



Records related to the establishment of the Minnesota Valley National Wildlife Refuge

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Reptiles and Amphibians of the Minnesota Valley



Minnesota Valley

NATIONAL WILDLIFE REFUGE
Recreation Area and State Trail

Reptiles and Amphibians: a Checklist

Reptiles and amphibians depend on their surroundings for warmth. Temperature, precipitation, soil moisture, humidity, light intensity, wind, and season strictly control their activities. Unlike birds and most mammals, they will remain inactive and very hard to find for weeks if the weather is unfavorable.

Turtles, lizards, and snakes are reptiles which typically have scales. Turtles and lizards also have toes with claws. Salamanders, frogs, and toads are amphibians characterized by moist glandular skins and toes without claws. Young amphibians usually pass through a larval stage in or near water before they transform into adults.

Bullsnakes and western hognose snakes in the Minnesota Valley are indicators of high quality sandy soil and prairie flora. Amphibians are sensitive indicators of water quality which can be monitored closely over time to help document environmental changes.

This checklist includes 30 species which have been reported on the refuge with a matrix that indicates their typical habitats and abundances. Should you spot an unlisted, rare, or uncommon species, please contact the refuge office. We would appreciate your help in updating our records.

Species order follows Conant's "A Field Guide to Reptiles and Amphibians of Eastern and Central North America." Common and scientific names are from J. Lang et. al., Amphibian and Reptile Group, Endangered Species Technical Advisory Committee to the Commissioner, Minnesota DNR.

Common Name (Scientific name)	HABITAT TYPES /			OCCURRENCE
	1) Oak Savanna & Dry Prairie Uplands	2) Floodplain Forest & Low Prairie or Meadow	3) Marsh & Open Water	
				DESCRIPTION
TURTLES				
Snapping Turtle (<i>Chelydra serpentina</i>)		C	C	Dusky brown to black with a sawtooth rear shell and tail and mean disposition, old "Snappers" may weigh as much as 40 lbs. In some parts of the country, they may accumulate high levels of environmental pollutants in their bodies. 8"-18"
Map Turtle (<i>Graptemys geographica</i>)			r	A shy turtle with a brown to green carapace covered with maplike lines, it has yellow stripes on green skin and an isolated yellow spot behind the eye. 4"-11"
False Map Turtle (<i>Graptemys pseudogeographica</i>)			C	These turtles have a brown carapace with light yellow oval markings and dark blotches. They have a short yellow bar or C-shaped mark behind their eyes. 4"-11"
Painted Turtle (<i>Chrysemys picta</i>)		U	C	A handsome turtle with red and yellow stripes on its legs, neck and tail. Its smooth shell is olive to black with net-like lines and red bars or crescents on the margin. 4"-10"
Blanding's Turtle (<i>Emydoidea blandingi</i>)			r	An infrequently seen turtle with a long neck and bright yellow chin and throat. Its smooth helmet-like shell is black and irregularly spotted. 5"-10"
Smooth Softshell (<i>Trionyx muticus</i>)			C	Fast moving turtles with pancake like shells which are covered with a smooth leathery olive or orange-brown skin. 5"-14"
Spiny Softshell (<i>Trionyx spiniferus</i>)			U	This leather-backed turtle has a sandpapery, dark green or tan shell with spines near the front edge. Softshell females may get twice as large as males. 5"-18"
LIZARDS				
Prairie Skink (<i>Eumeces septentrionalis</i>)		U		A very elusive lizard, this skink is light brown with four dark brown side stripes edged with 7 thin light stripes which extend onto its tail. 5"-8"
SNAKES				
Northern Water Snake (<i>Nerodia sipedon</i>)		C	C	Sometimes called "moccasins" in the southern United States, these non-venomous water snakes are red-brown or gray to black with dark crossbands on the neck. Dark back markings are wider than the spaces between them. 22"-53"
Brown (DeKay's) Snake (<i>Storeria dekayi</i>)		U	U	This shy white bellied snake is gray to brown with 2 parallel rows of small dark spots on each side of an indistinct light gray to brown back stripe. 10"-21"
Redbelly Snake (<i>Storeria occipitomaculata</i>)		U		A small snake which may be either brown, gray, or black; it has a red belly and three light spots on the nape of its neck. 9"-19"
Common Garter Snake (<i>Thamnophis sirtalis</i>)		C	a	Most widely distributed snake in North America with highly variable coloration. Ours have dark lateral stripes on scale rows 2 and 3 with red blotches on light stripes. 18"-51"
Plains Garter Snake (<i>Thamnophis radix</i>)		C	C	Bright yellow to orange back stripe and a double row of square black spots between this and side stripes. Look for a row of black spots below the side stripes. 20"-40"
Western Hognose Snake (<i>Heterodon nasicus</i>)		C	U	A heavily bodied snake with an abruptly upturned and pointed snout. Noted for playing dead if it cannot bluff or retreat from an antagonist. Its belly and underside of tail are patterned with large black blotches. 16"-35"
Racer (<i>Coluber constrictor</i>)		U		This fast moving snake is pale blue or blue-green above and white or blue-white underneath. When annoyed, it often vibrates its tail in dry leaves. 34"-77"
Smooth Green Snake (<i>Opheodrys vernalis</i>)			U	A beautiful little green snake which hunts insects and spiders. Underside is white tinged with pale yellow. 14"-26"
Fox Snake (<i>Elaphe vulpina</i>)		U	C	Fox snakes are yellowish to light brown marked with dark brown to black blotches down the back to tail and have two alternating rows of smaller blotches on its side. 30"-60"

