



Virginia opossum *Didelphis virginiana*  
Photo © Rob Curtis, The Early Birder



red bat *Lasiurus borealis*  
Photo © Rob Curtis, The Early Birder



Rafinesque's big-eared bat *Corynorhinus rafinesquii*  
Photo © Todd Fink, Daybreak Imagery



plains pocket gopher *Geomys bursarius*  
Photo © Michael R. Jeffords



beaver *Castor canadensis*  
Photo © Rob Curtis, The Early Birder

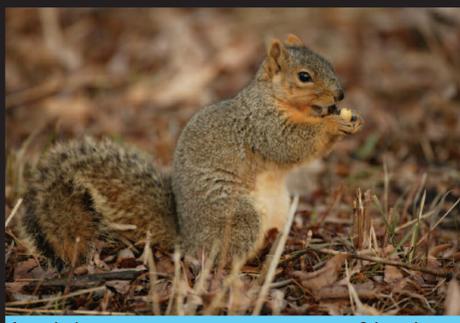


red fox *Vulpes vulpes*  
Photo © Rob Curtis, The Early Birder

# Illinois Wild Mammals



red squirrel *Tamiasciurus hudsonicus*  
Photo © Rob Curtis, The Early Birder



fox squirrel *Sciurus niger*  
Photo © Adele Hodde, IDNR Public Services



marsh rice rat *Oryzomys palustris*  
Photo © Timothy Carter



meadow vole *Microtus pennsylvanicus*  
Photo © Michael Redmer



raccoon *Procyon lotor*  
Photo © Adele Hodde, IDNR Public Services



Franklin's ground squirrel *Spermophilus franklinii*  
Photo © Chris Young, State Journal-Register



woodchuck *Marmota monax*  
Photo © Adele Hodde, IDNR Public Services



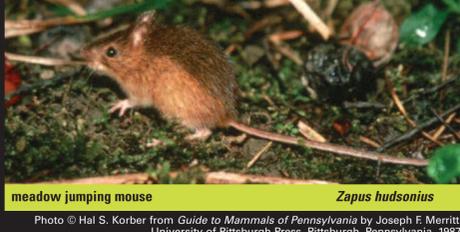
southern flying squirrel *Glaucomys volans*  
Photo © Richard Day, Daybreak Imagery



deer mouse *Peromyscus maniculatus*  
Photo © Timothy Carter



golden mouse *Ochrotomys nuttalli*  
Photo © Todd Fink, Daybreak Imagery



meadow jumping mouse *Zapus hudsonius*  
Photo © Hal S. Korber from *Guide to Mammals of Pennsylvania* by Joseph F. Merritt, University of Pittsburgh Press, Pittsburgh, Pennsylvania, 1987.



southern short-tailed shrew *Blarina carolinensis*  
Photo © Michael Redmer



eastern mole *Scalopus aquaticus*  
Photo © Missouri Department of Conservation, Jim Rathert



eastern cottontail *Sylvilagus floridanus*  
Photo © Adele Hodde, IDNR Public Services



striped skunk *Mephitis mephitis*  
Photo © Erwin C. Nielsen/Painet, Inc.



bobcat *Lynx rufus*  
Photo © Adele Hodde, IDNR Public Services



white-tailed deer *Odocoileus virginianus*  
Photo © Adele Hodde, IDNR Public Services

Large wild mammals are familiar by sight to most people. The majority of mammal species in Illinois, though, are small and usually hidden from view. They may be active at night or spend most of their life in obscured places, like under dead grasses or in the ground. Many times we know that they are present by the signs they leave behind. Tracks, scat and gnawed trees or nuts are all mammal signs. Wildlife populations are constantly changing. The area of land they inhabit expands and contracts over time. Some mammals, like the nine-banded armadillo (*Dasypus novemcinctus*), are expanding their range into southern Illinois. Others, like the white-tailed jack rabbit (*Lepus townsendii*), have disappeared from the state. These fluctuations explain why recent estimates of the number of wild mammal species in Illinois vary from 58 to 62. Bob Bluett of the Illinois Department of Natural Resources' Division of Wildlife selected the species depicted on this poster to represent the variety of mammal species found in our state.

