

The *Nature* of Teaching

Common Indiana Mammals



Missouri Department of Conservation

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www.purdue.edu/nature

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Mammals play an integral role in many natural habitats. Knowing more about these intriguing animals can help us enjoy and appreciate the diversity of wildlife around us.

Teachers and their students can use these natural history cards to identify different mammalian species and research their habitat, diet, distribution, reproduction, and ecology.

The information on these cards can help students master the following Indiana science standards:

Targeted Grade-Level Indiana Science Standards

1.1.1, 1.1.2, 1.2.1, 1.4.3

2.2.5, 2.4.1, 2.4.2, 2.4.3, 2.4.4

3.2.1, 3.4.1, 3.4.2, 3.4.3, 3.4.5

4.2.1, 4.4.3, 4.4.6

5.2.1, 5.2.2, 5.4.7, 5.5.8, 5.5.10, 5.6.2, 5.6.3

Acknowledgments

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Species Covered

1. Virginia Opossum
2. Northern Short-tailed Shrew
3. Eastern Mole
4. Little Brown Bat
5. Eastern Pipestrelle
6. Big Brown Bat
7. Red Bat
8. Eastern Cottontail
9. Eastern Chipmunk
10. Woodchuck/Groundhog
11. Thirteen-lined Ground Squirrel
12. Gray Squirrel
13. Fox Squirrel
14. Red Squirrel
15. Southern Flying Squirrel
16. Plains Pocket Gopher
17. American Beaver
18. Western Harvest Mouse
19. White-footed Mouse
20. Allegheny Woodrat
21. Meadow Vole
22. Muskrat
23. Southern Bog Lemming
24. Meadow Jumping Mouse
25. Coyote
26. Red Fox
27. Gray Fox
28. Raccoon
29. River Otter
30. Least Weasel
31. American Mink
32. Striped Skunk
33. Bobcat
34. White-tailed Deer



Glossary of Terms

- Arboreal** — inhabiting or frequenting trees
- Cache** — a hiding place for food
- Carrion** — dead and decaying flesh
- Crepuscular** — active mostly at dawn or dusk
- Diurnal** — active during the daylight hours
- Gestation** — carrying of young in the uterus
- Herbaceous** — having little or no woody tissue
- Herbivore** — feeding on plants
- Hibernation** — becoming inactive during the winter months
- Home range** — the area in which an animal confines its daily activities
- Insectivore** — feeding on insects
- Latrine** — a location for use as a toilet
- Marsupial** — a mammal that must rear young with the aid of a pouch
- Nocturnal** — active during the nighttime hours
- Omnivore** — feeding on both plants and animals
- Scatter hoarder** — hiding food items in many different locations
- Tooth formula** — a numerical expression describing the number of teeth
- Wean** — to prevent young from nursing

How to Interpret a Tooth Formula

$$I \frac{5}{4} \quad C \frac{1}{4} \quad P \frac{3}{3} \quad M \frac{4}{4} = 50$$

Incisors are abbreviated I, canines C, premolars P, and molars M.

To arrive at the total number of teeth, sum the numbers (5+4+1+1+3+3+4+4 = 25) and multiply by two (25 x 2 = 50).

Sources of Information

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Web Sites

- American Society of Mammalogists — <http://www.mammalsociety.org/publications/index.html>
- Animal Diversity Web — <http://animaldiversity.ummz.umich.edu/site/index.html>
- Ohio Department of Natural Resources — <http://www.dnr.state.oh.us/>

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Virginia Opossum

Didelphis virginiana



Bob Gress

SKULL



TRACK



Ohio Department of Natural Resources

The *Nature* of Teaching

Virginia Opossum

Didelphis virginiana

Department of Forestry & Natural Resources

Order: Didelphimorphia

Family: Didelphidae

General Description: Virginia opossums are the only marsupials in North America. They are about the size of house cats and have coarse, grayish-white fur. The black ears and tails are hairless and leathery in appearance. They have very long heads with pointed snouts. The Virginia opossum has a clawless and opposable hind toe, called the “hallux,” which acts much like a human thumb.

Weight: 2.0-5.5 kg (4.4-12 lbs)

Total Length: 650-850 mm (26-33 in)

Tooth Formula: I $\frac{5}{4}$ C $\frac{1}{1}$ P $\frac{3}{3}$ M $\frac{4}{4}$ = 50, more teeth than any other mammal in North America

Life Span: 2 years in the wild, 4 years in captivity

Habitat: Virginia opossums are very adaptable marsupials and occur in a wide range of habitats. They prefer forested regions but will inhabit agricultural areas, brushy rural areas, and both suburban and urban areas.