Common Name (Scientific name)	HABITAT TYPES/ OCCURRENCE			DESCRIPTION/NOTES
SNAKES cont.	1	2	3	
Gopher Snake (<i>Pituophis melanoleucus</i>)	C	U		Bullsnakes are yellowish with 41 or more black, brown, or red-brown body blotches. They feed on rodents. 48"-100"
Milk Snake (<i>Lampropeltis triangulum</i>)		U		Tan to gray with a light Y or V-shaped patch on nape of neck and dark brown to red-brown blotches down its length. 26"-52"
SALAMANDERS				
Mudpuppy (<i>Necturus maculosus</i>)			U	This large aquatic salamander is gray and brown with large dark blue spots and reddish or purple gills. 8"-17"
Eastern Newt (<i>Notophthalmus viridescens</i>)		U	U	Newts secrete a poison through their skins to discourage predators. This aquatic species has a brown back and yellow belly. 2½"-5½"
Blue-Spotted Salamander (<i>Ambystoma laterale</i>)		r		A trim creature, this salamander is gray to blue-black with large blue-white flecks. 3"-5"
Tiger Salamander (<i>Ambystoma tigrinum</i>)		C		These animals burrow in the soil. They are nocturnal and have a variable yellow pattern on a black body. 6"-13"
TOADS				
American Toad (<i>Bufo americanus</i>)	C	C	C	Great friends of gardeners, these mostly nocturnal toads have brown spots and brown to orange-red warts. 2"-4"
FROGS				
Spring Peeper (<i>Hyla crucifer</i>)		C	C	Tan, brown, or grey with a dark X on its back, the peeper's high-pitched chorus is one of the first signs of spring. 3/4"-1½"
Gray Tree Frog (<i>Hyla versicolor</i>)		C		Rough green, brown or gray skin with dark blotches on its back. Under surfaces of thighs are a bright yellow orange. Its call is a short loud trill. 1¼"-2½"
Striped Chorus Frog (<i>Pseudacris triseriata</i>)		C	C	Colors variable green, gray to brown with three dark stripes down back and a white stripe along upper lip. Early nocturnal frogs with short calls aptly described as like the sound of a fingernail running over the small teeth of a comb. 3/4"-1½"
Green Frog (<i>Rana clamitans</i>)			C	Mainly nocturnal. Green to green-brown frogs whose call is a sudden banjo-like "chug". 2½"-4"
Wood Frog (<i>Rana sylvatica</i>)		C		Wood frogs are brown to greenish above with a distinctive black mask ending behind their eardrums and a ducklike quacking call 1½"-3¼"
Northern Leopard Frog (<i>Rana pipiens</i>)	U	a	a	A trim green to brown frog with irregular light edged dark spots. Call is a deep resonant snore. 2"-5"

Field Notes

Date	No. Species
Time Afield	Observers
Weather	
Remarks	



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Birds of the Minnesota Valley



Minnesota Valley

NATIONAL WILDLIFE REFUGE
Recreation Area and State Trail

Birds:
a Checklist

Pileated Woodpeckers are shy and infrequently seen. But, when they're hammering out rectangular holes in trees, you'll hear them. Our "cover bird" is still uncommon on the refuge but there soon may be more of them. Many flood-killed hardwoods are filled with carpenter ants, their favorite food! Pileated Woodpeckers also seem to be adapting to urbanization and forest fragmentation. Other species are not as fortunate.

