

# Mammals

By Dennis R. Skadsen

A total of sixty-two species of mammals have been reported from the four counties covered by this publication based on literature and museum records dating from the 1800s to the present. This number includes; two introduced species (house mouse and Norway rat), four mammals whose occurrence in the area is considered accidental (mountain lion, lynx, wolverine, and moose), and forty-six native species still extant in the region based on recent surveys and reliable observations during the last thirty-six years from 1980 to 2016. Historical records exist for ten species; many of these mammals are now extirpated from northeast South Dakota due to loss of habitat and other pressures exerted post settlement. Five species may possibly occur based on generalized range maps and unconfirmed sightings and are listed under the section entitled “hypothetical”.

The following list is compiled from the following sources; Higgins et al. (2000), observations by the author, local conservation officers, and other reliable sources. Taxonomic order, common and scientific names follow Higgins et al. (2000).

## Mammals Observed in Day, Grant, Marshall, and Roberts Counties, South Dakota.

### Opossum

**Virginia Opossum** (*Didelphis virginiana*)

There may be small-established populations of opossum in northeast South Dakota. This interesting mammal would most likely be encountered along the wooded shores of Big Stone Lake, Lake Traverse, and forested coulees located along the eastern slope of the Coteau in western Roberts County. Most observations reported to the author were of road-killed individuals. The range of this species has been expanding northward during the last sixty years. Historically, Over (1941) reported the opossum as uncommon in South Dakota with most observed in the extreme southeast corner of the state.

### Shrews

These secretive mainly nocturnal animals are hardly ever observed alive in the wild. Most encounters are with dead specimens in mousetraps or carcasses dragged in by cats. All species listed below are commonly found in northeast South Dakota except for the Arctic and Water shrew.

#### **Arctic Shrew** (*Sorex arcticus*)

Possibly extirpated. The only confirmed records of the Arctic shrew in northeast South Dakota are from two specimens collected by Dr. McChesney at Fort Sisseton in 1876 and 1877. Dr. McChesney was the Fort's surgeon, who when not caring for ailing soldiers, was charged with collecting bird and mammal specimens from around the Fort which is located in present day Marshall County. The Arctic shrew was recently collected in McPherson County and further surveys may find this species in northeast South Dakota.

### **Water Shrew (*Sorex palustris*)**

Up until 2016, the only known specimens of the Water shrew were three collected by Dr. McChesney in 1876 and 1878 at Fort Sisseton. The author may have observed water shrews near Buffalo Lake in the late 1960s. However, several surveys in the 1980s and 1990s failed to find either the Arctic or water shrew in northeast South Dakota. In 2014, the author found the remains of a large shrew along a tributary north of Pickerel Lake, and in 2016 found a second large shrew (in much better condition than the 2014 specimen) along Pickerel Lake's outlet creek. Both specimens were sent to Dr. Tim Mullican of Dakota Wesleyan University who confirmed that they are water shrews.

The severe droughts of the 1930s may have caused the extirpation of this species from most of northeast South Dakota. However, in light of the recent Pickerel Lake specimens, small undetectable populations of the water shrew apparently held on around Pickerel Lake, which was one of only a handful of lakes that did not go totally dry during the 1930s. It is possible the onset of above normal precipitation allowed this population to grow to detectable levels, or allow a remnant population that survived along one of the many spring fed creeks along the escarpment of the Prairie Coteau to expand. The water shrew's required habitat, perennial streams in forested habitats and more rarely upland sites, is typical of the dozens of small streams that flow from the coulees located along the eastern slope of the Coteau in Marshall, Roberts and Grant Counties. Further surveys are now needed in northeast SD to determine the current status of this species.

### **Masked Shrew (*Sorex cinereus*)**

### **Hayden's Shrew (*Sorex haydeni*)**

The Masked and Hayden's shrew are difficult to distinguish; recent research suggests the only definitive way to separate these two species is through DNA testing. Hayden's shrew reportedly favors grassland habitats, though both species were collected from riparian areas along area lakes, wetlands, and streams in 1997 by the author.