Home Range: 5-120 ha (12-264 acres)

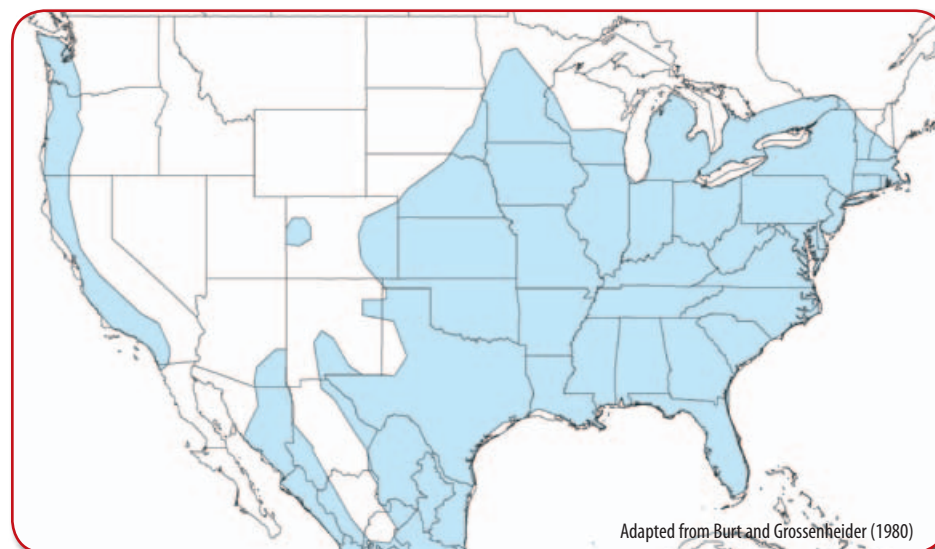
Food Habits: Virginia opossums are opportunistic omnivores. Common food items include earthworms, insects, bird eggs, small mammals, amphibians, fruits, seeds, and mushrooms. In many urban and suburban areas, they will supplement the diet with dog and cat food and garbage, if available.

Reproduction: Mating occurs in mid- to late winter. Gestation averages only 13 days. Eighteen or more young are born at a

very early stage in development. Only the hands and mouth are developed and enable the young to climb up and into the mother’s pouch where they remain for two months. Two to three litters are produced each year.

Ecology and Behavior: Virginia opossums are shy, secretive, and nocturnal animals that are active throughout the year. They spend most of their time on the ground wandering around in search of food, but they are accomplished climbers. They can hang from limbs with the help of their tails. Virginia opossums are most famous for their theatrical behavior of “playing possum.” An opossum may feign death for up to six hours if confronted with a threatening situation.

Conservation Status: Virginia opossums are common throughout Indiana.



Adapted from Burt and Grossenheider (1980)

Northern Short-tailed Shrew

Blarina brevicauda



SKULL



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Northern Short-tailed Shrew

Blarina brevicauda

Department of Forestry & Natural Resources

Order: Soricomorpha

Family: Soricidae

General Description: Northern short-tailed shrews have short tails, long pointed snouts, and small eyes. The ears are small and hidden under their fur. They are mouse-sized with dark brownish-black fur on the back and silvery gray fur on the belly. As with all New World shrews, they have reddish-brown or chestnut-tipped teeth.

Weight: 11-26 g (0.39-0.92 oz)

Total Length: 108-140 mm (4.4-5.5 in)

Tooth Formula: $I \frac{3}{1} \ C \frac{1}{1} \ P \frac{3}{1} \ M \frac{3}{3} = 32$

Life Span: Less than 1 year in the wild, 2 years in captivity

Habitat: The northern short-tailed shrew occurs in a variety of habitats as long as they provide a moist environment. Shrews inhabit grasslands, old fields, and both coniferous and deciduous forests.