Like many refuges, Minnesota Valley attracts an international clientele. Nighthawks, wood thrushes, all of our vireos, three-fourths of our warblers and another 32 species of landbirds that use this refuge spend 9 months every year in Latin American tropical forests. You may have heard that these forests are being decimated. If they disappear, so will many of "our" birds.

Breeding and wintering areas have been identified for most North American birds. Critical stopover areas are not as well known. Because of its location along one of America's main migration corridors, Minnesota Valley National Wildlife Refuge helps to provide important stopover habitat. Refuge managers use prescribed burns, water level manipulation, and mowing to maintain prairie, marshes, and bottomland forests. This habitat matrix attracts about 260 bird species to the refuge each year. One hundred and twenty-one of these are known or presumed to nest here.

Should you see species not on this list or notice changes in status, we would appreciate hearing from you.

Legend:

- S-Spring..... March - May
s-Summer..... June - August
F-Fall..... September - November
W-Winter..... December - February
N-Nesting Status
a-abundant..... common species that is very numerous
c-common.....certain to be seen in suitable habitat
u-uncommon.. present but not certain to be seen
o-occasional... seen only a few times during a season
r-rare..... seen at intervals of 2-5 years
x-accidental... seen only once or twice
●..... observed nesting within the refuge
★.....presumed to be nesting within the refuge but not confirmed
Solid Lines=Orders
Dashed Lines=Families

Common Name	S	s	F	W	N
Common Loon	o		o		
Pied-billed Grebe	c	c	c		●
Horned Grebe	o		o		
Red-necked Grebe	o		o		
Eared Grebe	o	o			
Western Grebe	r				
American White Pelican	u		u	r	
Double-crested Cormorant	c	c	c	r	
American Bittern	u	u	u		●
Least Bittern	o	o	o		★
Great Blue Heron	a	a	a	r	●
Great Egret	c	c	c		●
Little Blue Heron	r				
Green-backed Heron	c	c	c		★
Black-crowned Night-Heron	c	c	c		★
Yellow-crowned Night-Heron	r		r		★
Tundra Swan	c		u		
Greater White-fronted Goose	r		r		
Snow Goose	u		u		
Canada Goose	c	c	c	u	●
Wood Duck	c	c	c	r	●
Green-winged Teal	c		c	r	★
American Black Duck	u	r	u	u	●
Mallard	a	a	a	c	●
Northern Pintail	u		u	o	
Blue-winged Teal	a	a	a		●
Northern Shoveler	c	o	c		★
Gadwall	c		c		
American Wigeon	c		c		
Canvasback	u		u	r	
Redhead	u	u	u	r	
Ring-necked Duck	c		c	r	
Greater Scaup	r		r		
Lesser Scaup	c		c	o	
Oldsquaw	r		r		
Surf Scoter	r		r		
White-winged Scoter	r		r		
Common Goldeneye	c		c	c	
Barrow's Goldeneye	u		u	r	
Bufflehead	c		c		
Hooded Merganser	c		c	r	
Common Merganser	c		c	c	
Red-breasted Merganser	u		u		
Ruddy Duck	u	u	u		●
Turkey Vulture	u	r	u		
Osprey	u		u		
Bald Eagle	u	u	u	o	●
Northern Harrier	u		u		
Sharp-shinned Hawk	u	o	u	o	●
Cooper's Hawk	o	o	o	u	
Northern Goshawk			o	o	
Red-shouldered Hawk	r		r		
Broad-winged Hawk	u	u	u		
Red-tailed Hawk	c	c	c	u	●
Rough-legged Hawk	o		o	u	
American Kestrel	c	c	c	u	●
Peregrine Falcon	r		r		
Gray Partridge	r	r	r	r	
Ring-necked Pheasant	c	c	c	c	●