### **Pygmy Shrew (*Sorex hoyi*)**

### **Northern Short-Tailed Shrew (*Blarina brevicauda*)**

The smallest (Pygmy) and largest (Short-tailed) shrews found in northeast South Dakota. Both species can be found in wooded riparian areas along water.

## Bats



Red Bat roosting in tree (photo by Doug Backlund)

**Little Brown Bat** (*Myotis lucifugus*)

**Silver-Haired Bat** (*Lasionycteris noctivagans*)

**Big Brown Bat** (*Eptesicus fuscus*)

**Eastern Red Bat** (*Lasiurus borealis*)

Little is known about the distribution of bats in northeast South Dakota. Only four species have been confirmed for this area. These include the Eastern red bat which has been observed at Sica Hollow State Park and Fort Sisseton, and the Silver-haired bat which was collected at the Waubay National Wildlife Refuge in 1952. During a 2001 statewide bat survey conducted by Swier (2001), a female Little brown bat was collected at the Waubay National Wildlife Refuge, and echolocation calls of the Big brown bat were detected at Fort Sisseton and Hartford Beach State Parks.

### Hares and Rabbits



White-Tailed Jackrabbit (photo by Doug Backlund)

**Eastern Cottontail** (*Sylvilagus floridanus*)

**White-Tailed Jackrabbit** (*Lepus townsendii*)

Both species are common in northeast South Dakota. The Eastern cottontail is found in both urban and rural areas, especially where trees and shrubs occur. The White-tailed jackrabbit prefers grassland. Jackrabbit

populations increased in northeast South Dakota with the onset of the Conservation Reserve Program (CRP) that converted thousands of acres of cropland to grassland from 1986 through 2006. Many of these CRP contracts expired in 2007 and thousands of acres are being converted back to cropland. The impact on grassland species like the jackrabbit will no doubt be negative.

### Chipmunks, Marmots, and Squirrels



Eastern Chipmunk (photo by Dennis Skadsen)

**Eastern Chipmunk** (*Tamias striatus*)

The Eastern chipmunk only occurs in northeast South Dakota and can be found along the wooded shores of Lake Traverse and Big Stone Lake in Roberts County, Pickerel Lake in Day County, and the larger forested coulees located along the eastern slope of the Coteau in western Roberts and Marshall Counties. It is uncertain why chipmunks are found at Pickerel Lake, but absent from nearby Enemy Swim Lake and the larger lakes located in Marshall County. Eastern chipmunk bones have been identified from archeological sites excavated

on the Waubay National Wildlife Refuge suggesting the species may historically have had a wider distribution than today.



Woodchuck (photo by Dennis Skadsen)

**Woodchuck** (*Marmota monax*)

Common along wooded shores of area lakes, larger wetlands, streams, and forested coulees like Sica Hollow. Called groundhogs in eastern and southern states where its emergence from hibernation in late winter. Folklore says the coming of spring can be predicted on whether the woodchuck casts a shadow or not.



Thirteen-lined Ground Squirrel (photo by Doug Backlund)

**Franklin's Ground Squirrel**

(*Spermophilus franklinii*)

**Richardson's Ground Squirrel**

(*Spermophilus richardsonii*)

**Thirteen-Lined Ground Squirrel**

(*Spermophilus tridecemlineatus*)

All three species of ground squirrels are common in northeast South Dakota. Most are familiar with the Thirteen-lined ground squirrel or striped gopher found in both urban and rural areas. The Richardson's ground squirrel or flicker-tail resembles a small prairie dog and will form large colonies especially on overgrazed pastures. The Franklin's ground squirrel is the most secretive of the three. This species inhabits tallgrass prairie. Thirteen-lined and Richardson's ground squirrels are considered pests by park and golf course managers and by farmers who often let "plinkers" shoot these animals for sport.





Red Squirrel (photo by Dennis Skadsen)

**Eastern Gray Squirrel** (*Sciurus carolinensis*)

**Eastern Fox Squirrel** (*Sciurus niger*)

**Red Squirrel** (*Tamiasciurus hudsonicus*)

Of the three species of squirrels found in northeast South Dakota, the Eastern fox squirrel is the most common. Populations of Eastern gray and Red squirrels exist in northeast Grant County. The author has observed both species at bird feeders located in Big Stone City during winter months, and Gray squirrels are infrequently seen in Milbank, SD. The Red squirrel has been observed along the shores of Big Stone Lake and Lake Traverse in Roberts County.

