

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/2023Five-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 32958f).

***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: Black-tailed prairie dog

Species Scientific Name: *Cynomys ludovicianus*

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.
 - Peek, M., Peterson, D., and Senne, L. 2021. Estimated Number and Area of Prairie Dog Colonies in Kansas in 2019. Kansas Department of Wildlife and Parks.

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

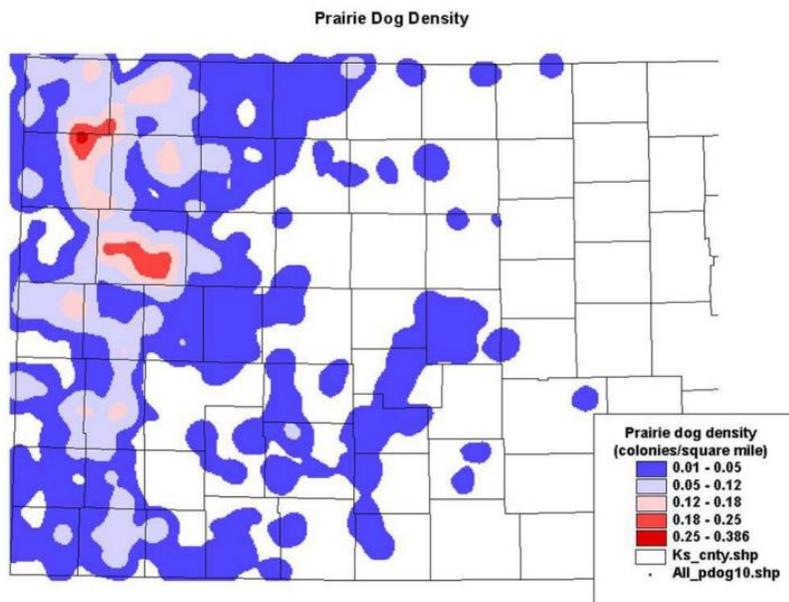


Fig 1: Prairie dog density in Kansas in 2002. Black-tailed Prairie Dog Working Group.

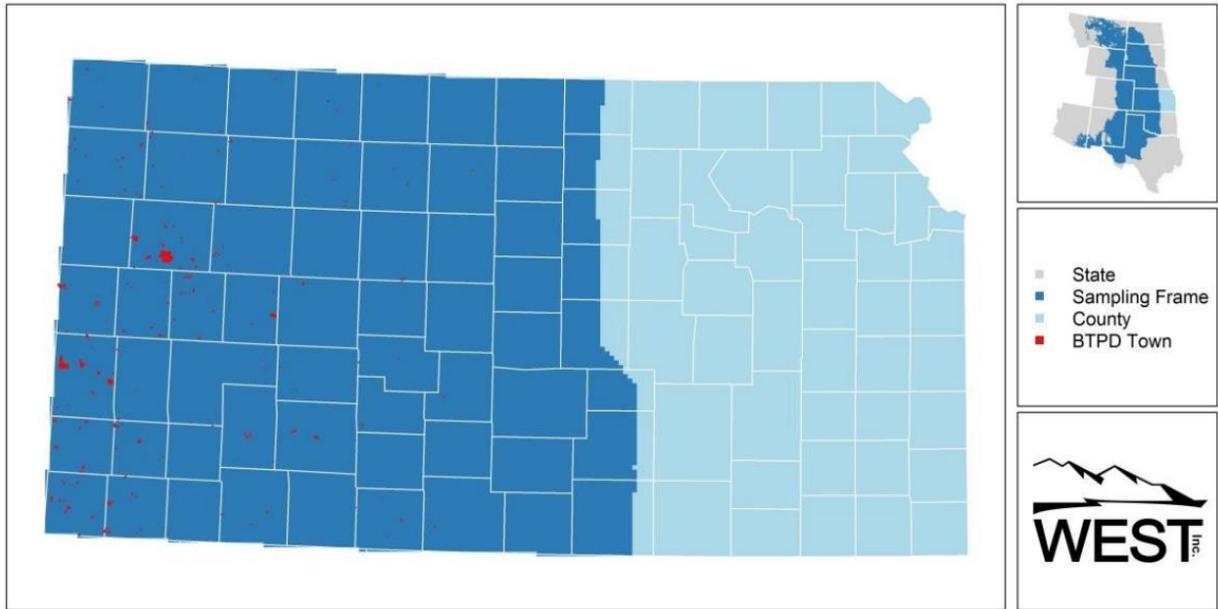


Fig 1.5: Prairie dog towns in Kansas. 2015 pilot study by WEST, Inc. Most recent map publicly available (2019 study did not include map).