Common Name	S	s	F	W	N
Ruffed Grouse	r	r	r	r	
Wild Turkey	u	u	u	u	●
Northern Bobwhite	r	r	r	r	
King Rail	r	c			
Virginia Rail	c	c	c		●
Sora	c	c	c		●
Common Moorhen	o	o	o		●
American Coot	a	a	a	r	●
Sandhill Crane	r				
Black-bellied Plover	o		o		
Lesser Golden-Plover	u		r		
Semipalmated Plover	u		u		
Killdeer	c	c	c		●
American Avocet	r	r			
Greater Yellowlegs	c		c		
Lesser Yellowlegs	c		c		
Solitary Sandpiper	c		c		
Willet	u		u		
Spotted Sandpiper	c	c	c		
Upland Sandpiper	u	u	u		★
Hudsonian Godwit	o		r		
Marbled Godwit	r				
Ruddy Turnstone	u		r		
Sanderling	u		u		
Semipalmated Sandpiper	u		u		
Least Sandpiper	c		c		
White-rumped Sandpiper	u	u			
Baird's Sandpiper	u		u		
Pectoral Sandpiper	u		u		
Dunlin	u		r		
Stilt Sandpiper	u		u		
Ruff	r				
Short-billed Dowitcher	u		r		
Long-billed Dowitcher	r		u		
Common Snipe	c	c	c	r	●
American Woodcock	c	r	o		●
Wilson's Phalarope	u		o		
Red-necked Phalarope	o		o		
Franklin's Gull	u		u		
Bonaparte's Gull	u		u		
Ring-billed Gull	a	u	a		
California Gull	o	o	o		
Herring Gull	c	u	c		
Thayer's Gull			u	u	
Iceland Gull			o	o	r
Lesser Black-backed Gull					
Glaucous Gull	u		u		
Caspian Tern	u	r	u		
Common Tern	o		o		
Forster's Tern	u	u	u		★
Black Tern	u	u	u		●
Rock Dove	a	a	a	a	●
Mourning Dove	a	a	a	o	●
Black-billed Cuckoo	u	u	u		●
Yellow-billed Cuckoo	u	u	u		★
Eastern Screech-Owl	u	u	u	u	●
Great Horned Owl	u	u	u	u	●
Snowy Owl				r	
Barred Owl	u	u	u	u	★

Common Name	S	s	F	W	N
Long-eared Owl	o	r	o	u	
Short-eared Owl	r	r	r	r	
Northern Saw-whet Owl	r	r	r	r	
Common Nighthawk	c	c	c		●
Whip-poor-will	r		r		●
Chimney Swift	c	c	c		●
Ruby-throated Hummingbird	c	c	c		●
Belted Kingfisher	c	c	c	o	●
Red-headed Woodpecker	u	u	u	r	●
Red-bellied Woodpecker	c	c	c	c	●
Yellow-bellied Sapsucker	c	o	c		●
Downy Woodpecker	c	c	c	c	●
Hairy Woodpecker	c	c	c	c	●
Northern Flicker	a	c	a	o	●
Pileated Woodpecker	u	u	u	u	●
Olive-sided Flycatcher	u		u		★
Eastern Wood-Pewee	u	u	u		
Yellow-bellied Flycatcher	u		u		
Alder Flycatcher	u		u		★
Willow Flycatcher	u	c	u		★
Least Flycatcher	c	c	c		★
Eastern Phoebe	c	c	c		●
Great Crested Flycatcher	u	u	u		●
Eastern Kingbird	u	u	u		●
Western Kingbird	r	r	r		
Horned Lark	u	u	u	u	●
Purple Martin	u	u	u		●
Tree Swallow	a	a	a		●
Northern Rough-winged Swallow	c	c	c		●
Bank Swallow	u	c	u		●
Cliff Swallow	u	u	u		●
Barn Swallow	c	c	c		●
Blue Jay	a	a	a	a	●
American Crow	a	a	a	a	●
Black-capped Chickadee	a	a	a	a	●
Tufted Titmouse	r	r	r	r	
Red-breasted Nuthatch	u		u	u	
White-breasted Nuthatch	a	a	a	a	●
Brown Creeper	c		c	u	
House Wren	a	a	a		●
Winter Wren	u		u		
Sedge Wren	u	u	u		★
Marsh Wren	u	u	u		★
Golden-crowned Kinglet	c		c	u	
Ruby-crowned Kinglet	c		c		
Blue-gray Gnatcatcher	u	u	u		●
Eastern Bluebird	c	c	c	r	●
Veery	u		u		
Gray-cheeked Thrush	u		u		
Swainson's Thrush	c		c		●
Hermit Thrush	c		c		
Wood Thrush	u	u	u		★
American Robin	a	a	a	u	●
Gray Catbird	c	c	c		●
Brown Thrasher	u	u	u		●
Water Pipit	u		u		
Bohemian Waxwing	o		o	u	
Cedar Waxwing	c	u	c	c	★
Northern Shrike	u		u	u	

