APPENDIX C

MAMMAL SGCN SPECIES ACCOUNTS

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Mammal SGCN and SGIN categories.

Common Name	Species of Greatest Conservation Need			Species of Greatest Information Need			
	SGCN a. Regionally or globally imperiled	SGCN b. At-risk or declining, ND important	SGCN c. At-risk, expert review	SGIN d. Scientific knowledge deficient	SGIN e. Potentially stable in ND, declining in range	SGIN f. Potentially stable but life history trait vulnerability	SGIN g. Declining, ND significance uncertain
Big Brown Bat	Х						
Black-footed Ferret	Х						
Black-tailed Prairie Dog	Х						
Eastern Red Bat			Х				
Eastern Spotted Skunk	Х						
Gray Fox	Х						
Hoary Bat			Х				
Little Brown Bat	Х						
Northern Long-eared Bat	Х						
Richardson's Ground Squirrel		Х					
Silver-haired Bat			Х				
Swift Fox			Х				
Arctic Shrew				X			
Franklin's Ground Squirrel					Х		
Fringed Myotis							Х
Hispid Pocket Mouse				Х			
Long-eared Bat				Х			
Long-legged Bat				Х			
Merriam's Shrew				Х			
Northern Water Shrew				Х			
Ord's Kangaroo Rat				Х			
Plains Pocket Mouse				Х			
Pygmy Shrew				Х			
Sagebrush Vole				Х			
Townsend's Big-eared bat							Х
Western Small-footed Bat				Х			

Big Brown Bat Eptesicus fuscus

<u>Description/Identification:</u> Resembles the Little Brown Bat but for its larger size. An adult bat can reach 20 grams. Fur is dark brown in color, tragus and uropatigium lack hair.

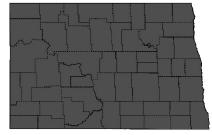
Status: Year-round. Species documented as hibernating in North Dakota.

<u>Reason for SGCN Designation:</u> Although common in North Dakota species is threatened by a fungal disease known as white-nose syndrome in the eastern and Midwest portions of its range.

<u>Habitat</u>: Found in both urban and rural habitats. Insect availability tends to be the limiting factor versus a type of habitat. Commonly associated with trees. Forages over a wide variety of habitats. Small beetles dominate the diet, including a significant number of agricultural pests. Other prey includes flies, moths, wasps, and other insects

<u>Threats:</u> White-nose Syndrome is a threat to this species. North Dakota bat species are insectivores. The use of pesticides in the vicinity of a feeding ground would affect bat populations by killing prey. This species is known to store pesticides within fat reserves. Accumulation within body may cause negative reactions or death. Wind turbines have been identified as a





Big Brown Bat primary range. Photo Credit: Adobe Stock

source of mortality to bats. Indiscriminate killing due to a negative public perception has been identified as a possible threat to this species.

Research and Monitoring:

- Bat species are monitored acoustically using North American Bat monitoring protocol.
- Bats are also monitored with mist nets by a number of partners in the state.

- Protection and restoration of riparian habitat.
- Manage riparian habitats to maintain snags, connecting corridors, and edges.
- Maintain and improve seeps, ponds, and other wet areas as water sources.
- Education on the benefits and misconceptions about bats.
- Determine and protect nursery and hibernation sites.
- Provide roosting sites in areas where natural sites have been destroyed or disturbed.
- Reduce use of pesticides near waterways where bats forage.

Black-footed Ferret Mustela nigripes

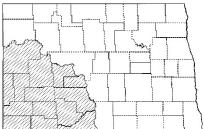
<u>Description/Identification:</u> A mink-sized member of the weasel family, up to 26 in. in length. Pelage is buff with the throat and belly generally whiter. The feet are black, as is the tip of the tail. A black band covers the eyes and is more prominent in younger individuals.

Status: Believed Extirpated.

<u>Reason for SGCN Designation:</u> Poisoning efforts directed toward the Blacktailed Prairie Dog in the early part of the century caused the decline and eventual loss of North Dakota's ferret population. Lack of suitably sized Black-tailed Prairie Dog colonies and disease are the major causes hampering its return.