Fig 2: Prairie dog range globally. IUCN Redlist.

b. Is the Kansas population considered connected with the population in an adjoining state? Yes No Don't know

- 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 ___X___

Cite references:

- Kansas Black-Tailed Prairie Dog (BTPD) Working Group. 2002. Kansas black-tailed prairie dog conservation and management plan.
- McDonald, L., Mitchell, J., Howlin, S., and Goodman, C. 2015. Range-Wide Monitoring of Black-Tailed Prairie Dogs in the United State: Pilot Study. WEST, Inc.

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

Prairie dog populations have fluctuated significantly in the last 35 years. They are difficult to survey due to their tendency to spend a lot of time underground. Through satellite imagery it is possible to locate possible prairie dog towns and confirm them through aerial or on-the-ground checks. Their distribution has shrunk over the years, and colonies are becoming smaller and more scattered, reducing genetic diversity. From 2008 to 2019 close to 70% of the acres covered by prairie dogs were lost, and only 40% of colonies remained.

Year	Area (acres)	90% C.L.	Colonies (#)	90% C.L.	Technique
2000	126,013	90,006; 159,020	4,729	3,441; 6,018	Line transect (l.t.)
2006	*97,011	68,990; 125,031	2,480	2,102; 2,858	Multiple techniques
2008	148,284	101,580; 194,988	4,257	3,691; 4,823	NAIP (l.t.) w aerial check
2015	**154,775	102,084; 262,123	2,553	2,141; 3023	NAIP (l.t.)
2019	44,919	36,646; 53,192	1,710	1,618; 1,801	NAIP; McDonald et al. 2015

*NW KS Only (survey comparison)

**Uncorrected for false positives. 50-67% overestimate = 50,000-75,000 acres

Globally?

It is estimated that 98% of suitable habitat has been lost in total. Little data exists on the loss of habitat in the last 35 years, though it is known that expansion of human settlements have slowed.

As of 2023, there is an estimated 20.8 million ha of suitable prairie dog habitat remaining in North America, but currently only 9% (1.9 million ha) of that range is occupied by prairie dogs. There is significant conservation potential at present, even though the range of these animals has retracted substantially.

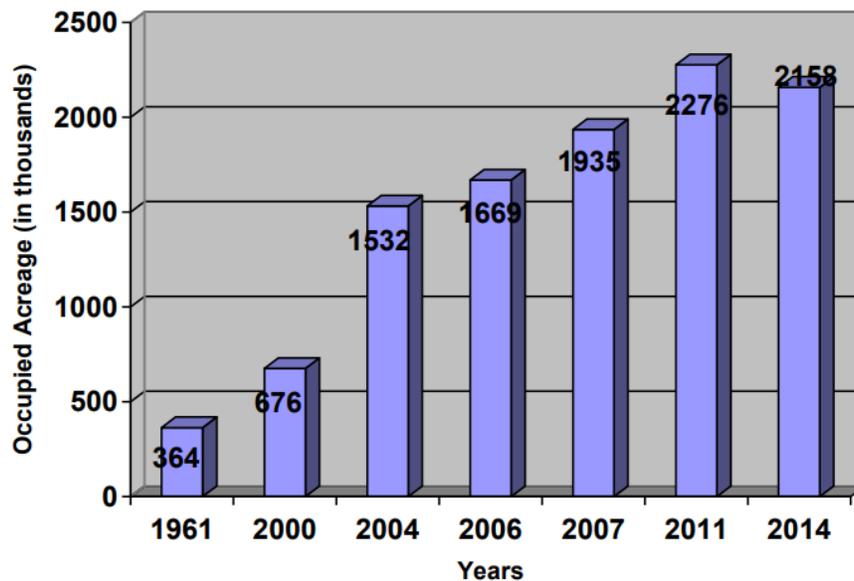


Fig 3: WAFWA prairie dog occupied acreage estimations.