## Species List

Kingdom Animalia Phylum Chordata Class Mammalia

Order Marsupialia	Family Didelphidae	Virginia opossum	<i>Didelphis virginiana</i>
Order Insectivora	Family Soricidae	southern short-tailed shrew	<i>Blarina carolinensis</i>
	Family Talpidae	eastern mole	<i>Scalopus aquaticus</i>
Order Chiroptera	Family Vespertilionidae	red bat	<i>Lasiurus borealis</i>
		Rafinesque's big-eared bat	<i>Corynorhinus rafinesquii</i>
Order Lagomorpha	Family Leporidae	eastern cottontail	<i>Sylvilagus floridanus</i>
Order Rodentia	Family Sciuridae	woodchuck	<i>Marmota monax</i>
		Franklin's ground squirrel	<i>Spermophilus franklinii</i>
		fox squirrel	<i>Sciurus niger</i>
		red squirrel	<i>Tamiasciurus hudsonicus</i>
	Family Geomyidae	southern flying squirrel	<i>Glaucomys volans</i>
	Family Castoridae	plains pocket gopher	<i>Geomys bursarius</i>
	Family Muridae	beaver	<i>Castor canadensis</i>
		marsh rice rat	<i>Oryzomys palustris</i>
		deer mouse	<i>Peromyscus maniculatus</i>
		golden mouse	<i>Ochrotomys nuttalli</i>
		meadow vole	<i>Microtus pennsylvanicus</i>
	Family Zapodidae	meadow jumping mouse	<i>Zapus hudsonius</i>
Order Carnivora	Family Canidae	red fox	<i>Vulpes vulpes</i>
	Family Procyonidae	raccoon	<i>Procyon lotor</i>
	Family Mustelidae	striped skunk	<i>Mephitis mephitis</i>
	Family Felidae	bobcat	<i>Lynx rufus</i>
Order Artiodactyla	Family Cervidae	white-tailed deer	<i>Odocoileus virginianus</i>

Mammals are not shown in equal proportion to actual size.

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Illinois Department of Natural Resources  
Division of Education  
Division of Natural Heritage  
Division of Wildlife



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# Illinois Wild Mammals



## What are Mammals?

Mammals are animals that have four limbs and hair or fur. They are warm-blooded, meaning that their body temperature is kept at the same level regardless of the temperature of the environment. Most mammals have young born after developing in the female's uterus. A few primitive mammals lay eggs, but none of these species live in Illinois. After birth, mammal young are fed milk produced by the female's mammary glands. Mammals are also characterized by their large, complex brain.

Urban and rural areas are both homes for mammals. There are mammals adapted to live in woodland, water, prairie and soil habitats, and some species are generalists that can survive in most of these places. Human dwellings and other buildings provide homes for a variety of mammal species, too. Several bat species live in Illinois for part of the year and then migrate to more southern locations for the winter. Other mammals in Illinois spend about the same amount of time hibernating as they do being active during the year.

You may have noticed that this poster is titled *Illinois Wild Mammals*. There are also mammals in the state that are not considered to be wild. These are known as domesticated mammals. What's the difference? Wild mammal species are those that must find the food, water and shelter that they need without human assistance. Domesticated species have been brought under the care of humans, and their breeding has been controlled to emphasize certain characteristics such as production of meat, milk or fiber (wool) or compatibility with humans. All domesticated species have been derived from related wild species. Cows, horses, sheep, pigs and dogs are all domesticated mammals. A "tame" animal is any individual whose behavior has been changed to allow it to live with humans. For example, it is possible to tame a raccoon, but raccoons as a species are not domesticated. Some domesticated mammals escape from their owners or are released into the wild. If they manage to survive and reproduce in the wild, these once-domesticated mammals are known as "feral" animals. Feral hogs, dogs and cats are sometimes found in Illinois.

