

MAMMALS OF THE KANSAS ECOLOGICAL RESERVES

Henry S. Fitch

Fitch Natural History Reservation, Rt. 3, Box 142, Lawrence, KS 66044

and W. Dean Kettle

Experimental and Applied Ecology Program, 2041 Constant Ave., Lawrence, KS 66047-2906

Thirty-eight species of mammals have been recorded from the Kansas Ecological Reserves (KER) as shown in the following list. A hypothetical list of species that may have occurred, or may still occur, on KER areas has 15 additional species including 5 that were extirpated in Kansas in the 19th century (Black Bear, Gray Wolf, Mountain Lion, Bison and Wapiti), six wide-ranging bats (Big Brown Bat, Evening Bat, Hoary Bat, Silver-haired Bat, Brazilian Free-tailed Bat and Eastern Pipistrelle), two semi-aquatic species known to live in the general area (Mink and River Otter) and two species typical of shortgrass plains that also have been found nearby (Badger and Black-tailed Jackrabbit). Alleged recent sightings of the Mountain Lion in the Tri-County areas of KER require verification. Humans, as well as their domesticated (and feral) livestock and pets, have not been included in this list even though their activity can have significant impact on the areas.

Of the 38 species actually recorded, 17 have transcontinental ranges, 13 others are most typical of the Eastern Deciduous Forest Biome (Virginia Opossum, Elliot's Short-tail Shrew, Least Shrew, Gray Squirrel, Fox Squirrel, Southern Flying Squirrel, Eastern Chipmunk, White-footed Mouse, Woodland Vole, Southern Bog Lemming, Eastern Woodrat, and Eastern Cottontail); six others are most typical of Great Plains grasslands (Plains Pocket Gopher, Franklin's Ground Squirrel, Western Harvest Mouse, Plains Harvest Mouse and Prairie Vole); and two are introduced commensals (House Mouse and Norway Rat).

Several types of small live-traps have been used for mammal sampling, with hundreds of thousands of "trap nights" on the Tri-County area between 1948 and the present. Relatively little sampling has been done with bat nets. Little sampling of any kind has been done in the KER tracts of the Baldwin Woods area. Information concerning mammal species larger than rabbit size has been based mainly on casual sight records and tracks.

Notable changes in the mammal faunas of the KER areas have been observed. Like other large mammals the White-tailed Deer was extirpated in Kansas in the late 1800s. As a result of a successful conservation program in Missouri deer regained their abundance there, reinvaded Kansas in the 1930s and were first seen on FNHR in 1949. They increased to a peak population there in the 1960s (before an open season was declared). The Eastern Chipmunk was reintroduced to the FNHR (with more than 30 releases) in the late 1980s and apparently is now well established. The Plains Pocket Gopher, Great Plains Harvest Mouse and Deer Mouse, all typical of shortgrass habitat, have disappeared from the FNHR as a result of successional changes. The Muskrat and (much less frequently) Beaver have temporarily established individuals or small colonies at the FNHR pond, but they invariably disappear when the aquatic habitat deteriorates, as in time of drought. The Long-tailed Weasel, Eastern Spotted Skunk and Red Fox have not been observed in recent decades at FNHR and their present status is uncertain. The Eastern Woodrat was at a population peak in the late 1940s, declined precipitously in the 1950s and 60s, and by 1990 had again become abundant. The Southern Bog Lemming was abundant in the late 1920s and again in the late 60s but extremely rare during most of the intervening period. The Hispid Cotton Rat formerly had a more southern range, reaching only to southern Kansas in the 1920s but spread northward into the northeastern part of the state in the late 1940s. It is subject to drastic reductions, with die-off in unusually severe winter weather. Numerous studies on the ecology of the more common small

mammals of the Tri-County areas have been published and should be consulted for specific information (e.g., Fitch 1958; Gaines and Johnson 1982; Fitch et al. 1984; Swihart and Slade 1990; and Foster and Gaines 1991).

The following list is presented in phylogenetic sequence, and scientific and common names follow Jones et al. (1986). Generalized habitat preferences for each species has been recorded as follows: A=aquatic tendencies, F=forest, P=prairie or pasture, E=edge or forest-grassland contact, and C=commensals. A generalized key to abundance and occurrence is given with the following codes: a=abundant, m=moderately abundant, r=rare, s=single record of occurrence, and i=introduced species with no extant population. With recognition of the problem of oversimplification, each species has been placed in a single habitat type and, generally, has been assigned to one of three abundance categories. Obviously certain species (particularly larger species) utilize several habitats and many populations undergo changes in density. Despite these reservations, it is beneficial to provide the reader (especially one unfamiliar with the local fauna) with coarse data on the local faunal ecology.