BTPD Colonies

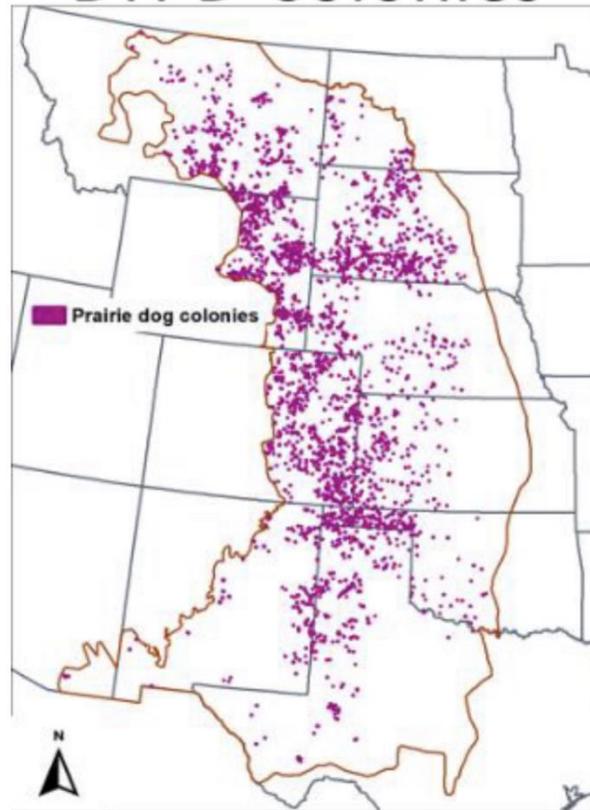


Fig. 4: 2015 data on prairie dog colonies compared to historic range outlined (Davidson 2023).

If Kansas trends based on the 2019 survey point towards a larger trend globally it's possible that more recent data would show a large decline in population.

Cite references:

- Davidson, A., Fink, M., et al. 2023. Present and future suitable habitat for the black-tailed prairie dog ecosystem. *Biological Conservation* 286.
- U.S. Fish and Wildlife Service. 2004. Finding for the resubmitted petition to list the black-tailed prairie dog as threatened. *Federal Register* 69(159): 51217-51226.
- Mulhern, D. and Knowles, C. 1997. Black-Tailed Prairie Dog Status and Future Conservation Planning. US Department of Agriculture.

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

Exact population numbers are hard to ascertain, but area covered by prairie dog towns can be used to approximate population. Typical range of individuals per hectare are anywhere from 5-45. See above for area change.

Globally?

Generally declining overall but locally stable in some states/populations. See above.

Cite references:

- U.S. Fish and Wildlife Service. 2004. Finding for the resubmitted petition to list the black-tailed prairie dog as threatened. *Federal Register* 69(159): 51217-51226.
- Mulhern, D. and Knowles, C. 1997. Black-Tailed Prairie Dog Status and Future Conservation Planning. US Department of Agriculture.

5) a. What is the Global Rank of this species from NatureServe? (<http://natureserve.org/>)

G4 Secure – listed as vulnerable (G3) in KS and nearby states of NE, CO, OK, TX. Last assessed April 2016.

b. What is species status and trend on IUCN Red List? (<http://www.iucnredlist.org/>)

Least concern - decreasing. Last assessed September 2016.

c. What proportion of the species' global population is currently found within Kansas?

Approximately 7.1% of the global population is found in Kansas according to the USFWS 2004 finding report (some of which included out of date data). Due to the species overall decline across much of its range since then, this data is likely inaccurate. It was found that prairie dogs covered approximately 745,400 hectares with 53,000 hectares in KS. Population numbers are hard to estimate, so coverage of prairie dog towns are considered instead.

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.

Breed in Kansas. Females may produce a single litter in a year of 4-5 pups. Polygynous. Females are typically only sexually receptive one day of the year, but they may enter estrus a second time 13 days after initial estrus if they fail to become pregnant. Average gestation length is 34.6 days. In females, 35% breed their first year, 60% delay until their second year, and 5% delay until year three. In males, only 6% breed their first year, 70% breed their second year, and 24% don't breed until year three. Average life expectancy is only 3-4 years in the wild.

Cite references:

- U.S. Fish and Wildlife Service. 2004. Finding for the resubmitted petition to list the black-tailed prairie dog as threatened. Federal Register 69(159): 51217-51226.
- Hoogland, J. 1995. The black-tailed prairie dog: Social life of a burrowing mammal. Chicago: Chicago University Press.
- Hoogland, J. 1996. *Cynomys ludovicianus*. Mammalian Species, 535: 1-10.