A small population of Eastern gray squirrels can be found in Webster South Dakota. These squirrels were introduced in 1907. These introductions may have been the source of Eastern gray squirrels observed at the Waubay National Wildlife Refuge through the 1930s and 40s.

## Pocket Gophers

**Plains Pocket Gopher** (*Geomys bursarius*)

Common on grasslands and alfalfa fields throughout northeast South Dakota. Seldom

seen aboveground, their presence is known by the mounds of dirt pushed to the surface from excavated burrows. Considered an agricultural pest on pasture and hayland due to these mounds.

## Pocket Mice

**Plains Pocket Mouse** (*Perognathus flavescens*)

Possibly extirpated. The only record for this species in northeast South Dakota is a specimen collected near Lake Traverse in 1887. Life history accounts for the Plains pocket mouse denote the species may only occur in discrete isolated populations, and has a narrow habitat requirement of well drained sandy soils with sparse vegetation. May inhabit the Crandall-Crocker Hills area of western Day County and the Hecla Sandhills of western Marshall County. Listed by the Minnesota Department of Natural Resources as a species of special concern due to the loss of native prairie habitat.

## Beaver

**Beaver** (*Castor Canadensis*)

Common along northeast South Dakota streams, lakes, and permanent wetlands with an adequate supply of trees and shrubs. Because of the Beaver's habit of downing shoreline trees, it is considered a nuisance along developed lakeshores.



Beaver dam (photo by Dennis Skadsen)

## Mice, Rats, and Voles

### **Western Harvest Mouse** (*Reithrodontomys meglotis*)

The only report from northeast South Dakota is for a specimen collected at Waubay National Wildlife Refuge in the 1980s (Koerner 1983). Higgins et al. (2000) indicates the species is distributed statewide, however records indicate the Western harvest mouse is more common in the southern half of the state.

### **White-footed Mouse** (*Peromyscus leucopus*)

### **Deer Mouse** (*Peromyscus maniculatus*)

Both species are common throughout northeast South Dakota. The bi-colored tail of the deer mouse distinguishes this species from the similar looking White-footed mouse. Both are found in similar habitats that include grasslands and woodlands, although the White-footed mouse is more likely to be encountered in heavily forested areas like Sica Hollow. The Deer mouse, like the house mouse, often invades homes and out-buildings.

### **Northern Grasshopper Mouse** (*Onychomys leucogaster*)

Possibly extirpated. Populations of this mouse may be declining due to loss of native prairie habitat. Museum records exist for both Day and Roberts's counties, most from the 1800s and 1930s. A Grasshopper mouse was recently collected in nearby Brown County. Life history accounts list the species as locally common and never abundant in the drier grassland habitat it prefers. This may account for the lack of specimen records. The Northern grasshopper mouse probably inhabits the drier prairies found in the Crandall-Crocker Hills of western Day County.

### **Southern Red-Backed Vole** (*Clethrionomys gapperi*)

This vole is found only in the Black Hills and extreme northeast South Dakota where it prefers to live along wooded streams. Red-backed voles have been collected from Sica Hollow, Hartford Beach, and Roy Lake State Parks; and along the outlet and old hatchery site creeks on Pickerel Lake.

### **Prairie Vole** (*Microtus ochrogaster*)

As the name implies this vole inhabits native prairies and grassland. The only recent collections are from Day County (Koerner 1983). Historical records exist for several specimens collected near Lake Traverse in 1887. May be more common than records indicate, however in nearby Minnesota the Prairie vole is listed as a species of special concern due to the loss of its native prairie habitat.

### **Meadow Vole (*Microtus pennsylvanicus*)**

Common throughout the area, specimens have been collected in all four counties. This vole prefers to inhabit areas near water especially riparian areas along creeks and wetlands. The Meadow vole may also be found in wet meadows and grasslands including native prairie.



Muskrat (photo by Doug Backlund)

### **Muskrat**

#### **Muskrat (*Ondatra zibethicus*)**

Common throughout northeast South Dakota, muskrats occupy permanent wetlands with sufficient aquatic vegetation to build lodges and provide food. Muskrats may also live in burrows along the steep banks of area streams and lakes.