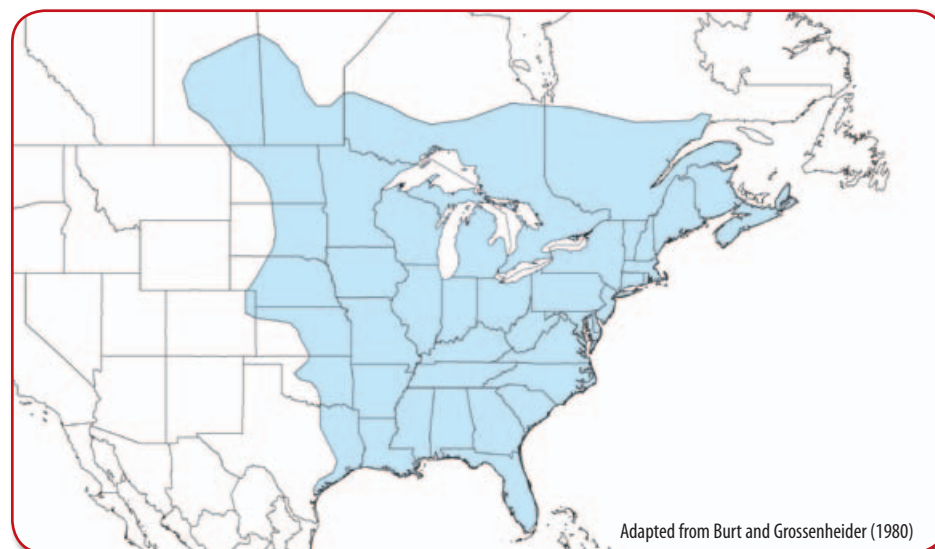
Home Range: 2.5 ha (6 acres)

Food Habits: Earthworms make up the majority of the diet, but insects, centipedes, millipedes, spiders, and slugs are readily consumed. Occasionally, shrews attack and eat small salamanders, birds, and other small mammals.

Reproduction: Mating occurs from March to September. Gestation averages 21-22 days. Litters can range from one to nine. Females may produce up to four litters per year.

Ecology and Behavior: Northern short-tailed shrews are solitary and primarily nocturnal, but can be active during the day as well. They have voracious appetites, consuming as much as three times their weight in food every day to support their high metabolisms. The constant foraging is interspersed with frequent naps. The northern short-tailed shrew is one of only two mammals that produce a toxic secretion in the salivary glands. This toxin is able to kill small mammals by inducing respiratory failure. The toxin only causes swelling and irritation in humans and is not fatal.

Conservation Status: Northern short-tailed shrews are common throughout Indiana.



Eastern Mole

Scolapus aquaticus



SKULL



TRACK



Ohio Department of Natural Resources

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Roger Barbour/www.discoverlife.org

Eastern Mole

Scolapus aquaticus

Department of Forestry & Natural Resources

Order: Soricomorpha

Family: Talpidae

General Description: The eastern mole has a plump body covered with short gray fur. The forefeet are large and turned outward with long, flattened claws. The cone-shaped nose is small and naked and projects beyond the mouth. The tail is short and naked. The eyes and ears are concealed under the fur.

Weight: Males 82.5-139.8 g (2.9-4.9 oz), females 80-123 g (2.8-4.3 oz)

Total Length: Males 152-184 mm (6-7.2 in), females 144-165 mm (5.6-6.5 in)

Dental Formula: $I \frac{3}{2} \ C \frac{1}{0} \ P \frac{3}{3} \ M \frac{3}{3} = 36$

Life Span: Up to 6 years

Habitat: Eastern moles prefer moist, sandy, or loamy soils of fields, meadows, pastures, and forests. They tend to avoid heavy clay and gravel soils.

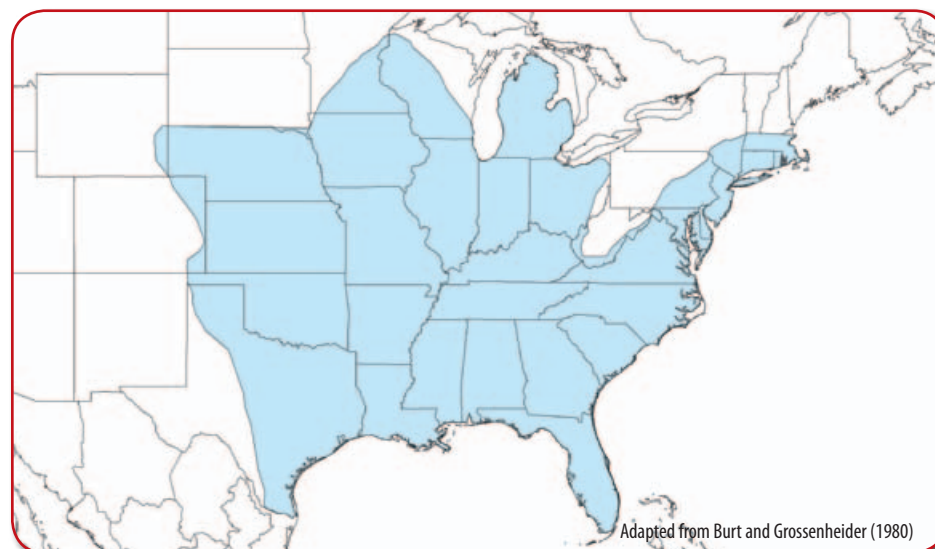
Home Range: Males average 1.1 ha (2.7 acres); females average 0.3 ha (0.7 acres).