## Conservation

While most Illinois wild mammals are commonly found, as of 2008, five mammal species are listed as endangered and four others are threatened in the state. The endangered mammals include Rafinesque's big-eared bat (*Corynorhinus rafinesquii*), the southeastern myotis (*Myotis austroriparius*), the gray bat (*Myotis grisescens*), the Indiana bat (*Myotis sodalis*) and the eastern wood rat (*Neotoma floridana*). The gray bat and Indiana bat are also on the federal endangered species list. Threatened mammals include the gray wolf (*Canis lupus*), the golden mouse (*Ochrotomys nuttalli*), the marsh rice rat (*Oryzomys palustris*) and Franklin's ground squirrel (*Spermophilus franklinii*). The gray wolf is a federally endangered species. A few of these species are at the edge of their historic range and have never been common in Illinois. Others were much more numerous residents and have seen drastic declines in their population. Habitat loss and human disturbances are factors affecting all of these species, however. Cave destruction or alteration, either natural or human-induced, has been detrimental to many bat species. Unwarranted killing by humans has also decimated some bat populations.

Several mammal species in Illinois, however, have recovered from low population levels. The white-tailed deer (*Odocoileus virginianus*), beaver (*Castor canadensis*) and river otter (*Lontra canadensis*) are examples of species that have been restored to abundance through translocation and careful regulation of harvest seasons. Regulated hunting and trapping help to maintain a balance between the needs of people and species that have flourished because of human-induced changes to the landscape.

Good-quality habitat is beneficial to all wild mammals and increases wildlife diversity in an area. Increasing the diversity of an area increases its ecological stability. A diverse natural habitat may help humans, too. Undertaking a habitat improvement project can give you and your students a connection to the land and the knowledge that you are doing something to help our world. Today's students are the future stewards of the earth. It is important for them to make that connection.

## Agency Resources

The Illinois Department of Natural Resources (IDNR) provides additional information and resources about wild mammals in our state. Researchers at the Illinois Natural History Survey study mammals, their distributions and population levels, and maintain collections of specimens. The IDNR Divisions of Natural Heritage and Wildlife monitor populations of wild mammals and make and implement management options. The Division of Resource Review and Coordination reviews development plans proposed by local and state governments and recommends measures to reduce or avoid adverse impacts to threatened or endangered species and their habitats. The Division of Education provides educational materials and teacher training on a variety of natural resources topics, including wild mammals, and offers grants for schoolyard wildlife habitat development and field trips for students. Many publications related to wild mammals and to wildlife habitat development are available through the publications order form at <http://www.idnrteachkids.com>.

### Correlation to Illinois Learning Standards

The information on this poster may be utilized by teachers to help meet the following Illinois Learning Standards: 12.B.2a, 12.B.2b, 12.B.3b.

### Illinois Department of Natural Resources

#### Division of Education

One Natural Resources Way  
Springfield, IL 62702-1271  
217-782-4126

<http://dnr.state.il.us>  
[dnr.teachkids@illinois.gov](mailto:dnr.teachkids@illinois.gov)

#### Division of Natural Heritage

One Natural Resources Way  
Springfield, IL 62702-1271  
217-785-8774

<http://dnr.state.il.us/offices/resource.htm>

#### Division of Resource Review and Coordination

One Natural Resources Way  
Springfield, IL 62702-1271  
217-785-5500

<http://dnr.state.il.us/orep/nrc/nrc.htm>

#### Division of Wildlife

One Natural Resources Way  
Springfield, IL 62702-1271  
217-782-6384

<http://dnr.state.il.us/orc/wildliferesources/>

#### Illinois Natural History Survey

1816 South Oak Street  
Champaign, IL 61820-6970  
217-333-6880

<http://www.inhs.uiuc.edu/>



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## Species Descriptions

Mammals are part of the animal kingdom, in the Class Mammalia. The descriptions below will help you to learn more about them and their relationships to each other.

**Order Marsupialia:** The Virginia opossum is the only marsupial in Illinois. It bears young that are not fully developed.

#### Family Didelphidae

**Virginia opossum** *Didelphis virginiana* This mammal (head and body length 15.0 – 20.0 inches; tail 9.0 – 20.0 inches; 50 teeth) lives almost anywhere on land and feeds on a variety of items including plants, animals, carrion, garbage and pet food. When scared, the opossum may play dead, hiss, growl, bare its teeth or run. It is active at night and is found throughout the state. The young are very small when born. They crawl into a pouch on the mother's body where they develop for about two months.