Muskrat lodge (photo by Dennis Skadsen)

### **Old World Rats and Mice**

#### **House Mouse (*Mus musculus*)**

#### **Norway Rat (*Rattus norvegicus*)**

Both of these species were introduced from Europe and are considered pests. Commonly found in areas inhabited by humans.

### **Jumping Mice**

#### **Meadow Jumping Mouse (*Zapus hudsonius*)**

#### **Western Jumping Mouse (*Zapus princeps*)**

The Meadow jumping mouse has been collected in all four counties and is the more common of the two *Zapus* species based on current museum and literature records. The range of the Western jumping mouse just enters the northeast corner of the state. Higgins et al. (2000) shows only the counties of Day, Grant, Marshall, and Roberts as the probable distribution in South Dakota, and reports a museum record exists for Day County although no other references to this specimen was found by the author. Both species are similar in appearance and therefore hard to identify in the field. The Meadow jumping mouse can be found in a variety of habitats including grasslands and



wooded areas, while the Western jumping mouse prefers grassy areas along streams, lakes, and wetlands.

## Porcupine

### **Common Porcupine** (*Erethizon dorsatum*)

Recently confirmed from southwestern Day County, in June of 2008 a landowner in the Crandall-Crocker Hills showed the author quills that had been removed from their dog's snout. The author had received previous unconfirmed reports from a hunter who observed porcupines in southwestern Day County and in the Hecla-Sandhills area of western Marshall County in the 1980s. Apparently occupies wooded coulees along the western slope of the Prairie Coteau in Day and Marshall Counties. Higgins et al. (2000) listed the porcupine as probably occurring in Roberts County but no reason for the listing is given and the author has found no records for this county. There are no historical accounts of this species occurring in northeast South Dakota.

## Dogs, Wolves, Foxes and Bear



Coyote (photo by Terry Sohl)

### **Coyote** (*Canis latrans*)

### **Red Fox** (*Vulpes vulpes*)

### **Common Gray Fox** (*Urocyon cinereoargenteus*)

The Coyote and the Red fox are the best known and most common of the three Canids found in northeast South Dakota. Populations of the Coyote increased over the last decade, possibly due to the Conservation Reserve Program (CRP), which provided more grassland habitat for the species. While Coyotes can be a problem to livestock producers, this predator will reduce numbers of Red fox, skunks, and raccoons that prey on ground nesting birds like the Ring-necked pheasant, and more importantly, native grasslands species like the Sharp-tailed grouse.

Common gray fox are rarely seen due to their secretive nature. They are found in wooded hilly areas and are very adept at climbing trees to escape predators or hide. The gray fox has been observed at Hartford Beach and Sica Hollow State Parks, Pickerel Lake State Recreation Area, Waubay National Wildlife Refuge, and along the Whetstone River near Milbank. They may occur in all of the wooded coulees along the east edge of the Prairie Coteau and the more heavily wooded and undisturbed shorelines of area lakes.



Common Gray Fox (photo by Gary M. Stolz U.S. Fish and Wildlife Service)



### **Gray Wolf** (*Canis lupus*)

Extirpated/Accidental. Reported by Knickerbocker as being found near Fort Sisseton in 1869, however over-hunting and loss of habitat caused extirpation of the species from much of the northern Great Plains by the early 1900s. Occasional observations of Gray wolf are reported in the area, and while it is not impossible that wandering individuals may enter northeast South Dakota from northern Minnesota, many of these unconfirmed observations may be escaped animals or crossbred dogs. Several wolves were reportedly killed in Roberts County the fall of 2008 and winter of 2009.

### **Black Bear** (*Ursus americanus*)

Extirpated/Accidental. Reported by Knickerbocker as being found near Fort Sisseton in 1869, however over-hunting and loss of habitat caused extirpation of the species from much of the northern Great Plains by the early 1900s. The fall of 2008 a Black bear was observed east of Milbank in Grant County. The bear apparently hibernated in a granite waste pile near one of the quarries, emerging the following spring. The bear was observed at several locations east of Milbank and to the west and north along the shores of Big Stone Lake in April and May of 2009, including Hartford Beach State Park. The bear was shot mid-May at a farmstead along the South Dakota/North Dakota border. Bears are being observed more frequently in the Red River valley including the city of Fargo, North Dakota.