Food Habits: Eastern moles eat mostly earthworms. Other food items include larval and adult insects, slugs, snails, and centipedes.

Reproduction: The mating season is brief, usually from late March to early April. Two to five young are born after a gestation period of approximately 45 days. Growth is rapid, and young often leave the nest after 4 weeks.

Ecology and Behavior: Eastern moles spend most of their lives underground. They have voracious appetites and eat up to 100% of their body weight every day. Eastern moles dig two types of tunnels. Shallow tunnels just below the surface are used for foraging while deeper, more permanent, tunnel systems are used during winter and dry periods. The deeper tunnels will often contain a large nest cavity lined with grass and leaves. "Mole hills" are circular mounds of loose soil pushed up through vertical shafts created from excavating the deeper tunnels. The shallow tunnels often are noticeable on the surface as ridges.

Conservation Status: Eastern moles are common and widespread throughout Indiana.

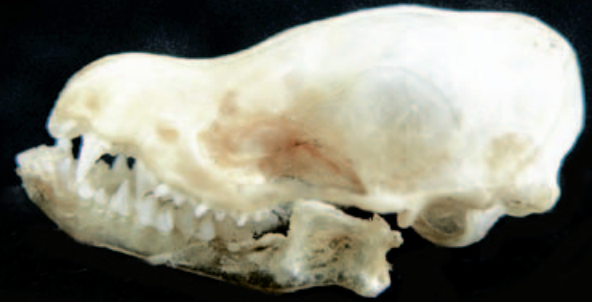


Little Brown Bat

Myotis lucifugus



Missouri Department of Conservation



SKULL



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Little Brown Bat

Myotis lucifugus

Department of Forestry & Natural Resources

Order: Chiroptera

Family: Vespertilionidae

General Description: Little brown bats are small bats with rich brown or bronze fur on the back and a paler fur on the belly. The face is furred and the ears are black. The hind toes have long hairs that extend beyond the claws. The tail membrane is not furred, and the membrane between the arm and the knee is only slightly furred.

Weight: 3.1-14.4 g (0.1-0.5 oz)

Total Length: 66-94 mm (2.3-3.7 in), wingspread 222-272 mm (8.7-10.7 in)

Dental Formula: $I \frac{2}{3} \ C \frac{1}{1} \ P \frac{3}{3} \ M \frac{3}{3} = 38$

Life Span: Up to 34 years

Habitat: Little brown bats can be found just about everywhere, from sea level to mountain forests, farms, towns, and cities.

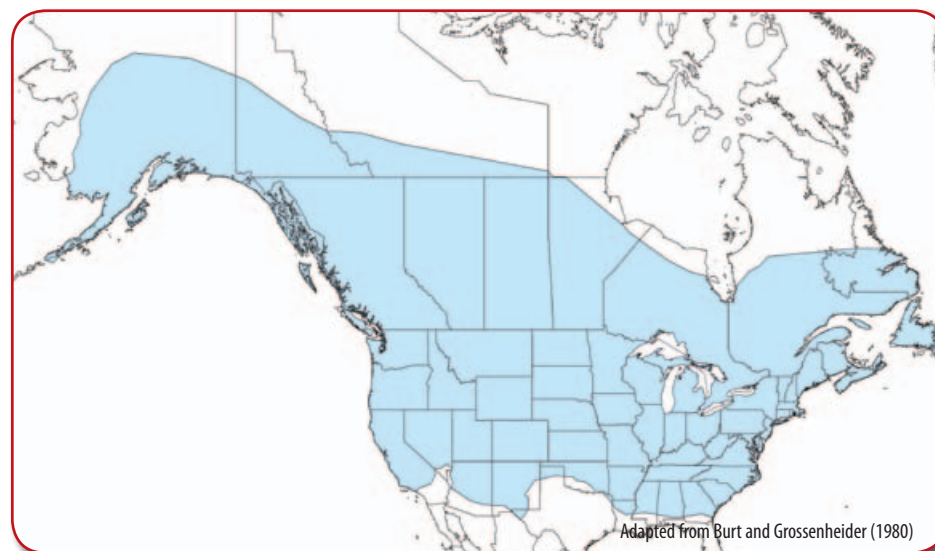
Home Range: Little brown bats will fly several kilometers to foraging sites from roosts.