Common Name	S	s	F	W	N
Loggerhead Shrike	r	r	r		★
European Starling	a	a	a	a	●
Bell's Vireo	r	r	r		●
Solitary Vireo	u	u	u		
Yellow-throated Vireo	u	u	u		●
Warbling Vireo	c	c	c		★
Philadelphia Vireo	u	u	u		
Red-eyed Vireo	c	c	c		★
Blue-winged Warbler	r	r	r		★
Golden-winged Warbler	r	r	r		★
Tennessee Warbler	c	c	c		
Orange-crowned Warbler	c	c	c		
Nashville Warbler	c	c	c		
Northern Parula	r	r	r		
Yellow Warbler	c	c	c		●
Chestnut-sided Warbler	u	u	u		
Magnolia Warbler	u	u	u		
Cape May Warbler	u	u	u		
Black-throated Blue Warbler	r	r	r		
Yellow-rumped Warbler	a	a	a	r	
Black-throated Green Warbler	u	u	u		
Blackburnian Warbler	u	u	u		
Pine Warbler	o	o	o		
Palm Warbler	c	c	c		
Bay-breasted Warbler	u	u	u		
Blackpoll Warbler	u	u	u		
Cerulean Warbler	r	r	r		★
Black-and-white Warbler	c	c	c		
American Redstart	c	c	c		★
Prothonotary Warbler	r	o	r		●
Ovenbird	c	u	c		★
Northern Waterthrush	u	u	u		
Connecticut Warbler	r	r	r		
Mourning Warbler	u	u	u		
Common Yellowthroat	a	a	a		●
Wilson's Warbler	u	u	u		
Canada Warbler	u	u	u		
Yellow-breasted Chat	r	r	o		★
Scarlet Tanager	u	u	u		★
Northern Cardinal	c	c	c	c	●
Rose-breasted Grosbeak	c	c	c		●
Indigo Bunting	c	c	c		●
Dickcissel	u	u	u		●
Rufous-sided Towhee	u	u	u		★
American Tree Sparrow	c	c	c	c	●
Chipping sparrow	c	c	c		●
Clay-colored Sparrow	c	u	c		●
Field Sparrow	c	c	c	r	●
Vesper Sparrow	u	u	u		●
Lark Sparrow	o	o	o		●
Savannah Sparrow	u	u	u		★
Grasshopper Sparrow	u	u	o		★
LeConte's Sparrow	o	u			
Fox Sparrow	c	c	c		
Song Sparrow	c	c	c	r	●
Lincoln's Sparrow	c	c	c		
Swamp Sparrow	c	c	c	r	★
White-throated Sparrow	c	c	c	r	
White-crowned Sparrow	u	u	u		

Common Name	S	s	F	W	N
Harris' Sparrow	u		u		
Dark-eyed Junco	c		c	c	
Lapland Longspur	o		o	o	
Snow Bunting	o		o	o	
Bobolink	c	c	c		★
Red-winged Blackbird	a	a	a	u	●
Eastern Meadowlark	c	c	c		★
Western Meadowlark	c	c	c		★
Yellow-headed Blackbird	u	u	u		●
Rusty Blackbird	c		c	u	
Brewer's Blackbird	c	c	c		●
Common Grackle	a	a	a	u	●
Brown-headed Cowbird	a	a	c	o	●
Orchard Oriole	r	r	r		
Northern Oriole	c	c	c		●
Purple Finch	c		c	c	
Red Crossbill				r	
White-winged Crossbill				r	
Common Redpoll	r		r	u	
Hoary Redpoll				o	
Pine Siskin	u		u	u	★
American Goldfinch	c	c	c	c	●
House Finch	c	c	c	c	●
Evening Grosbeak				u	
House Sparrow	a	a	a	a	●

Common Name	S	s	F	W	N
Magnificent Frigatebird			x		
Snowy Egret		x			
Tricolored Heron	x				
Cattle Egret	x				
Glossy Ibis	x				
Trumpeter Swan	x		x		
Mute Swan (Feral)	x	x	x	x	
Whooper Swan (Feral)	x	x	x	x	
Cinnamon Teal	x				
White-faced Ibis	x				
Piping Plover	x		x		
Black-necked Stilt	x				
Harlequin Duck				x	
Merlin	x				
Prairie Falcon			x		
Western Sandpiper		x			
Great Black-backed Gull				x	
Black-legged Kittiwake				x	
Carolina Wren	x		x		
White-eyed Vireo	x				
Louisiana Waterthrush	x				
Sharp-tailed Sparrow		x			

Common Names from:
Minnesota Ornithologists' Union,
Field Checklist of Minnesota Birds: 1988

Field Notes

Date _____ No. Species _____

Time Afield _____

Observer _____

Weather _____

Remarks _____

Please report unusual bird sightings to:

Refuge Manager
Minnesota Valley National Wildlife Refuge
3815 East 80th Street
Bloomington, MN 55425-1600
Phone (612) 335-2323 Visitor Center
(612)335-2299 Recorded Information

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Mammals of the Minnesota Valley



Minnesota Valley

NATIONAL WILDLIFE REFUGE
Recreation Area and State Trail

Mammals:
a Checklist

This land had been carved by glaciers and scoured by the River Warren when the last ice age ended about 11,000 years ago. The earth warmed to the sun again. Life returned and primitive man followed the herds into the Minnesota Valley.