### Raccoons

#### **Common Raccoon** (*Procyon lotor*)

The raccoon is common throughout northeast South Dakota in both rural and urban habitats.

### Weasels, Badgers, Skunks, and Otters

#### **Ermine (Short-Tailed Weasel)** (*Mustela erminea*)

#### **Long-Tailed Weasel** (*Mustela frenata*)

#### **Least Weasel** (*Mustela nivalis*)

#### **Mink** (*Mustela vison*)

The Mink is the best known and most common of the Mustelids found in northeast South Dakota. The three weasel species are less common and more secretive, with records for all counties except Grant. The Ermine and Long-tailed weasel occur in wooded areas along waterways and most collections and observation have been near area lakes including Pickerel, Blue Dog and Waubay Lakes in Day County, Bullhead Lake in Roberts County, and near Fort Sisseton in Marshall County. All but the Mink turn completely white during the winter months.



Mink (photo by Doug Backlund)



Long-tailed weasel (photo by Doug Backlund)

### **Wolverine** (*Gulo gulo*)

Accidental. The author observed one Wolverine near Pickerel Lake in 1999. This may have been an escaped animal.



American badger (photo by Doug Backlund)

### **American Badger** (*Taxidea taxus*)

Common on grasslands throughout northeast South Dakota, however solitary and secretive thus not often observed. Often found near colonies of Richardson's ground squirrels.

### **Eastern Spotted Skunk** (*Spilogale putorius*)

### **Striped Skunk** (*Mephitis mephitis*)

The Striped skunk is common throughout northeast South Dakota.

According to Higgins et al. (2000) populations of the Eastern spotted skunk (also know as the civet cat) have declined during the last twenty-five years. All of the museum and literature records found for this species were of observations or specimens collected between 1940 and 1965.

### **Northern River Otter** (*Lutra Canadensis*)

Reintroduced. The river otter was reported as being common in northeast South Dakota prior to settlement. Dr. Knickerbocker observed them near Fort Sisseton in 1868 and 69. However, over harvesting by trappers, settlement and habitat degradation led to the species extirpation from northeast South Dakota by the early 1900s. River otters were successfully reintroduced at the Big Stone National Wildlife Refuge located on the Minnesota River, just a few miles east of Big Stone City in 1980 and 1981. This population has apparently expanded its range into South Dakota as otters are now frequently observed along the Whetstone and Yellowbank River drainages in Grant and Roberts Counties. Recent sightings from Pickerel Lake, Red Iron Lake, and near Roy Lake suggest this species is now becoming established across the Prairie Coteau.

## Cats

Dr. B. Knickerbocker did not report these three species from the Fort Sisseton area. It's hard to believe that with the availability of larger prey like the buffalo and elk that at least two of these predators, the Bobcat and Mountain lion, were not present prior to settlement.

### **Mountain Lion** (*Felis concolor*)

Accidental. Populations of Mountain lions, once rarely seen in the Black Hills, have increased to a point where the species is expanding its range as far east as the Missouri River. The frequency of east river observations has also increased during the last few years, the author observed one Mountain lion near Pickerel Lake State Recreation Area the fall of 2005. While most Mountain lions observed in eastern South Dakota are transient young males, there are some experts who believe populations, if not already, will become established in areas like the forested coulees of northeast South Dakota.



Bobcat (photo by Doug Backlund)

### **Bobcat** (*Felis rufus*)

Rarely observed in the area, however a small population of Bobcats may be present in northeast South Dakota. The author observed one Bobcat near Wilmot, SD in 1983 and local conservation officers have reported Bobcat sightings near Sica Hollow. Two Bobcats were shot in the late 1970s in either Grant or Roberts County (Haas 1983). Most likely to be encountered in the larger forested coulees like Sica Hollow.

### **Lynx** (*Lynx Canadensis*)

Accidental. The only confirmed record of the Lynx is from a specimen shot in Marshall County in 1962. This specimen was collected during a well-documented irruption of the species into the northern Great Plains during the winter of 1962-63 (Gunderson 1978).