Food Habits: Little brown bats are insectivores and feed heavily on flying insects that have an aquatic larval stage, such as midges, mosquitoes, and mayflies. They can consume more than 125% of their own body weight per night.

Reproduction: Little brown bats mate in late summer, but fertilization of the eggs is delayed until spring. Gestation is 50-60 days after which a single, naked pup is born. The young can fly at 3-4 weeks.

Ecology and Behavior: Little brown bats are nocturnal and forage primarily over water during the first three hours following sunset. They utilize three different types of roosts. Day roosts are located in buildings, under loose bark on trees, or in caves. Night roosts are often in the same structure as day roosts, but usually in a different location within that structure. Nursing females will roost in the same location day and night. They migrate in fall to a hibernation roost, typically a cave or abandoned mine. Little brown bats are social and can often be found in colonies. Hibernating colonies can contain over 2,000 individuals. Maternity colonies can contain several hundred females and their young. Males tend to be solitary during the summer.

Conservation Status: Although the little brown bat is common throughout Indiana, it is a species of special concern, because populations are thought to be declining.



Adapted from Burt and Grossenheider (1980)

Eastern Pipestrelle

Perimyotis subflavus



SKULL



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Eastern Pipestrelle

Perimyotis subflavus

Department of Forestry & Natural Resources

Order: Chiroptera

Family: Vespertilionidae

General Description: This small bat can be distinguished easily from other bats by its tri-colored hairs and the color of its forearm. Each hair is dark at the base, yellowish in the middle, and dark reddish at the tip. Adults appear yellowish and juveniles more grayish from a distance. The pinkish color of the forearm is easily contrasted against the black wing membrane. The lower third of the tail membrane is lightly furred.

Weight: 3.5-7 g (0.1-0.2 oz)

Total Length: 81-89 mm (3.2-3.5 in), wingspread 208-258 mm (8.2-10.2 in)

Dental Formula: $I \frac{2}{3} \ C \frac{1}{1} \ P \frac{2}{3} \ M \frac{3}{3} = 36$

Life Span: Up to 15 years in the wild

Habitat: Eastern pipestrelles forage over water and the edges of fields and forests. They tend to avoid large, unbroken forests. Eastern pipestrelles hibernate in caves during winter, and in summer they use hollow trees, buildings, and caves.

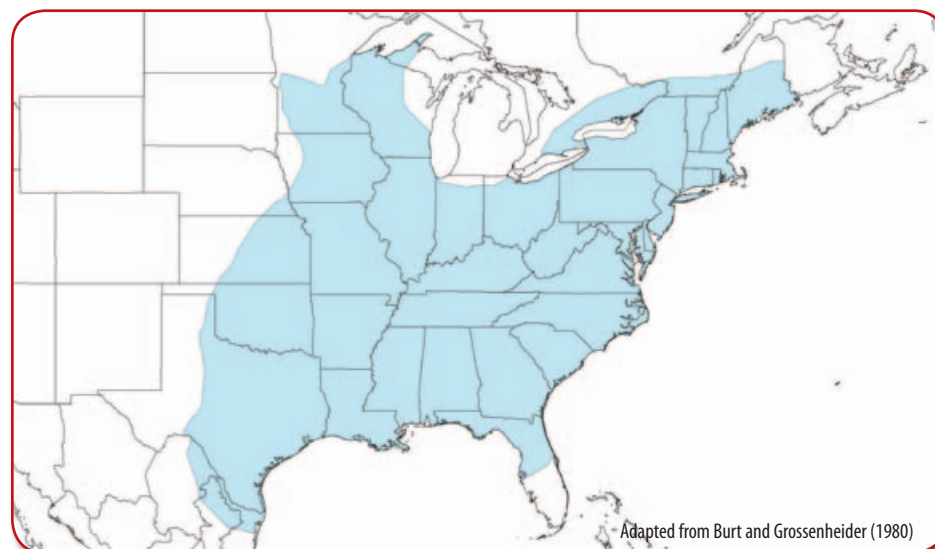
Home Range: Unknown

Food Habits: Eastern pipestrelles are insectivores, eating mostly small flies, beetles, flying ants, and moths. One of these bats can catch an insect every two seconds and can eat 25% of its body weight in 30 minutes.