<u>Habitat:</u> Black-footed Ferrets require large complexes of prairie dog colonies, 10,000 acres or more with towns no farther than three miles apart to sustain a viable population of 120 ferrets. Key Areas for Black-footed Ferret in North Dakota are the Little Missouri National Grasslands and lands within the Standing Rock reservation. Over 80% of their diet consists of prairie dogs, with the remainder including mice and other rodents, rabbits, birds, reptiles, and insects.





Black-footed Ferret historical range. Photo Credit: Adobe Stock

Threats:

Large prairie dog complexes needed to support a Black-footed Ferret population do not currently exist in North Dakota. With widespread negative sentiment toward prairie dogs within the state it is uncertain whether prairie dog complexes would be allowed to expand sufficiently to support ferret reintroduction. Poisoning of Black-tailed Prairie Dog colonies has resulted in loss of population. Poisoning is legal on private land in North Dakota. Many types of poisons are used, but zinc phosphide and Rosal are the most common. Conversion of rangeland for agricultural uses is decreasing Black-tailed Prairie Dog acres within the state, which in turn reduces potential Black-footed Ferret habitat.

Research and Monitoring:

- Prairie dog towns will be monitored for Black-footed Ferrets during Black-tailed Prairie Dog survey efforts.
- Observations are recorded by the NDGFD Online Furbearer Observation Report.

- Management recommendations for the recovery of the Black-footed Ferret are outlined in the Black-footed Ferret Recovery Plan. http://www.fws.gov/mountainprairie/mammals/blackfooted-ferret/2013DraftRevisedRecoverPlan.pdf
- Potential sites for Black-tailed Prairie Dog expansion need to be identified and private landowner partnerships would need to be developed before ferret reintroduction can be considered.

Black-tailed Prairie Dog Cynomys Iudovicianus

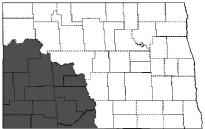
<u>Description/Identification:</u> North Dakota's largest ground squirrel, it is yellowish tan on its back and lighter on the belly. It has a short tail with a black tip. Found in colonies of many individuals.

Status: Year-round resident.

Reason for SGCN Designation: Black-tailed Prairie Dog habitat has been reduced to 1% of its historic amount. The combination of grassland conversion and concentrated poisoning are the main causes of their population decline. Numerous grassland species depend on Black-tailed Prairie Dogs for habitat and food, including other species of conservation priority such as Burrowing Owl and Ferruginous Hawk.

<u>Habitat</u>: Black-tailed Prairie Dogs are confined to prairie communities with short vegetation and relatively flat topography. They are often found in relation to areas grazed by livestock. Black-tailed Prairie Dogs live in large colonies known as "towns." In North Dakota, Black-tailed Prairie Dogs occur in two distinct population complexes in ND; the Little Missouri National Grasslands complex and the Standing Rock complex which includes Sioux County and portions of Grant and Morton Counties. Diet (99%) primarily consists of grasses and forbs. Shrubs, seeds, and insects make up the remaining portion.





Black-tailed Prairie Dog primary range. Photo Credit: NDGF

<u>Threats:</u> Loss of suitable Black-tailed Prairie Dog habitat is a major problem. Habitat loss is attributed to conversion of grassland to agricultural land. Historically, Black-tailed Prairie Dog range encompassed 12 million acres, of which 10% was occupied at any one time. The most recent survey estimated the North Dakota has roughly 15,000 acres. Poisoning of Black-tailed Prairie Dog colonies has resulted in loss of local populations.

Research and Monitoring:

• WAFWA surveyed BTPDs in North Dakota in 2015 using a Balance Accepted Sampling (BAS) method. ND intends to continue this survey method. This methodology is used by many of the 13 states in the range of the Black-tailed Prairie Dog. This standardization will allow for better data for range wide assessments of population.

- Work with private landowners to develop grazing management practices that consider the season, duration, distribution, frequency, and intensity of grazing use on areas to maintain vegetation on both upland and riparian sites.
- Where appropriate, incorporate the use of mechanical, chemical, and biological methods of weed control to manage noxious weeds.
- Work with private landowner to incorporate prescribed land treatments into livestock management practices to develop sustainability of biological diversity.
- Monitor the effects of shooting. The NDGFD has the authority to place restrictions on shooting if necessary.
- Monitor the effects of plague on populations. Implement plague management if necessary.