## Ungulates



Mule Deer fawn (photo by Dennis Skadsen)

### **Mule Deer** (*Odocoileus hemionus*)

Common in the central and western half of the state, the Mule deer is only occasionally observed in northeast South Dakota. This

deer has been reported from numerous sites including; Pickerel Lake, Hartford Beach State Park, and the Crandall-Crocker Hills area. An observation of a doe with fawn in the 1980s (Haas 1983) confirms the species may occasionally breed in the area.

### **White-Tailed Deer** (*Odocoileus virginianus*)

As with the other large ungulates occurring in northeast South Dakota, populations of the White-tailed deer plummeted as the area was settled in the early 1900s. Over (1941) reported the White-tailed deer, once common over the entire state, was by 1941 only found in the Black Hills and along the Missouri River. Many northwest Day County residents protested the first official hunting season in 1951, closing their lands to public hunting under the belief there were not enough deer in the area to support a harvest. Fortunately, populations of the White-tailed deer have recovered and the species is found throughout northeast South Dakota in a variety of habitats from grassland to woodlands.

### **Moose** (*Alces alces*)

Accidental. Individual Moose are observed almost yearly in northeast South Dakota with most sightings during the fall months. The majority are young males wandering down the Red River Valley from northern North Dakota and Minnesota into Roberts County. These moose usually do not stay in the area any longer than a few days or weeks. No breeding populations are known; however there was a report of a cow and calf observed near Drywood Lake in west-central Roberts County by local residents in 1988.

### **Pronghorn** (*Antilocapra americana*)

Extirpated/Reintroduced. Prior to settlement in the late 1800s, the antelope was probably a common sight on the prairies of northeast South Dakota. Knickerbocker reported observing antelope near Fort Sisseton in 1868 and 1869. However, by the early 1900s, over-hunting and the conversion of native prairie to croplands caused the species near extinction.

Between 1960 and 1965, the SD Dept. of Game, Fish, and Parks released several hundred antelope in Day, Grant, Marshall, and Roberts Counties in an attempt to reintroduce the species to northeast South Dakota. Populations apparently never reached a successful level to support a hunting season. Remnant populations still exist today with antelope occasionally observed near Pickerel, Drywood, and One Road Lakes; and along the western edge of Grant County near Marvin and Summit. The largest remaining population from these reintroductions is found in the Crandall-Crocker Hills of western Day County.

## ❖ Endangered and Threatened Species

### State Threatened

#### **River Otter** (*Lontra Canadensis*)

The following species are monitored by the South Dakota Natural Heritage Program managed by the S.D. Dept. of Game, Fish, and Parks. Observations of these species should be reported to Game, Fish, and Parks personnel.

Arctic shrew  
Water shrew



Pygmy shrew  
Silver-haired bat  
Eastern chipmunk  
Eastern gray squirrel  
Meadow jumping mouse  
Eastern spotted skunk  
Northern river otter

## ❖ Extirpated Species

**American Marten** (*Martes Americana*)

**Elk** (*Cervus elaphus*)

**American Bison** (*Bos bison*)

Knickerbocker reported all three species listed above as being found near Fort Sisseton in 1869. Unfortunately, as this area was settled in the late 1800s over-hunting and the loss of habitat caused the near extinction of all of these species in the northern Great Plains with only remnant populations remaining in wilderness areas elsewhere.

Morris (no date) reports that one of the last recorded buffalo hunts occurred in June of 1879 near present day Stockholm, SD in Grant County. A group of eight buffalo were seen and Native Americans from a nearby encampment on the Yellowbank River killed five. Today, private producers and the Sisseton Wahpeton Oyate in northeast South Dakota maintain captive herds of Elk and buffalo.

## ❖ Hypothetical Species

**Northern Myotis** (*Myotis septentrionalis*)

**Hoary Bat** (*Lasiurus cinereus*)

No confirmed specimens. The Northern myotis and Hoary bat are listed as probably occurring in the area by Higgins et al

(2000). Both species often roost in buildings and may occur in northeast South Dakota towns.

