

Agassiz National Wildlife Refuge
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U.S. Fish & Wildlife Service
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Agassiz

National Wildlife Refuge Mammal List





This blue goose, designed by J.N. "Ding" Darling in the 1930s, has become a symbol of the National Wildlife Refuge System.

Agassiz National Wildlife Refuge, established in 1937, occupies part of the eastern bed of glacial Lake Agassiz in northwestern Minnesota. This aspen parkland area is located between the tallgrass prairie to the west and the coniferous forest to the east. Open water and freshwater marshes occupy 37,400 acres of the refuge. Extensive areas of trees, shrubs, and grasses are found on an additional 24,100 upland acres.

Common trees growing in the hardwood forest are aspen, bur oak, green and black ash, elm, and box elder. A 4,000-acre Wilderness Area is comprised of two black spruce-tamarack bogs and associated bog lakes.

Prior to Euro-settlement, 81 species of mammals were found in Minnesota. Today there are 74 resident mammal species in the state. Forty-nine of these species, can be found on the refuge. This amazing species richness is due in part to an equally tremendous diversity of habitats on the refuge.

Mammals on the refuge range in size from the pygmy shrew to the moose. Mammals are important in the ecology of the refuge. Herbivores, such as mice, squirrels, rabbits, hares, muskrats, and deer change plant food energy into animal protein, which then becomes available to predators such as mink, gray wolves, hawks, and owls. Some mammals, such as raccoons, red foxes, and coyotes play the role of scavenger, as well as predator.

Many mammals are common on the refuge and are most active during early morning or late evening hours. Others are rare, secretive, or active only at night. Some of the best ways to determine a mammal's presence is to look for its tracks, droppings, dens, holes, beds, or mounds. Binoculars and field guides will help you identify mammals. Should you observe an unlisted, rare, or uncommon mammal species, please contact the refuge office.



Snowshoe Hare,
Jay Johnson,
USFWS



Moose,
Jim Mattsson,
USFWS

Moose

There are four subspecies of moose in North America. Agassiz is home to the third largest subspecies, Northwestern. Standing six feet tall at the shoulder, bulls weigh between 800 and 1,100 pounds and cows between 600 and 800 pounds.

Moose are the largest member of the deer family. Both sexes have a "bell" attached to their throat, which is a distinct pendulous flap of skin and hair. Rutting (breeding) season lasts from mid-September through October. After an eight month gestation period, cows calve in mid-May and June, usually producing a single calf, weighing between 25 and 35 pounds. For at least the first year of their life calves are dependent on the cow for protection, warmth, and in the winter for gaining access to food and shelter by following her trail through the snow.

Following a peak of more than 400 moose in the early 1980s, the refuge's population has declined dramatically. Refuge estimates between 2006 and 2009 have hovered around 30 individuals. Similarly, throughout north-western Minnesota a moose population that once exceeded 4,000 animals had shrunk to less than 100 by 2007. The sharp decline throughout northwestern Minnesota began in the early 1990s. Extensive research conducted on and around the refuge in the late 1990s concluded that climate change combined with increased parasite loads have driven this population decline.

Moose observations on the refuge are rare; however, cows with calves can still be observed in May or June and bulls are occasionally seen during the breeding season.

*Moose Cow
and Calf,*
Gary Tischer,
USFWS





Standing six feet tall at the shoulder; bulls weigh between 800 and 1,100 pounds. Greg Gerjets, Woodland Harmony Photography



Gray Wolf
Scott Swanson,
USFWS

Wolf

In February 1982, the first wolf pack on Agassiz was confirmed. Since 1982 a second pack has been established on the refuge and adjoining state wildlife management areas. Secretive, wolves may be observed throughout the year.

Adult wolves stand 30 inches high at the shoulder and weigh from 60 to 120 pounds. Color varies from almost white in the arctic to nearly black, with gray being most common.

In Minnesota, an average wolf pack includes seven individuals. The pack has a dominant (alpha) breeding pair of adults, which mate for life, and offspring from previous years. An average of six pups are typically born in late April. Pup mortality exceeds 50% during the first year of life.

A wolf pack's territory varies from 50 to 150 square miles, depending on food availability. Gray wolves were originally the most widely distributed land mammal in the world, living on all four northern hemispheric continents. Gray wolves lived throughout North America before colonial settlers arrived.

With settlement, the wolf was eradicated throughout most of its former range. Consequently, it was protected under the Endangered Species Act of 1973. Before 1973, there were about 650 wolves in Minnesota. As of 2008, their numbers have increased to about 2,900. Since the early 2000s, the U.S. Fish and Wildlife Service has undertaken efforts to remove the wolf from the Endangered Species List in Minnesota and the Great Lakes Region.

Coyote



Coyote,
D. Hardesty

Coyote, sometimes referred to as a “brush wolf”, look like a medium-sized dog and are gray or reddish gray, with rusty legs, feet, and ears. Throat and belly are white color. Five to ten pups are born in April. Since the gray wolf became established, coyote numbers have declined and are rarely observed.