8) Describe the species' habitat requirements:

All major grassland types, but most abundant in mixed grass prairie and shortgrass plains. Prefers arid shortgrass plains and avoids wet areas. They use open, level or gently sloping, open grasslands with more sparse vegetation, including areas overgrazed by cattle.

Prefers fine to medium textured soils. Preferred soil types are silty clay loams, sandy clay loams, and loams, but may encroach into sandy soils for colony expansion.

Cite references:

- Cassola, F. 2016. *Cynomys ludovicianus* (errata version published in 2017). The IUCN Red List of Threatened Species 2016: e.T6091A115080297. <https://dx.doi.org/10.2305/IUCN.UK.2016-3.RLTS.T6091A22261137.en>.

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

While prairie dogs themselves do not have a high degree of habitat specialization and are able to establish within a range of suitable shortgrass prairie ecosystems, there are a number of other species that specialize in habitats facilitated/modified by prairie dog activity. They are a keystone species, and their presence influences life history factors for more than 100 other species that utilize prairie dog towns. It is also important to note that no other species duplicate the type of ecosystem effects generated by prairie dog activity through both direct and indirect impacts.

Nine species in particular have been identified in literature as having a "dependent obligate" relationship to prairie dog habitats, indicating that their degree of specialization is so high that their populations would be significantly impacted by prairie dog extirpation. These dependent-obligate species include:

- black-footed ferrets
- swift foxes
- burrowing owls
- ferruginous hawks
- Horned larks
- Golden eagles

- Mountain plover
- Deer mouse
- Northern grasshopper mouse

Cite references:

- Kotliar, N., Baker, B., Whicker, A. *et al.* A Critical Review of Assumptions About the Prairie Dog as a Keystone Species. *Environmental Management* 24, 177–192 (1999). <https://doi.org/10.1007/s002679900225>
- Duchardt, C. J., Porensky, L. M., & Pearse, I. S. (2021). Direct and indirect effects of a keystone engineer on a shrubland-prairie food web. *Ecology*, 102(1), 1–13. <https://doi.org/10.1002/ecy.3195>

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

Prairie dogs are particularly susceptible to sylvatic plague. Sylvatic plague outbreaks may kill approximately 99% of the individuals within a prairie dog colony, and their numbers within the colony may never fully recover from the outbreak. Sylvatic plague also decreases colony size and increases habitat fragmentation drastically, creating a potentially permanent alteration to plague-impacted landscapes.

Many of the commercially available compounds applied in prairie dog control can also have larger scale effects on wildlife in prairie dog ecosystems, due to the utilization of prairie dogs as a prey species. Studies have found that Rozol (chlorophacinone) treatments caused secondary poisonings to other mammals and raptors through residues accumulated in prairie dog tissues. These contaminants can also have deadly effects on non-target species that do not feed on prairie dogs, including songbirds such as the Western Meadowlark.

Cite references:

- U.S. Fish and Wildlife Service (USFWS). 2000. 12-month finding for a petition to list the black-tailed prairie dog as threatened. *Federal Register* 65(24):5476-5488.
- Keuler KM, Bron GM, Griebel R, Richgels KLD (2020) An invasive disease, sylvatic plague, increases fragmentation of black-tailed prairie dog (*Cynomys ludovicianus*) colonies. *PLoS ONE* 15(7): e0235907. <https://doi.org/10.1371/journal.pone.0235907>
- Vyas NB, Hulse CS, Meteyer CU, Rice CP. 2012. Evidence of songbird intoxication from RozolH application at a black-tailed prairie dog colony. *Journal of Fish and Wildlife Management* 4(1):97–103; e1944-687X. doi: 10.3996/ 052012-JFWM-042
- Vyas, Nimish B., Craig S. Hulse, and Clifford P. Rice. "Chlorophacinone residues in mammalian prey at a black-tailed prairie dog colony." *Environmental Toxicology and Chemistry* 31.11 (2012): 2513-2516.

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?

Currently, prairie dogs may be hunted in Kansas without a hunting license by residents, and with a nonresident license by nonresidents. The season is year-round with no take limit.

Cite references:

- KSA 32-919

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

Throughout its range, prairie dogs have experienced a drastic loss of habitat (approximately 2% of their historic range remains) and increasing fragmentation of habitat from agricultural development. They are also widely targeted by extermination efforts due to their contentious perception as a pest species, and most of these efforts occur on private land with little government oversight.