Eastern Red Bat Lasiurus borealis

<u>Description/Identification:</u> Distinguishable from other North Dakota bats by its red pelage with buff shoulder patches. Triangular membrane between back legs is hair covered.

Status: Seasonal, Migratory.

<u>Reason for SGCN Designation:</u> Threatened by the emergence of wind energy development in ND. Identified as a Regional Species of Conservation Priority by the Midwest Association of Fish and Wildlife Agencies.

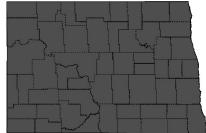
<u>Habitat:</u> Tree roosting bat species. Found predominantly in forests and woodlots in ND. Found state-wide in ND. Diet consists of a variety of insects, particularly moths.

<u>Threats:</u> The expansion of wind energy development is identified as an emerging threat to this species due to it migratory nature. North Dakota bat species are insectivores. The use of pesticides in the vicinity of a feeding ground would affect bat populations by killing prey. Also, bat species are known to store pesticides within fat reserves.

Research and Monitoring:

- Bat species are monitored acoustically using North American Bat monitoring protocol.
- Bats are also monitored with mist nets by a number of partners in the state.





Eastern Red Bat primary range. Photo Credit: Adobe Stock

- · Work with wind energy development companies on turbine siting to minimize impacts to migrating bats
- Protection and restoration of riparian habitat.
- Manage riparian habitats to maintain snags, connecting corridors, and edges.
- Maintain and improve seeps, ponds, and other wet areas as water sources.
- Education on the benefits and misconceptions about bats.
- Identify and protect maternity roosts.
- Provide roosting sites in areas where natural sites have been destroyed or disturbed.

Eastern Spotted Skunk Spilogale putorius

<u>Description/Identification:</u> Roughly the size of a small house cat, it is distinguishable from the more common striped skunk by six white spots running the length of its back, and a small white spot between its eyes. It also has an all-black tail with a white tip. Nocturnal and highly secretive.

Status: Rare, year-round resident.

Reason for SGCN Designation: Identified as a Regional Species of Conservation Priority by the Midwest Association of Fish and Wildlife Agencies. Little is known regarding the habitats of this secretive species in ND and is likely on the edge of its range.

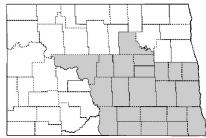
Habitat: Brushy areas, forest edge, riparian areas, and upland prairie grassland if rock outcrops or shrubs are present. Forages on small rodents, birds, bird eggs, insects, fruits, seeds, agricultural grains, and carrion.

<u>Threats:</u> Loss of riparian habitat is a major concern for Eastern Spotted Skunk. It uses these areas to hunt, and also dens in logs and brush piles.

Research and Monitoring:

• Eastern Spotted skunks and other rare carnivores are tracked with the NDGFD Online Furbearer Observation Report.





Eastern Spotted Skunk possible range. Photo Credit: Adobe Stock

- Protect rivers, streams, and riparian areas where possible (i.e. conservation agreement and/or acquisition.
- Continue to use the Section 404 program to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with other federal agencies (i.e. FAA and FHWA) not covered by Section 404 or Swampbuster to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Develop and promote incentive programs to restore riparian areas.

Gray Fox Urocyon cinereoargenteus

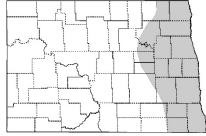
<u>Description/Identification:</u> Medium sized fox that has grizzled gray fur along its back with a light colored underside. Patches of red are found on its neck, belly and the inside of its legs. Its tail is black-tipped. It is generally smaller than the more common red fox.

Status: Resident.

Reason for SGCN Designation: Identified as a Regional Species of Conservation Priority by the Midwest Association of Fish and Wildlife Agencies. Petitioned for Listing Under the Endangered Species Act with a decision pending in 2028. It appears its population has decline within its range. A relative newcomer to the state, North Dakota appears to be the northwestern edge of its range.