**Order Insectivora:** The shrews and moles are insectivores. Shrews are active at night. Moles spend most of their life in tunnels under the ground's surface.

#### Family Soricidae

**southern short-tailed shrew** *Blarina carolinensis* This species (head-body length 3.0 – 4.0 inches; tail 0.7 – 1.0 inch; 32 teeth) has gray-black fur on most of the body and brown fur on the belly. It has a very short tail and no external ears. Found in the southern one-third of Illinois, the southern short-tailed shrew uses wooded areas, grassy fields and thickets for habitat. Active day and night year round, it eats invertebrates, including earthworms, snails, slugs and insect larvae.

#### Family Talpidae

**eastern mole** *Scalopus aquaticus* The eastern mole (head and body length 4.5 – 6.5 inches; tail 1.0 – 1.5 inches; 36 teeth) may be found statewide in Illinois living in wooded areas, pastures, gardens, cemeteries, farm fields and lawns. Its fur is gray-black. The distinctive paddlelike front feet with big claws are used for digging tunnels in the soil. Shallow tunnels are used for finding food, while deeper tunnels are used for resting and nesting. To change directions in a tunnel, the mole completes a slow somersault. This animal has a long, hairless nose. Its diet consists mainly of insects, but it will eat earthworms and other invertebrates, when available.

**Order Chiroptera:** Bats are the only true-flying mammals, with hands modified into wings. They use echolocation to find food.

#### Family Vespertilionidae

**red bat** *Lasiurus borealis* The nocturnal red bat (head and body length 3.5 – 4.5 inches; tail 1.8 – 2.0 inches; 32 teeth) roosts in trees and shrubs. This very common species is found statewide. The fur is rust-colored with white tips. Insects comprise the bulk of the diet. It migrates south out of the state for the winter.

**Rafinesque's big-eared bat** *Corynorhinus rafinesquii* The huge ears (more than 1.0 inch in length) distinguish this species. The ears can be curled when resting or hibernating, making identification difficult at first glance. This bat (head-body length 2.0 – 2.5 inches; tail 1.7 – 2.0 inches; 36 teeth) has brown-black fur on most of the body with belly fur white with black roots. It lives in the southern one-third of Illinois in trees, abandoned buildings, mines and caves. It flies late at night, eating insects. Hibernation occurs in mines and caves.

**Order Lagomorpha:** Rabbits and hares are mammals with a short, furry tail. They have four incisors (front teeth) on the upper jaw.

#### Family Leporidae

**eastern cottontail** *Sylvilagus floridanus* The eastern cottontail (head-body length 14.0 – 17.0 inches; tail 2.0 – 3.0 inches; 28 teeth) has large hind legs and long ears. Found statewide, this mammal is active at night, in the early evening and in the morning. It lives near brush piles, hedges, short grasses and shrubs, and feeds on plant materials such as grasses, clover, alfalfa, seeds, buds, fruits and bark. The female places the blind, helpless newborns in a shallow depression in the ground or a short burrow that is lined with hair and covered with grasses. The fur is gray-brown except at the back of the neck, where it is red-brown. The underside of the tail is white.

**Order Rodentia:** This order contains the most Illinois mammal species. Rodents have a large gap between the incisors and the rest of their teeth.

#### Family Sciuridae

**woodchuck** *Marmota monax* The woodchuck, also known as the groundhog, (head-body length 13.5 – 16.7 inches; tail 3.5 – 7.3 inches; 22 teeth) has red-brown fur on its back with scattered black hairs. Most of the hairs have a white tip. The front legs and hind feet are black. Found statewide, it lives in brushy or weedy areas, fencerows, forest edges, dams and railroad embankments. The diet includes plants and their parts, such as clovers, grasses, bulbs, leaves, fruits and bark. Active during the day, it usually spends no more than two hours out of its burrow. It digs tunnels but can also swim and climb trees. This species hibernates four to five months each year.