Literature Cited

- Fitch, H.S. 1958. Home ranges, territories, and seasonal movement of vertebrates of the Natural History Reservation. University of Kansas Publications, Museum of Natural History 11(3):63-326.
- Fitch, H.S., V.R. Fitch, and W.D. Kettle. 1984. Reproduction, population changes and interactions of small mammals on a natural area of northeastern Kansas. University of Kansas Museum of Natural History Occasional Paper 109:1-37.
- Foster, J. and M.S. Gaines. 1991. The effects of a successional habitat mosaic on a small mammal community. *Ecology* 72(4):1358-1373.
- Gaines, M.S. and M.L. Johnson. 1982. Home range and population dynamics in the prairie vole, *Microtus ochrogaster*. *Oikos* 39(1):63-70.
- Jones, J.J., Jr., D.C. Carter, H.H. Genoways, R.S. Hoffman, D.W. Rice, and C. Jones. 1986. Revised checklist of North American mammals north of Mexico, 1986. *Occas. Papers Mus., Texas Tech Univ.*, 107:1-22.
- Swihart, R.K. and N.A. Slade. 1990. Long-term dynamics of an early successional small mammal community. *American Midland Naturalist* 123(2):372-382.

MAMMALS OF THE KANSAS ECOLOGICAL RESERVES

Order/Family/Genus/Species	Common Name	Habitat	Abundance
Marsupialia			
Didelphidae			
<i>Didelphis virginiana</i>	Virginia Opossum	F	m
Insectivora			
Soricidae			
<i>Blarina hylophaga</i>	Elliot's Short-tailed Shrew	F	m
<i>Cryptotis parva</i>	Least Shrew	P	m
Talpidae			
<i>Scalopus aquaticus</i>	Eastern Mole	F	a
Chiroptera			
Vespertilionidae			
<i>Myotis lucifugus</i>	Little Brown Myotis	F	t
<i>Lasiurus borealis</i>	Red Bat	F	t
Lagomorpha			
Leporidae			
<i>Sylvilagus floridanus</i>	Eastern Cottontail	E	a
Rodentia			
Sciuridae			
<i>Tamias striatus</i>	Eastern Chipmunk	F	r
<i>Marmota monax</i>	Woodchuck	E	r
<i>Spermophilus franklinii</i>	Franklin's Ground Squirrel	P	s
<i>Spermophilus tridecemlineatus</i>	Thirteen-lined Ground Squirrel	P	i
<i>Sciurus carolinensis</i>	Gray Squirrel	F	m
<i>Sciurus niger</i>	Fox Squirrel	F	a
<i>Glaucomys volans</i>	Southern Flying Squirrel	F	s
Geomyidae			
<i>Geomys bursarius</i>	Plains Pocket Gopher	P	m
Castoridae			
<i>Castor canadensis</i>	Beaver	A	r
Cricetidae			
<i>Reithrodontomys megalotis</i>	Western Harvest Mouse	P	a
<i>Reithrodontomys montanus</i>	Plains Harvest Mouse	P	r
<i>Peromyscus leucopus</i>	White-footed Mouse	F	a
<i>Peromyscus maniculatus</i>	Deer Mouse	P	a
<i>Sigmodon hispidus</i>	Hispid Cotton Rat	P	a
<i>Neotoma floridana</i>	Eastern Woodrat	F	a
<i>Microtus ochrogaster</i>	Prairie Vole	P	a
<i>Microtus pinetorum</i>	Woodland Vole	F	r
<i>Ondatra zibethicus</i>	Muskrat	A	m
<i>Synaptomys cooperi</i>	Southern Bog Lemming	P	r
Muridae			
<i>Rattus norvegicus</i>	Norway Rat	C	r
<i>Mus musculus</i>	House Mouse	C	m
Zapodidae			
<i>Zapus hudsonius</i>	Meadow Jumping Mouse	E	m
Carnivora			
Canidae			
<i>Canis latrans</i>	Coyote	P	m
<i>Vulpes vulpes</i>	Red Fox	P	r
<i>Urocyon cinereoargenteus</i>	Gray Fox	F	r
Procyonidae			
<i>Procyon lotor</i>	Raccoon	F	a

MAMMALS OF THE KANSAS ECOLOGICAL RESERVES (cont.)

Order/Family/Genus/Species	Common Name	Habitat	Abundance
Carnivora, cont.			
Mustelidae			
<i>Mustela frenata</i>	Long-tailed Weasel	F	r
<i>Spilogale putorius</i>	Eastern Spotted Skunk	P	r
<i>Mephitis mephitis</i>	Striped Skunk	P	m
Felidae			
<i>Felis rufus</i>	Bobcat	F	r
Artiodactyla			
Cervidae			
<i>Odocoileus virginianus</i>	White-tailed Deer	E	a