<u>Habitat:</u> Gray Fox prefer brushy/shrubby habitat often associated with forested habitats. Throughout their range they are found in agricultural landscapes and woodlots. They are often associated with riparian areas. Unique amongst canids, gray fox are well known for their ability to climb trees to forage, rest, or escape from predators. In North Dakota they are





Gray Fox possible range. Photo Credit: Adobe Stock

uncommon, but records of sightings are found in most counties in the eastern 2/3rds of the state. Riparian areas of the Red, James, Sheyenne, and Missouri rivers would be potentially key areas for the Gray Fox. Small rodents, squirrels, and rabbits compromise the greatest portion of their diet. Grasshoppers, beetles, fruits, and berries may also be consumed.

<u>Threats:</u> Loss of riparian areas is a concern for Gray Fox. It uses these areas to hunt, and also dens in logs and brush piles. Conversion of grassland/shrub habitats to other land uses.

Research and Monitoring:

• Gray Fox are furbearer in North Dakota. The North Dakota Game and Fish Department with use fur harvest records and submissions to the Online Furbearer Observation Reporting system to track Gray Fox.

- Protect riparian areas where possible with conservation agreements.
- Continue to use the Section 404 program to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Develop and promote incentive programs to restore riparian areas.
- Continue to work with partners in promoting and distributing educational materials related to river, stream and riparian values and good stewardship.

Hoary Bat Lasiurus cinereus

<u>Description/Identification:</u> Large bat identified by the white/yellow tipped hairs over brown pelage on its body. Yellow throat patch. Membrane between its back legs is covered in fur.

Status: Seasonal, Migratory.

Reason for SGCN Designation: Threatened by the emergence of wind energy development in ND. Identified as a Regional Species of Conservation Priority by the Midwest Association of Fish and Wildlife Agencies. Petitioned for Listing Under the Endangered Species Act with a decision pending in 2028.

<u>Habitat:</u> Tree roosting bat species. Found predominantly in forests and woodlots in ND. Found state-wide in ND. Prey preference is moths; however, a variety of larger insects may be consumed.

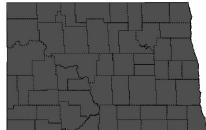
<u>Threats:</u> The expansion of wind energy development is identified as an emerging threat to this species due to it migratory nature. North Dakota bat species are insectivores. The use of pesticides in the vicinity of a feeding ground would affect bat populations by killing prey. Also, bat species are known to store pesticides within fat reserves.

Research and Monitoring:

- Bat species are monitored acoustically using North American Bat monitoring protocol.
- Bats are also monitored with mist nets by a number of partners in the state.

- Work with wind energy development companies on turbine siting to minimize impacts to migrating bats.
- Protection and restoration of riparian habitat.
- Manage riparian habitats to maintain snags, connecting corridors, and edges.
- Maintain and improve seeps, ponds, and other wet areas as water sources.
- Education on the benefits and misconceptions about bats.
- Identify and protect maternity roosts. Provide roosting sites in areas where natural sites have been destroyed or disturbed.





Hoary Bat primary range. Photo Credit: Adobe Stock

Little Brown Bat Myotis lucifugus

<u>Description/Identification:</u> As the name implies the fur of the Little Brown Bat is shade of brown with the top being darker than the underside. They also have a darker spot in the area of the shoulder. The wings and uropatigium are absent of hair.

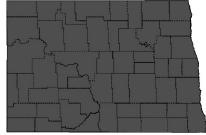
Status: Seasonal as no known hibernacula have been identified.

<u>Reason for SGCN Designation:</u> Although common in North Dakota species is threatened by a fungal disease known as White-nose Syndrome throughout its range.

<u>Habitat:</u> Roosts are established in structures in the summer months but also can be found in dead trees. Forages on a variety of flying insects, up to the equivalent of 1,200 mosquitos per hour.

<u>Threats:</u> White-nose Syndrome is a significant threat to this species. North Dakota bat species are insectivores. The use of pesticides in the vicinity of a feeding ground would affect bat populations by killing prey. Also, bat species are known to store pesticides within fat reserves. Wind





Little Brown Bat primary range. Photo Credit: Adobe Stock

turbines have been identified as a source of mortality to bats. Indiscriminate killing due to a negative public perception has been identified as a possible threat to this species.

Research and Monitoring:

- Bat species are monitored acoustically using North American Bat monitoring protocol.
- Bats are also monitored with mist nets by a number of partners in the state.

