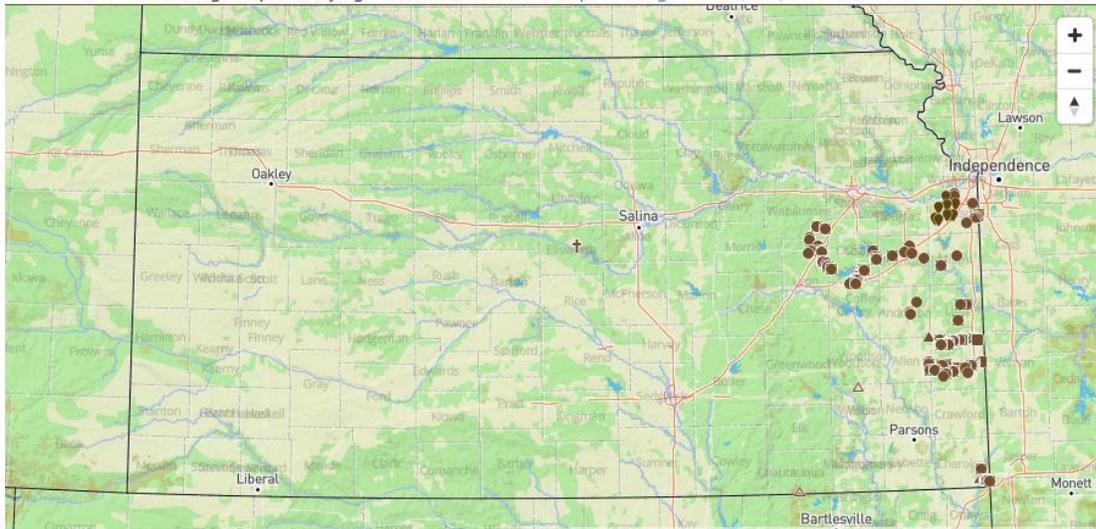
Surveys were conducted for the species by Emporia State University from 2017-2019. Those surveys detected 100 individuals from 53 locations, 48 of those locations where the species had not been documented before (Mahr 2020). Prior survey work conducted by Fuselier and Edds (1994) only captured 10 *G. geographica*. Methodology shifted between the two studies from traditional turtle traps to visual surveys using spotting scopes.

2) a. Provide a map of the species' current distribution in Kansas and range wide.

(●, ○ Museum Voucher) (▲, △ Observation) (■, □ Literature Record) (📍, 📍 iNat Record), († Fossil)

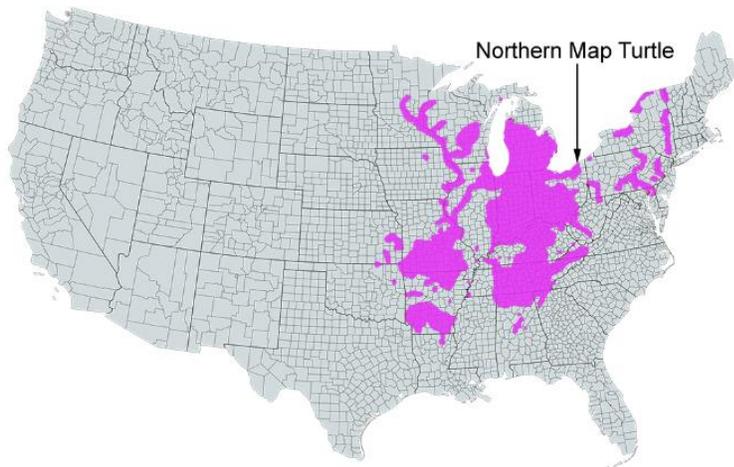
Open icons are questionable records; Click on a marker to view details.

Full range depicted by light shaded red area. [Export Google Earth \(.kml\)](#)



<https://webapps.fhsu.edu/ksherp/account.aspx?o=35&t=111>

U.S. Range



<https://www.virginiaherpetologicalsociety.com/reptiles/turtles/northern-map-turtle/index.php>

- b. Is the Kansas population considered connected with the population in an adjoining state?
Yes No Don't know There are contiguous populations within the Spring River Drainage in Missouri, Kansas, and Oklahoma. According to the Missouri Herp Atlas there are no records for the Marais des Cygne River in counties bordering Kansas, but there are records further downstream (Edmond and Daniel, 2023) Supposedly little to no survey work has taken place in this corner of the state, so the turtles are most likely there (R. Daniel pers. Comm.). They are considered abundant elsewhere in southern Missouri.
- c. If no, what is the distance to the nearest out-of-state population? _____
- d. Is the Kansas population genetically distinct from the core population in other states?
Yes No Don't know No current literature to support genetic distinctness of populations of *G. geographica*.