Buffalo, elk, bear, and wolves all lived here. The Dakota Indians knew them as an integral part of their lives and legends. To most of us, they are no more than pictures in a book, flat with neither dimension nor life. . . they have been gone too long.

This is a checklist of the 50 mammals which remain and the habitats where they may be found. Many are fairly common, adaptable, and readily seen. Others are rare, secretive, or appear only at night. Should you spot an unlisted, rare, or uncommon species; please contact the refuge office. We would appreciate your help in updating our records.

Scientific names and the order in which they appear follow Jones, et al., "Revised Checklist of North American Mammals North of Mexico, 1975"; while common names are taken from Burt & Grossenheider "A Field Guide to the Mammals, 1952"

Common Name (Scientific name)	HABITAT TYPES			DESCRIPTION	OCCURRENCE a = abundant C = common U = uncommon r = rare
	1) Oak Savanna & Dry Prairie Uplands	2) Floodplain Forest & Low Prairie or Meadow	3) Marsh & Open Water		
OPOSSUM Virginia Opossum (Didelphis virginiana)	r	r		The 'possum is cat-sized but heavier with a white face, thin black ears, and a scaly rat-like tail. They are North America's only marsupial (head & body = 15"-20")	
SHREWS Masked Shrew (Sorex cinereus)		U		Gray brown and mouselike, masked and other shrews must consume at least their own weight in small animals and insects daily to keep their hearts beating more than 1200 times/minute (2"-2½")	
Arctic Shrew (Sorex arcticus)		r		Dull brown in the summer, their winter coat is tricolored with a dark brown back, light brown sides, and a lighter belly (2¾"-3")	
Pigmy Shrew (Microsorex hoyi)		r		Minnesota's smallest mammal, the pygmy shrew weighs about as much as a dime (2"-2½")	
Shorttail Shrew (Blarina brevicauda)	r	C	U	Lead-colored with no external ears and very small eyes, the saliva of this shrew is poisonous (3"-4")	
MOLES Eastern Mole (Scalopus aquaticus)		U	U	Makes ridge-covered burrows just under the surface of the ground by pushing through the soil with its piglike snout and spadelike front feet (4½"-6½")	
Starnose Mole (Condylura cristata)		r		A small dark brown mammal which compensates for a poor sense of smell by having 22 fingerlike tentacles around the end of its nose (4½"-5")	
BATS Little Brown Myotis (Myotis lucifugus)		C		Long glossy tips on the back of this small brown bat help to identify this summer resident (1½"-2")	
Keen Myotis (Myotis keenii)		r		A dark brown, larger eared bat which may hibernate here during the winter (1½"-2")	
Silver-haired Bat (Lasionycteris noctivagans)		r		A dark brown bat easily recognized by white-tipped hairs in the middle of its back (2½")	
Eastern Pipistrel (Pipistrellus subflavus)		r		A slow, erratic flyer; this small bat is a yellow to drab brown (2")	
Big Brown Bat (Eptesicus fuscus)		C		A large dark brown bat with black membranes which lives throughout North America (2¾")	
Red Bat (Lasiurus borealis)		C	C	This bat is brick to rusty red colored with white tipped hairs (2")	
Hoary Bat (Lasiurus cinereus)		C		Yellow brown to mahogany-brown, also with white-tipped hairs over most of its body (3½")	
RABBITS Eastern Cottontail (Sylvilagus floridanus)	C	a	U	This rabbit is America's most important small game mammal but winter concentrations can work havoc to shrubs and small trees (14"-17")	
Whitetail Jackrabbit (Lepus townsendii)	U			A nocturnal species which prefers sand prairies and is distinguished from the Eastern Cottontail by its long ears and larger size (18"-20")	