**Franklin's ground squirrel** *Spermophilus franklinii* Franklin's ground squirrel (head-body length 9.2 – 10.2 inches; tail 4.5 – 6.2 inches; 22 teeth) lives in the northern two-thirds of Illinois. Its body fur is olive-gray with scattered black hairs, while the belly has cream-colored hair. It inhabits areas with grasses short enough for it to see over when standing upright on its hind legs. It is active during daylight hours and feeds on carrion, insects, small mammals, birds, bird eggs and plants. This mammal digs a burrow deep enough so that the temperature inside remains above freezing in winter. It hibernates for about seven months each year.

**fox squirrel** *Sciurus niger* Forest edges, fencerows, woodlots and urban areas are all home to the fox squirrel (head and body length 10.5 – 15.0 inches; tail 7.0 – 14.0 inches; 20 teeth). Its rust-yellow fur and light yellow belly make it easily recognized. Found throughout Illinois, this tree squirrel eats fruits, tree buds, nuts, acorns, corn, flowers, leaves, fungi and insects. It is active early in the morning and late in the evening. Although the fox squirrel does not hibernate, it may sleep several consecutive days in winter. It builds a leaf nest or uses a cavity in a tree or a human-made nesting box for resting, shelter and raising young.

**red squirrel** *Tamiasciurus hudsonicus* The red squirrel (head-body 7.0 – 8.0 inches; tail 4.0 – 6.0 inches; 20 teeth) with its cinnamon, brown and black fur is similar in appearance to the fox squirrel but is much smaller. Its belly and feet are white or gray. In Illinois, it may be found in the northeastern part of the state associated with the Kankakee and Iroquois rivers and other areas where there are dense pine forests or dense hardwood forests with a thick understory. Tree buds, leaves, flowers, fungi, acorns, nuts, bark, fruit and insects make up its diet. Active early in the morning and late in the evening, the red squirrel uses a leaf nest or tree cavity for shelter.

**southern flying squirrel** *Glaucomys volans* The small (head and body 5.5 – 5.8 inches; tail 3.5 – 5.2 inches; 22 teeth) southern flying squirrel has a flap of loose skin between the front and hind legs that makes a gliding surface when the legs are stretched out. It lives statewide in hardwood forests near water. Hickory nuts, acorns, fungi, bark, bird eggs, insects and young birds are some of the foods it eats. Although active year round, this nocturnal species may sleep for several consecutive days in winter. The fur is gray-brown everywhere except for the white under side.

#### Family Geomyidae

**plains pocket gopher** *Geomys bursarius* The pocket gopher (head and body 5.5 – 9.0 inches; tail 2.0 – 4.5 inches; 20 teeth) is adapted to an underground existence, and it spends much of its time in burrows. The large front feet have claws for digging. The mouth can be closed behind the incisors so they can be used for digging without dirt entering the animal's mouth. Active day and night, this species eats plants. In Illinois, it is only found along the Kankakee and Illinois rivers. The fur is predominantly black.

#### Family Castoridae

**beaver** *Castor canadensis* The beaver is the largest rodent in Illinois (head and body 25.0 – 30.0 inches; tail 9.0 – 10.0 inches; 20 teeth). This nocturnal species has a large flat tail and webbed hind feet. It spends most of its time in water, only coming to land to rest, rear young and feed. Found statewide, it eats plants. Its fur is brown.

#### Family Muridae

**marsh rice rat** *Oryzomys palustris* Active year round, mainly at night, the marsh rice rat (head and body length 5.0 – 8.0 inches; tail 4.0 – 7.5 inches; 16 teeth) has gray-brown fur with white feet. The belly is gray. Living in the southern one-fourth of the state in marshes and swamps, it eats seeds and leaves of grasses and aquatic plants as well as insects, bird eggs, small mammals and snails. This species makes and uses runways.

**deer mouse** *Peromyscus maniculatus* The deer mouse (head and body 3.0 – 4.0 inches; tail 3.0 – 5.0 inches; 16 teeth) lives statewide in prairies, grasslands, pastures and fields. It is a nocturnal omnivore, feeding on insects, seeds and grains. It may store food for later consumption. This rodent builds a shallow burrow system or may use the burrows of other small mammals. The fur on the upper side of the animal is gray-brown, while the belly side is white. The tail is white on the lower half.