Cite references:

Edmond, B.S., and R.E. Daniel. 2023. Missouri Herpetological Atlas Project. <https://atlas.moherp.org/> Accessed on 13 September 2023.

Fuselier, L., and D. Edds. 1994. Habitat partitioning among three sympatric species of map turtles, genus *Graptemys*. *Journal of Herpetology* 28:154-158.

Mahr, M.S. 2020. Distribution and statuses of map turtles (*Graptemys* spp) in Kansas. MS. Thesis presented to Emporia State University.

3) How and to what magnitude has the species' distribution changed within Kansas during the past 35 years?

There are currently 266 records for *G. geographica* in the Kansas Herp Atlas. This does not include the ten individuals captured by Fuselier and Edds (1994). Of those 266 records, 250 of them have been added since 2005. Historically, little is known about the species distribution in the state. *Graptemys geographica* was reported as extirpated in 1987 as it had not been observed for 35 years (Edds et al., 1990). Once sampling was initiated by Edds they captured 10 individuals in the Marais des Cygnes and Marmaton Rivers (Edds, 1991). Mahr (2020) sampled for *G. geographica* in 2017-2019 and captured six individuals at 6 locations. Visual surveys using spotting scopes to observe basking turtles was also conducted during this time frame at 105 locations. These surveys yielded another 92 *G. geographica* at 43 locations. These surveys expanded the known range of *G. geographica* with the Marais des Cygne drainage as well as the Spring and Blue River drainages. While *G. geographica* may not come into traditional traps easily, using visual surveys to conduct presence/absence surveys help increase our knowledge of the species distribution tremendously.

Globally? Unknown _____

Cite references:

Edds, D., W. Voorhees, J. Schnell, and L. Shipman. 1990. Common Map Turtle rediscovered in Kansas. Kansas Herpetological Society Newsletter 82:12.

Edds, D. R. 1991. Conservation status of the Common Map Turtle in Kansas. Final report to Kansas Department of Wildlife and Parks. Agency Contract # 259. 45 pp.

Fuselier, L., and D. Edds. 1994. Habitat partitioning among three sympatric species of map turtles, genus *Graptemys*. Journal of Herpetology 28:154-158.

Mahr, M.S. 2020. Distribution and statuses of map turtles (*Graptemys* spp) in Kansas. MS. Thesis presented to Emporia State University.

4) Describe the species' population (not distribution) trend within Kansas during the past 35 years.

Unknown, although by altering sampling techniques to total number of observations of the species has grown considerably.

Globally? *Graptemys geographica* is widespread throughout the eastern United States. Although considered stable throughout most of its range, it is considered endangered in Maryland (Richards-Dimitrie 2012), and a species of special concern in Oklahoma and Vermont (Lindeman, 2013; Sievert and Sievert, 2011).

Cite references:

Lindeman, P. V. 2013. The Map Turtle and Sawback Atlas: Ecology, Evolution, Distribution, and Conservation. University of Oklahoma Press, Norman, Oklahoma, USA. 460 pp.

Richards-Dimitrie, T. M. 2012. Spatial ecology and diet of Maryland endangered Northern Map

Turtles (*Graptemys geographica*) in an altered river system: implications for conservation and management. Towson University Institutional Repository.
Sievert, G., and Sievert, L. 2011. A field guide to Oklahoma's amphibians and reptiles. Oklahoma Department of Wildlife Conservation, Oklahoma, USA. 211 pp.

- 5) a. What is the Global Rank of this species from NatureServe? (<http://natureserve.org/>)
G5 Secure
b. What is species status and trend on IUCN Red List? (<http://www.iucnredlist.org/>)
Least concern
c. What proportion of the species' global population is currently found within Kansas?
~ 10%
-

6) What is the species' current residency status within Kansas (vagrant, migrant, wintering, or year-round)?
Year Round

7) Describe the species' current breeding status within Kansas.
Unknown, but nesting and subadults have been observed in the Blue River Drainage (T. Barta and E. Kessler Pers. Comm.). Hatchlings have also been observed in the Spring River Drainage (J. Rader Pers. Comm).

Cite references: _____

8) Describe the species' habitat requirements:

Graptemys geographica inhabits larger bodies of water, such as rivers, lakes, and oxbows, with a preference for well-oxygenated conditions with low to moderate flow, an abundance of aquatic vegetation, and soft substrates. Access to suitable basking locations is key for this species—it has been identified as a habitual basker (Lindeman, 2013).

Lindeman, P. V. 2013. The Map Turtle and Sawback Atlas: Ecology, Evolution, Distribution, and Conservation. University of Oklahoma Press, Norman, Oklahoma, USA. 460 pp.