According to the USFWS 12-month findings for black-tailed prairie dog listing ranked threats to the species as follows:

1. Habitat loss
2. Over-utilization/unregulated shooting
3. Sylvatic plague
4. Inadequate Regulatory Mechanisms
5. Other Natural or Manmade Factors

Within the state of Kansas, control measures and unregulated prairie dog removals are specifically listed as a greater driver of the species decline.

Cite references:

- U.S. Fish and Wildlife Service (USFWS). 2000. 12-month finding for a petition to list the black-tailed prairie dog as threatened. Federal Register 65(24):5476-5488.
- Peek, M., Peterson, D., and Senne, L. 2021. Estimated Number and Area of Prairie Dog Colonies in Kansas in 2019. Kansas Department of Wildlife and Parks.

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

Excellent _____ Good ___X___ Fair _____ Poor _____ Unlikely _____

Explain: Black-tailed prairie dogs have been shown to recover from pressures if given an opportunity to do so (KDWP 2002, USFWS 2004). Davidson 2023 identified 20.8 million hectares of suitable grassland habitat of which only 1.9 million hectares (9%) is currently inhabited giving hope to future conservation efforts.

One of the largest threats to prairie dogs in Kansas is the misconception that they heavily compete with or possibly harm livestock like cattle. While complex, it is widely accepted that the grazing competition they pose to cattle is minimal under certain conditions (Lipinski, A. R. 2014). During drought or if a pasture is overstocked these effects can be increased. It has also been found that grazing livestock like bison and cattle actually prefer to graze on top of prairie dog towns where the grasses are rich in nitrogen and make great forage. If prairie dogs are to make a recovery, education on their benefits is needed.

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

Past actions:

Kansas Black-Tailed Prairie Dog Working Group established objectives to preserve prairie dogs in Kansas as well as strategies to meet these objectives. This group is no longer active in an official capacity though some members continue their work.

Current actions:

The Black-Tailed Prairie Dog is currently listed on the Kansas Species of Greatest Conservation Need as part of the State Wildlife Action Plan and is one of only three mammal species to be listed as such. Within this plan it is noted that the prairie dog population “is low and under continual threat due to eradication programs”. It is also noted that educational programs were under development to educate the public on the importance of these animals.

Audubon of Kansas currently has the prairie dog as a conservation focus.

Western Association of Fish & Wildlife Agencies has a Prairie Dog Conservation Team which looks to conserve not only the black-tailed prairie dog, but white-tailed, Gunnison’s, and Utah prairie dog as well.

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

KDWP has a survey planned in 2023 using NAIP imagery which can help locate populations in need of conservation or areas where prairie dogs could be reintroduced if eradicated.

Changing or eliminating KSA 80-1202 could give individual counties/townships the opportunity to take ownership over prairie dog conservation/elimination.

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

Black-tailed prairie dogs are considered a keystone species of the grasslands they inhabit. It has been found that hundreds of species rely on prairie dogs for their survival whether as a prey source, using burrows as shelter, preferring to nest on prairie dog towns, or a multitude of other reasons. This includes rare, threatened, or endangered species such as the black-footed ferret, swift fox, Ferruginous Hawk, Burrowing Owl, Mountain Plover, Golden Eagle, Lesser Prairie Chicken, and many more. In addition, it has been found that prairie dogs foster benefits at the community-level in many other ways, through increasing wildflower diversity, providing habitat

for greater grassland bird diversity, creating preferred forage for grazers, and the health and aeration of soil.

Though there have been attempts at prairie dog conservation in Kansas, many of those attempts have either been inconsistent, or have fallen short of their stated goals. To help prevent federal listing (as well as the associated costs and regulatory burden), proactive conservation at the state level is needed. The black-tailed prairie dog is declining throughout most of its range, but perhaps nowhere more so than Kansas. As such a crucial element of the landscape, and an essential piece of our State's natural tapestry, we cannot allow the decline of prairie dogs to continue at its current rate.

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

Eight years' experience with grassland field work, research, and work as a grassland educator. Received input from lead prairie dog specific researchers/conservationists.

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: Nicole Brown

Address: 4925 S. Broadway #69

City: Wichita State: Kansas Zip: 67216

Phone: 316-992-3479

e-mail: nicole@grasslandgroupies.org

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