Common Name (Scientific name)	HABITAT TYPES			DESCRIPTION	OCCURRENCE a = abundant C = common U = uncommon r = rare
	1) Oak Savanna & Dry Prairie Uplands	2) Floodplain Forest & Low Prairie or Meadow	3) Marsh & Open Water		
RODENTS Woodchuck (Marmota monax)	a	C		Sometimes considered pests, their extensive burrows provide home or refuge for many other mammals. Brown with frosted hairs (16"-20")	
Richardson Ground Squirrel (Citellus richardsoni)		U		Smokey gray with light bordered brownish tails, "picket pins" sometime establish colonies around old dumps (7¾"-9½")	
Thirteen-lined Ground Squirrel (Citellus tridecemlineatus)	C	U		True to its name, this small rodent has 13 white stripes on its sides and back (4½"-6½")	
Franklin Ground Squirrel (Citellus franklinii)	U	U		This long-tailed gray gopher can climb trees but is usually seen on the ground on sunny days (9"-10")	
Eastern Chipmunk (Tamias striatus)	a	C		A pert little squirrel-like mammal which runs with its tail straight up and will climb trees if you approach too closely (5"-6")	
Eastern Gray Squirrel (Sciurus carolinensis)	C	C		The common town and country squirrel with a very bushy tail bordered with white-tipped hairs. These squirrels have become unwitting foresters because they never find all the nuts and acorns they store in the ground (8"-10")	
Eastern Fox Squirrel (Sciurus niger)		C		Rich yellowish red in color, these squirrels spend much of their time on the ground along wooded field edges (10"-15")	
Red Squirrel (Tamiasciurus hudsonicus)		C		Noisy little squirrels with a light ring around their eyes, they store their food in caches and can cause considerable damage around campsites (7"-8")	
Southern Flying Squirrel (Glaucomys volans)		U		Olive brown far above and white below but rarely seen because they are nocturnal. A folded layer of loose skin along each side of their bodies enables these animals to glide from tree to tree (5½")	
Plains Pocket Gopher (Geomys bursarius)	a			These solitary dwellers like open areas with loose soil where they build large fan-shaped mounds when excavating their tunnels (6"-9")	
Plains Pocket Mouse (Perognathus flavescens)	U			Pale yellow with a white belly, these small mammals are nocturnal, have fur lined cheek pouches and prefer sandy soil (2¼"-2¾")	
Beaver (Castor canadensis)			C	The largest rodent in Minnesota, beavers build stick & mud lodges and dams where suitable trees are abundant and bank dens elsewhere in the Minnesota Valley (25"-30")	
Western Harvest Mouse (Reithrodontomys megalotis)	r			Rare in the area, this prairie mouse builds grass nests in dense vegetation (2½"-3")	
Deer Mouse (Peromyscus maniculatus)	U			Grey buff to deep red-brown with a handsome two colored tail that is dark above and light below (3"-4")	
White-footed Mouse (Peromyscus leucopus)	C	C		Upper parts pale to rich red-brown, belly and feet white. Prefers deciduous woods and brushy areas (3½"-4½")	
Gapper's Red-backed Vole (Clethrionomys gapperi)		U		Distinctive for its rusty-red and yellowish color, it can be found on damp forest floors where there are rotting logs and stumps (2½"-4½")	
Meadow Vole (Microtus pennsylvanicus)		U		Most widely distributed of the voles. Usually dark brown fur on top with a silvery or gray belly (3½"-5")	

Common Name (Scientific name)	HABITAT TYPES / OCCURRENCE			DESCRIPTION
	1	2	3	
RODENTS <i>Cont.</i>				
Muskrat (<i>Ondatra zibethica</i>)			a	Dense rich brown fur and a long scaly tail distinguish one of the most important mammals on the refuge. They build conical houses in the marsh and are important managers of marsh vegetation (10"-14")
Norway Rat (<i>Rattus norvegicus</i>)	u			Commonly found in areas of human habitation where it finds suitable food and cover (7"-10")
House Mouse (<i>Mus musculus</i>)	u			Occasionally found in fields and uplands near buildings, this is another urban immigrant from the Old World (3 1/8"-3 3/8")
Meadow Jumping Mouse (<i>Zapus hudsonicus</i>)	r	C		Small with long tails and large hind feet, these olive-yellow mice have been mistaken for frogs (3"-3 1/2")
COYOTE/FOX				
Coyote (<i>Canis latrans</i>)	r			Like a medium sized dog except with a more pointed nose and bushier tail, coyotes are adaptable but rare here (32"-37")
Red Fox (<i>Vulpes fulva</i>)	C	u		Dark red-yellow back with a white belly and bushy tail. Legs and feet are black (22"-25")
Gray Fox (<i>Urocyon cinereoargenteus</i>)	u			Salt and pepper coat except for the rusty yellow sides of its neck, ears, legs, and feet. Gray foxes are mostly nocturnal and secretive (21"-29")
RACCOON				
Raccoon (<i>Procyon lotor</i>)		C	C	Widely distributed mammals with black bandit masks, 'coons' are primarily nocturnal and will eat almost anything (18"-28")