9) Discuss the species' degree of specialization with regard to habitat, food, or other life history factors.

Male *G. geographica* are primarily insectivorous, while female diet consists primarily of mollusks. Diet shifts have been recorded with females transitioning from native mussels and snails, to invasive Asian clams, quagga mussels, and zebra mussels (Lindeman 2013).

Cite references:

Lindeman, P. V. 2013. The Map Turtle and Sawback Atlas: Ecology, Evolution, Distribution, and Conservation. University of Oklahoma Press, Norman, Oklahoma, USA. 460 pp.

10) Discuss the species' sensitivity to environmental contaminants and disease, if any, including known potential problems:

Water pollution can threaten populations of the mollusks on which *G. geographica* feeds (Ernst et al. 1994). As urbanization and other development increases in mesopredators such as Raccoons (*Procyon lotor*) result in increased predation of nests and juvenile turtles, thus shifting population structures toward adult ages classes (Mitchell and Klemens 2000).

Cite references:

Ernst, C. H., J. E. Lovich, and R. W. Barbour. 1994. *Turtles of the United States and Canada*. Smithsonian Institution Press, Washington and London. 578 pp.

Mitchell, J. C., and M. W. Klemens. 2000. Primary and secondary effects of habitat alteration. Pp. 5–32 in M.W. Klemens (Eds.), *Turtle Conservation*. Smithsonian Institute Press, USA.

11) To what degree is this species currently vulnerable to consumptive and/or commercial use in Kansas, and what relationship does that use have on its total population?

Minimal commercial use. *Graptemys* as a whole occasionally show up in the pet trade, although most appear to be captive born (D. Riedle pers. Comm.).

Cite references: _____

12) What are the current and imminent threats to the species in Kansas? Please list in priority order with the highest-ranked threat first.

Anthropogenic alterations affecting water quality and mollusk populations. Increase urbanization and subsidized predators will effect nest success rates (Lindeman, 2013).

Cite references: Lindeman, P. V. 2013. *The Map Turtle and Sawback Atlas: Ecology, Evolution, Distribution, and Conservation*. University of Oklahoma Press, Norman, Oklahoma, USA. 460 pp.

13) a. What is the recovery potential of this species?

Excellent _____ Good X _____ Fair _____ Poor _____ Unlikely _____

Explain:

With the utilization of visual surveys to sample for the species, it has now been documented in almost all river drainages in which it could occur in Kansas. Currently it has not been observed in the Neosho drainage in Kansas or Oklahoma outside of the Spring River (Mahr 2020; Seivert and Seivert 2011). Although it has been observed on the Neosho south of Grand Lake, Oklahoma (Riedle et. al., 2009).

Mahr, M.S. 2020. Distribution and statuses of map turtles (*Graptemys* spp) in Kansas. MS. Thesis presented to Emporia State University.

Sievert, G., and Sievert, L. 2011. A field guide to Oklahoma's amphibians and reptiles. Oklahoma Department of Wildlife Conservation, Oklahoma, USA. 211 pp.

b. List any conservation actions that are currently addressing the needs of this species.

Increased focus on water quality and mussel conservation

c. List any pending conservation actions that might improve the status of this species.

14) Summarize your reasons for requesting a review of this species:

With increasing knowledge and shifting survey methods, they known distribution of the species in the state has greatly expanded.

15) Describe your expertise/experience with the species you are petitioning.

I have seven years experience sampling aquatic turtles, including *G. geographica* in Oklahoma and Missouri, and was the PI on the project centered on sampling for the species in Kansas in 2017-2019.

Note on citations: It is not necessary to provide extensive literature citations, however, any pertinent data is helpful in determining species status. Feel free to attach any information you may have pertaining to the status or biology of this species that will help in its review.

If there is insufficient space for your reply to any of the informational requests, attach extra sheets. Be sure to reference your attached material to the appropriate numbered questions.

The currently-listed Kansas species can be found at:

<http://ksoutdoors.com/Services/Threatened-and-Endangered-Wildlife/Kansas-Threatened-and-Endangered-Species-Statewide> (Threatened and Endangered list)

<http://ksoutdoors.com/Services/Threatened-and-Endangered-Wildlife> (SINC list)

Petitioner(s):

Name: Daren Riedle _____
Address: 512 SE 25th Ave _____
City: Pratt _____ State KS _____ Zip 67124 _____
Phone: (620) 672-0746 _____
e-mail: daren.riedle@ks.gov _____

Send fully completed petition to (deadline is **October 5, 2023**): kdwpt.ess@ks.gov or

Kansas Department of Wildlife and Parks
Attn: Ecological Services
512 SE 25th Ave
Pratt, KS 67124-8174