- Protection and restoration of riparian habitat.
- Manage riparian habitats to maintain snags, connecting corridors, and edges.
- Maintain and improve seeps, ponds, and other wet areas as water sources.
- Education on the benefits and misconceptions about bats.
- Determine and protect nursery and hibernation sites.
- Provide roosting sites in areas where natural sites have been destroyed or disturbed.

Northern Long-eared Bat Myotis Septentrionalis

<u>Description/Identification:</u> Small bat. Fur generally brown in color. Ears and tail are longer than other myotis species of its size. Tragus also longer than similar sized bats, such as the Little Brown Bat.

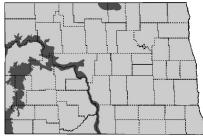
<u>Status:</u> Seasonal as no hibernacula have been identified for this species in the state.

<u>Reason for SGCN Designation:</u> Rare to the state. Listed as Endangered under the Endangered Species Act. A significant loss of individuals to White-nosed Syndrome in throughout its range is its greatest threat.

<u>Habitat</u>: Forest and Riparian Habitat. Has been identified in the riparian habitat near the confluence of the Yellowstone and Missouri rivers in North Dakota. Feeds on flying insects but also gleans them off of surfaces such as tree bark and leaves. A variety of insects are taken depending on location, season, and individual preferences.

<u>Threats:</u> White-nose Syndrome is a significant threat to this species. North Dakota bat species are insectivores. The use of pesticides in the vicinity of a feeding ground would affect bat populations by killing prey.





Northern Long-eared Bat primary (dark gray) and possible (light gray) range. Photo Credit: Adobe Stock

Also, bat species are known to store pesticides within fat reserves. Wind turbines have been identified as a source of mortality to bats. Indiscriminate killing due to a negative public perception has been identified as a possible threat to this species.

Research and Monitoring:

- Bat species are monitored acoustically using North American Bat monitoring protocol.
- Bats are also monitored with mist nets by a number of partners in the state.

- Protection and restoration of riparian habitat.
- Manage riparian habitats to maintain snags, connecting corridors, and edges.
- Maintain and improve seeps, ponds, and other wet areas as water sources.
- Education on the benefits and misconceptions about bats.
- Determine and protect nursery and hibernation sites.
- Provide roosting sites in areas where natural sites have been destroyed or disturbed.

Richardson's Ground Squirrel Urocitellus

richardsonii

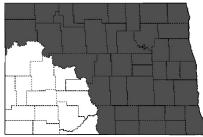
<u>Description/Identification:</u> Large colony-dwelling ground squirrel. Pelage is a mixture of buff and black hair on the back with a tan belly.

Status: Year-round resident

Reason for SGCN Designation: The Richardson's Ground Squirrel serves much the same role as the Black-tailed Prairie Dog does in the western half of the state. Many species, including other Species of Greatest Conservation Need rely on Richardson's Ground Squirrels for food and shelter. There is some indication of a decline within the state. This, coupled with a lack of information on the species, makes them a conservation priority.

Habitat: A colonial species, Richardson's Ground Squirrels prefer intact blocks of rangeland. Well grazed pastures of native or tame grass in areas of sandy loam or gravelly soils offer the best conditions for burrowing. Areas near agricultural fields are also preferred, as cereal grain is used as a food source. Key Areas for Richardson's Ground Squirrel in North Dakota are found only east of the Missouri River in North Dakota. Portions of Mclean, McHenry, Pierce, Eddy, and Foster counties are key areas for this





Richardson's Ground Squirrel primary range. Photo Credit:

species because of their larger tracts of intact prairie. Over 90% of their diet consists of flowers, leaves, seeds, and agriculture crops; with the remaining portion consisting of insects or other animal material.

<u>Threats:</u> Conversion of native prairie and rangeland to agricultural lands is the leading threat to the Richardson's Ground Squirrel. Poisoning to control and eradicate colonies is prevalent. Recreational shooting of Richardson's Ground Squirrels may affect populations.

Research and Monitoring:

- No survey effort is currently in place for this species.
- Surveys to establish baseline information on Richardson's Ground Squirrels need to be conducted.