Common Name (Scientific name)	HABITAT TYPES / OCCURRENCE			DESCRIPTION
	1	2	3	
WEASEL/SKUNK/OTTER				
Ermine/ Shorttail Weasel (<i>Mustela ermina</i>)		U		Ermine are dark brown with white underparts and feet in the summer and are all white in the winter except for their black-tipped tails (6"-9")
Least Weasel (<i>Mustela rixosa</i>)	U			Looks like a small version of the Ermine except that it has no black tip at the end of its tail. Feeds primarily on mice (5½"-6½")
Longtail Weasel (<i>Mustela frenata</i>)		U		Most widely distributed weasel. Larger than the Ermine but without the white line down the inside of that species' hind leg (8"-10½")
Mink (<i>Mustela vison</i>)			U	Mink have valuable rich dark brown fur with a white chin patch and are never found very far from water (12"-17")
Badger (<i>Taxidea taxus</i>)	r			Yellow-gray with a white stripe from the nose over the top of its head. Black feet. Badgers are furious diggers and fearless if cornered (18"-22")
Spotted Skunk (<i>Spilogale putoris</i>)	U	U		Black with a white spot on its forehead and under each ear and 4 broken white stripes along its neck, back, and sides. Known some places as the Hydrophobia Cat because they may occasionally have rabies (9"-13½")
Striped Skunk (<i>Mephitis mephitis</i>)	C	C		The size of a house cat and easily recognized by its black body and narrow white stripe up the middle of its forehead (13"-18")
River Otter (<i>Lutra canadensis</i>)			r	A large weasel-like mammal with valuable rich brown fur, otters will often den in abandoned beaver bank lodges. They are playful, sociable, and rare (26"-30")
DEER				
Whitetail Deer (<i>Odocoileus virginianus</i>)	C	a	C	The most visible mammal on the refuge easily identified by the white flag of its tail moving back and forth as it runs into the forest (3-3½ ft. tall)

Field Notes

Date	No. Species
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Time Afield	Observers
10:00-10:30	1
10:30-11:00	1
11:00-11:30	1
11:30-12:00	1
12:00-12:30	1
12:30-13:00	1
13:00-13:30	1
13:30-14:00	1
14:00-14:30	1
14:30-15:00	1
15:00-15:30	1
15:30-16:00	1
16:00-16:30	1
16:30-17:00	1
17:00-17:30	1
17:30-18:00	1
18:00-18:30	1
18:30-19:00	1
19:00-19:30	1
19:30-20:00	1
20:00-20:30	1
20:30-21:00	1
21:00-21:30	1
21:30-22:00	1
22:00-22:30	1
22:30-23:00	1
23:00-23:30	1
23:30-24:00	1
24:00-24:30	1
24:30-25:00	1
25:00-25:30	1
25:30-26:00	1
26:00-26:30	1
26:30-27:00	1
27:00-27:30	1
27:30-28:00	1
28:00-28:30	1
28:30-29:00	1
29:00-29:30	1
29:30-30:00	1
30:00-30:30	1
30:30-31:00	1
31:00-31:30	1
31:30-32:00	1
32:00-32:30	1
32:30-33:00	1
33:00-33:30	1
33:30-34:00	1
34:00-34:30	1
34:30-35:00	1
35:00-35:30	1
35:30-36:00	1
36:00-36:30	1
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37:00-37:30	1
37:30-38:00	1
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39:30-40:00	1
40:00-40:30	1
40:30-41:00	1
41:00-41:30	1
41:30-42:00	1
42:00-42:30	1
42:30-43:00	1
43:00-43:30	1
43:30-44:00	1
44:00-44:30	1
44:30-45:00	1
45:00-45:30	1
45:30-46:00	1
46:00-46:30	1
46:30-47:00	1
47:00-47:30	1
47:30-48:00	1
48:00-48:30	1
48:30-49:00	1
49:00-49:30	1
49:30-50:00	1
50:00-50:30	1
50:30-51:00	1
51:00-51:30	1
51:30-52:00	1
52:00-52:30	1
52:30-53:00	1
53:00-53:30	1
53:30-54:00	1
54:00-54:30	1
54:30-55:00	1
55:00-55:30	1
55:30-56:00	1
56:00-56:30	1
56:30-57:00	1
57:00-57:30	1
57:30-58:00	1
58:00-58:30	1
58:30-59:00	1
59:00-59:30	1
59:30-60:00	1

Weather

Remarks

[illegible]

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