**Northern Flying Squirrel** (*Glaucomys sabrinus*)

No confirmed specimens. Over (1941) stated that flying squirrels are found along the west shores of Big Stone Lake in Roberts County and northeast Grant County. Local landowners interviewed by the author recall seeing flying squirrels along Big Stone Lake, probably in the 1920s and 1930s. Jones et.al. (1983) shows this species as occurring in the Red River Valley from the South Dakota border north, however flying squirrels were not found during a recent survey of northeast South Dakota in 2004 and 2006 (Hough 2008).

**Northern Pocket Gopher** (*Thomomys talpoides*)

No confirmed specimens. The Northern pocket gopher has been collected in nearby Clark County. Pendleton (1983) refers to this record and an additional (possibly historical) record from Fort Sisseton in Marshall County, but no other information provided. Probably occurs in the Crocker-Crandall Hills area of Day County and Hecla Sandhills of western Marshall County

**Swift Fox** (*Vulpes velox*)

No confirmed specimens. The author received reports of Swift fox being observed in western Roberts County from biologists working for the Sisseton Wahpeton Oyate and one landowner; however specimens or photographs have never confirmed these sightings. Over (1941) reported that the

Swift fox was abundant over the entire state prior to 1875 but Knickerbocker did not report this species during his tenure at Fort Sisseton.

## ❖ Suggested Reference

Kaufman Field Guide to Mammals of North America.

By Kenn Kaufman, Rick Bowers, and Nora Bowers.

2007. Houghton Mifflin Harcourt.

Mammal Tracks and Sign: A Guide to North American Species.

By Mark Elbroch

2003. Stackpole Books.

Peterson Field Guides to Animal Tracks, 3<sup>rd</sup> Ed.

By Olaus J. Murie, Mark Elbroch, and Roger Tory Peterson

2005. Houghton Mifflin Publishing,

Peterson Field Guides to Mammals of North America, 4<sup>th</sup> Ed.

By Fiona Reid

2006. Houghton Mifflin Publishing,

Peterson Reference Guide to the Behavior of North American Mammals (Peterson Reference Guides)

By Mark Elbroch and Kurt Rinehart

2011. Houghton Mifflin Harcourt.

Wild Mammals of South Dakota

By Kenneth F. Higgins et al.

2000. Dept. of Game, Fish and Parks, Pierre, SD.

## ❖ Literature Cited

Gunderson, Harvey L. 1978. A Mid-Continent Irruption of Canada Lynx, 1962-63. *Prairie Naturalist* 10:71-80.

Haas, Arlo. 1983. List of mammals observed or trapped in northeast SD. Personal correspondence.

Higgins, Kenneth F., Stukel, Eileen Dowd, Judyann M. Goulet, and Douglas C.

Backlund. 2000. *Wild Mammals of South Dakota*. S.D. Dept. Game, Fish, and Parks, Pierre. 278 pp.

Hough, Melissa J. 2008. *Research Techniques, Habitat use, and Ecology of Northern Flying Squirrels, and Research Techniques and Distribution of Red Squirrels in the Black Hills National Forest and Northeastern South Dakota*. Master of Science Thesis, South Dakota State University, Brookings. 128 pp.

Johnson, Norma. 1996. *Chilson's History of Fort Sisseton*. State Publishing and Printing, Pierre. 152 pp.

Jones, J. Knox Jr., David M. Armstrong, Robert S. Hoffmann, and Clyde Jones. 1983. *Mammals of the Northern Great Plains*. University of Nebraska Press, 422 pp.

Koerner, John W. 1983. List of mammals observed and trapped at Waubay National Wildlife Refuge. Personal correspondence.

Morris, H.S. No Date. *Historical Stories, Legends, and Traditions; Roberts County and Northeastern South Dakota*. Sisseton Courier, Sisseton. 61 pp.

Over, William H. 1941. Mammals of South Dakota. University of South Dakota, Vermillion. 56 pp.

Pendleton, Grey W. 1983. Northern Pocket Gopher from Clark County, South Dakota. *Prairie Naturalist* 15:8.

Swier, Vicki, J. 2001. Distribution and Roost Site Selection of Bats in Eastern South Dakota. South Dakota Dept. Game, Fish, and Parks, Pierre. 30 pp.