- Protect native prairie where possible.
- Consider removal of dilapidated shelterbelts or stands of trees within grassland, particularly within 50 meters of grassland patches >100 ha.
- Implement grazing systems to benefit grassland species.
- Work cooperatively with state and federal agencies to develop BMP's that promote use of fire.
- Control noxious weeds through biological and chemical methods.
- Use fire or other tools to prevent woody invasion of grassland.
- Work with state and federal agencies to enforce existing pesticide regulations.
- Coordinate with wind energy companies to minimize impacts to grasslands.

Silver-haired Bat Lasionyteris noctivagans

<u>Description/Identification:</u> Pelage is dark brown to black with silver tips. Membrane between its back legs is covered with hair on its underside.

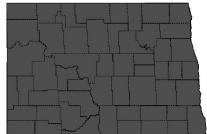
Status: Seasonal, Migratory.

<u>Reason for SGCN Designation:</u> Threatened by the emergence of wind energy development in ND. Identified as a Regional Species of Conservation Priority by the Midwest Association of Fish and Wildlife Agencies.

<u>Habitat:</u> Tree roosting bat species. Found predominantly in forests and woodlots in ND. Found state-wide in ND. Feeds on a wide variety of insect prey.

<u>Threats:</u> The expansion of wind energy development is identified as an emerging threat to this species due to it migratory nature. North Dakota bat species are insectivores. The use of pesticides in the vicinity of a feeding ground would affect bat populations by killing prey. Also, bat species are known to store pesticides within fat reserves.





Silver-haired Bat primary range. Photo Credit: Adobe Stock

Research and Monitoring:

- Bat species are monitored acoustically using North American Bat monitoring protocol.
- Bats are also monitored with mist nets by a number of partners in the state.

- · Work with wind energy development companies on turbine siting to minimize impacts to migrating bats
- Protection and restoration of riparian habitat.
- Manage riparian habitats to maintain snags, connecting corridors, and edges.
- Maintain and improve seeps, ponds, and other wet areas as water sources.
- Education on the benefits and misconceptions about bats.
- Identify and protect maternity roosts.
- Provide roosting sites in areas where natural sites have been destroyed or disturbed.

Swift Fox *Vulpes velox*

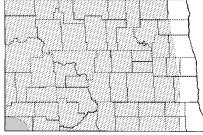
<u>Description/Identification:</u> Smallest member of the canine family. 2 ½ feet from snout to tip of tail. Yellowish tan coat with some gray along the back. Belly, throat, and chest are buff to white. Distinctly large ears for body size. Long bushy tail with a black tip.

Status: Resident species, potentially breeding population.

<u>Reason for SGCN Designation:</u> Loss of native prairie thought to be the cause of initial population decline. The species may have re-established in the state as a result of re-introductions in neighboring states.

<u>Habitat</u>: Found statewide at one time with the exception of the eastern tallgrass prairies. A majority of Swift Foxes were found in the shortgrass prairies of southwestern North Dakota. Swift Foxes prefer large tracts of native prairie, usually grazed, but will select dens sites near agricultural fields and human development. Shortgrass prairie in extreme western and southwestern North Dakota offers the most suitable habitat for Swift Fox populations in North Dakota. This region is also the closest in proximity to known breeding populations in South Dakota and Montana. Swift fox are opportunistic foragers, and consume a variety of mammals, birds, arthropods, plants, and carrion.





Swift Fox possible (light gray) and historic (hatched) range. Photo Credit: Adobe Stock

<u>Threats:</u> Loss of suitable native short and mixed-grass prairie due to conversion to agricultural and development provide the largest threat to re-establishing populations. Connectivity to breeding populations in South Dakota and Montana is a threat to natural repopulation of suitable habitat in North Dakota. High red fox and coyote populations threaten Swift Fox populations due to predation.

Research and Monitoring:

- Evaluation of the need for range wide surveys is made on a 5-year basis due to the low number of individuals present in the state.
- Reports to Online Furbearer Observation Reporting system are also used to track Swift Fox.

- Promote habitat conservation and habitat management in suitable Swift Fox habitat.
- Coordinate with federal and state agencies to evaluate current levels of protection of habitat.
- Identify habitat corridors and surrounding areas between habitat blocks for protection.
- Monitor existing and identify new threats to Swift Fox population expansion.
- Promote scientific Swift Fox management and a public education program.