**golden mouse** *Ochrotomys nuttalli* Found in the southern one-fourth of Illinois in honeysuckle and greenbrier thickets associated with cane, conifers or sumac, the golden mouse (head and body length 3.3 – 3.8 inches; tail 3.3 – 3.8 inches; 16 teeth) has red or golden fur on most of the body with white belly fur. Acorns, seeds and fruits are the main components of the diet. This species lives in colonies and is active at night. The nest is built above ground or under debris on the ground and is used for resting as well as to raise young.

**meadow vole** *Microtus pennsylvanicus* The meadow vole (head and body length 3.5 – 5.0 inches; tail 1.5 – 2.0 inches; 16 teeth) has black fur with scattered red hairs. Its belly has white-tipped black fur. Found in the northern one-half of the state, this species inhabits moist areas with grasses or sedges, marshes, stream banks, wet fields, lake shores and gardens. It eats grasses, other green plants, bulbs, seeds and grains. Active day and night, this vole moves in underground burrows and above ground runways.

#### Family Zapodidae

**meadow jumping mouse** *Zapus hudsonius* The meadow jumping mouse (head and body 3.0 – 4.0 inches; tail 4.0 – 6.0 inches; 18 teeth) has grooved upper incisors. Its back feet are enlarged for jumping. Active mainly at night, this species can be found statewide in Illinois. It lives in moist areas in fields, woods and along streams, ponds and marshes. It eats seeds. The back and the top half of the tail are brown, the sides are gold with an orange stripe and the belly, bottom half of the tail and feet are white.

**Order Carnivora:** Carnivores feed primarily on prey that they capture. They are large- to medium-sized mammals with claws on their feet.

#### Family Canidae

**red fox** *Vulpes vulpes* Grasslands, field edges, bottomland woods and brushy areas throughout Illinois are habitat for the red fox (head and body 22.0 – 25.0 inches; tail 14.0 – 16.0 inches; 42 teeth). The red-orange fur is distinctive. The tail is a mix of red and black with a white tip. Generally a meat-eater (birds, dead animals, frogs, insects, small mammals) it also consumes some plant materials (seeds, berries, fruits, grasses). It uses a den in which to raise its young.

#### Family Procyonidae

**raccoon** *Procyon lotor* The black-masked face and ringed tail make the raccoon (head and body 18.0 – 28.0 inches; tail 8.0 – 12.0 inches; 40 teeth) easy to identify. Most of the fur is gray-black. This species can live in a variety of habitats, but they must be close to water. Its varied diet includes nuts, grains, seeds, berries, crayfish, fishes, reptiles and small mammals. It is common in urban areas. Active at night, this animal is found statewide.

#### Family Mustelidae

**striped skunk** *Mephitis mephitis* The skunk (head and body 13.0 – 18.0 inches; tail 7.0 – 10.0 inches; 34 teeth) is black except for the two white stripes on its back and the stripe on its head. Found statewide in urban areas, pastures, open woods or in roadside habitats, this species is active at night. Frogs, birds, dead animals, garbage, grasses, insects, fruits, small mammals and reptiles are all included in its diet. Young are raised in an underground den. The skunk will spray its bad-smelling scent on any animal it considers to be a threat, but it only does so after giving a warning.

#### Family Felidae

**bobcat** *Lynx rufus* Active at night, the bobcat (head and body 25.0 – 35.0 inches; tail 5.0 inches; 28 teeth) lives in wooded bluffs or rolling hills mixed with open fields, brushy ravines or open lowlands along rivers. It preys upon mammals and birds. The fur is gray, brown and tan.

**Order Artiodactyla:** The even-toed ungulates have a stomach with four chambers.

#### Family Cervidae

**white-tailed deer** *Odocoileus virginianus* The white-tailed deer (head and body 4.5 – 6.5 feet; tail 6.0 – 12.0 inches; 32 teeth) is the largest Illinois wild mammal. It has hooves, and antlers that grow and are shed annually. Antlers are usually only found on males. Active mainly at night, dusk and dawn, the white-tailed deer seeks wooded areas for shelter and feeds in fields, pastures and brushy areas. Plant materials such as twigs, leaves, grains, grasses and acorns, are the main components of the diet. The hair is mainly gray-brown or tan with the belly and underside of the tail white.