White-tailed Deer, Becky Carlson, USFWS

White-tailed Deer

White-tailed deer are one of the most commonly observed animals on the refuge. The annual deer population has ranged from 430 to 3,400 deer on Agassiz and three adjoining state wildlife management areas. The refuge’s deer population objective is for between 1,625 and 2,160 deer. Look for deer in a variety of habitats. Fawns are born from late May through June.

Fisher

The fisher is a tree-dwelling weasel that is about the size of a red fox. Pine martens are a close relative of the fisher, but are smaller and live in Minnesota’s coniferous forests. The fisher is dark brown, with a grizzled appearance caused by white bands on the guard hairs. The tail is long and bushy. One to four young are born in late March or early April. Although fisher have inhabited the refuge for many years, the first documentation of offspring was in June of 1993. Fishers are solitary, except during mating and when rearing young. Fishers live mainly in hardwood forests and are rarely observed.



River Otter,
Beth Siverhus

River Otter

River otters are large weasel-like mammals, three to four times the size of a mink. Otters present a sleek appearance with their fairly small head, long slender body, and long, thick tapering tail with short hair. Their short fur is dark brown, a bit lighter on the underside, and often grayish or silvery on the throat. The otter’s eyes are located toward the front of the face giving better frontal vision. Usually one to four young are born in April or May.

Otter crossings between pools and ditches can be observed along the refuge roads and trails. Otters can be observed in wetlands, especially ditches throughout the refuge.



Muskrat,
Jack Bartholmai

Muskrat

Muskrats are rich brown in color with a silver-colored belly and a long, black, naked tail. Muskrats are sometimes confused with beaver, but beaver are larger and have a flat, broad tail. Five to six young are born per litter with some females producing up to three litters per year. Muskrats begin building houses in September out of cattail, bulrush, and other wetland vegetation. Their houses provide loafing and nesting sites for Canada geese and ducks.



Mink, Mike
Furtman

Mink

Mink can be seen in and around wetlands throughout the refuge. Mink and otters look similar, but mink are smaller and have a bushy tail. In the winter, mink feed almost exclusively on muskrats.

Bobcat

Bobcats can range from 15 to 35 pounds in size. They have short, inconspicuous ear tufts and a short tail. They are generally nocturnal and solitary. Bobcats feed on small mammals, birds, and carrion, when available. Young can be born at any time of the year, but most commonly in the spring.



Bobcat,
Gary Tischer,
USFWS

Red Fox

Red fox have the appearance of a small dog. Four to nine pups are born in April. Young fox disperse from the parent's territory between September and October. Red fox may be observed on roads, trails, and dikes, or in various upland habitats year-round.

Complete Mammal List

Arctic shrew (*Sorex arcticus*)
Masked shrew (*Sorex cinereus*)
American water shrew (*Sorex palustris*)
Pygmy shrew (*Microsorex hoyi*)
Northern short-tailed shrew (*Blarina brevicauda*)
Star-nosed mole (*Condylura cristata*)
Little brown myotis (*Myotis lucifugus*)
Eastern red bat (*Lasiurus borealis*)
Hoary bat (*Lasiurus cinereus*)
Big brown bat (*Eptesicus fuscus*)
Eastern cottontail (*Sylvilagus floridanus*)
White-tailed jackrabbit (*Lepus callotis*)
Snowshoe hare (*Lepus americanus*)
Eastern chipmunk (*Tamias striatus*)
Woodchuck (*Marmota monax*)
Franklin's ground squirrel (*Spermophilus franklini*)
Thirteen-lined ground squirrel (*Spermophilus tridecemlineatus*)
Eastern gray squirrel (*Sciurus carolinensis*)
Eastern fox squirrel (*Sciurus niger*)
Red squirrel (*Tamiasciurus hudsonicus*)
Northern flying squirrel (*Glaucomys sabrinus*)
Plains pocket gopher (*Geomys bursarius*)
Beaver (*Castor canadensis*)
White-footed mouse (*Peromyscus leucopus*)
Deer mouse (*Peromyscus maniculatus*)
¹Norway rat (*Rattus norvegicus*)
House mouse (*Mus musculus*)
Northern red-backed vole (*Clethrionomys rutilus*)
Meadow vole (*Microtus pennsylvanicus*)
Common muskrat (*Ondatra zibethicus*)
Meadow jumping mouse (*Zapus hudsonius*)
North American porcupine (*Erethizon dorsatum*)
Coyote (*Canis latrans*)
Gray wolf (*Canis lupus*)
Red fox (*Vulpes vulpes*)
Common gray fox (*Urocyon cinereoargenteus*)
American black bear (*Ursus americanus*)
²Northern raccoon (*Procyon lotor*)
Fisher (*Martes pennanti*)
Short-tailed weasel (*Ermine; Mustela erminea*)
Long-tailed weasel (*Mustela frenata*)
Least weasel (*Mustela nivalis*)
American mink (*Mustela vison*)
American badger (*Taxidea taxus*)
Northern river otter (*Lontra canadensis*)
Striped skunk (*Mephitis mephitis*)
Bobcat (*Lynx rufus*)
³Elk (*Cervus elaphus*)
White-tailed deer (*Odocoileus virginianus*)
Moose (*Alces alces*)

¹Exotic species

²Not native to area before Euro-settlement

³Not a resident mammal of the refuge