Reproduction: Eastern pipestrelles mate before hibernation in fall, but fertilization of the eggs is delayed until spring. Two young are born between June and July following a gestation of 44 days. The young can fly after 3 weeks.

Ecology and Behavior: Eastern pipestrelles are nocturnal. Males are solitary while females form small maternity colonies during summer. They resemble large moths due to their small size and erratic flight and are among the first bats to emerge in the evening. Eastern pipestrelles are usually the first bats to hibernate in the fall, starting in October. They are also the last to emerge from hibernation in late April to early May.

Conservation Status: The eastern pipestrelle is a species of special concern in Indiana.



Big Brown Bat

Eptesicus fuscus



SKULL



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The *Nature* of Teaching

Big Brown Bat

Eptesicus fuscus

Department of Forestry & Natural Resources

Order: Chiroptera

Family: Vespertilionidae

General Description: The big brown bat is the second largest bat in Indiana. The fur is a rich chocolate to reddish brown on the back and distinctly lighter on the belly. The wing and tail membranes, ears, and nose are dark brown to black and lack fur.

Weight: 12.2-26.5 g (0.4-0.9 oz), some females up to 30 g (1.1 oz)

Total Length: 99-129 mm (3.9-5.1 in); wingspread 325-350 mm (12.8-13.8 in)

Dental Formula: $I \frac{2}{3} \ C \frac{1}{1} \ P \frac{1}{2} \ M \frac{3}{3} = 32$

Life Span: Up to 20 years, suspected to live longer

Habitat: Big brown bats can be found just about everywhere. Populations are highest in agricultural areas, cities, and towns, especially where there are old buildings.

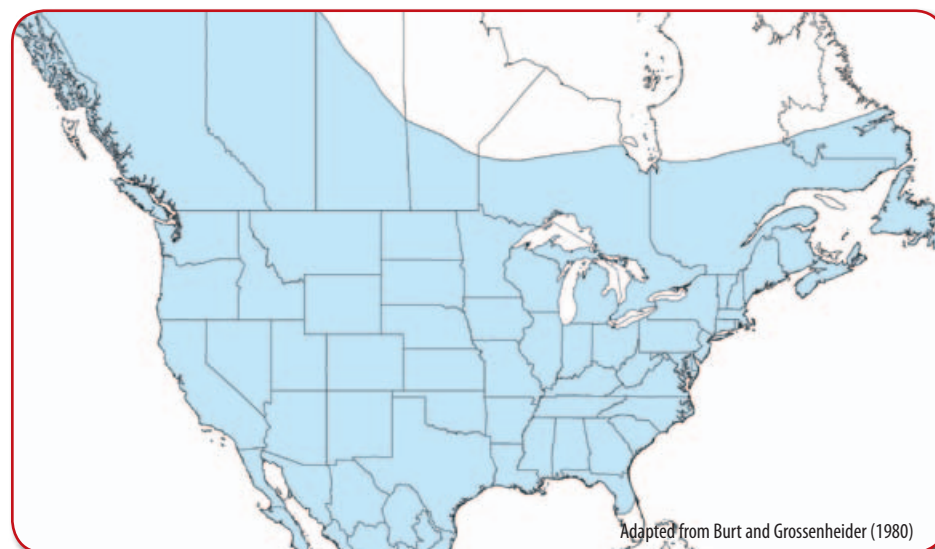
Home Range: Typically stay within a 50 km radius (31.1 mi)

Food Habits: Big brown bats are insectivores and feed heavily on beetles and moths. Up to 80% of the insects they consume are pests to humans and crops.

Reproduction: Big brown bats mate primarily in the fall, but fertilization of the eggs is delayed until spring. Gestation is about 60 days after which one to two naked pups are born. The young can fly at 3-5 weeks and reach breeding age by the first fall.

Ecology and Behavior: Big brown bats are nocturnal. Foraging generally begins about 20 minutes after sunset. Maternity colonies can number in the hundreds of individuals. They can use hollow trees for maternity colonies or hibernacula, but rely heavily on buildings and other structures. Although many big brown bats may be found hibernating in the same area, they typically do not cluster. When hibernation clusters are found, they rarely exceed nine individuals. Big brown bats have a higher tolerance to cold temperatures than do other bats. Migrations are typically short, and they often move between structures during winter. Their populations are believed to have increased due to their adaptability to human structures. Some of their vocalizations can be heard by humans as short chip notes which are often misidentified as bird calls.

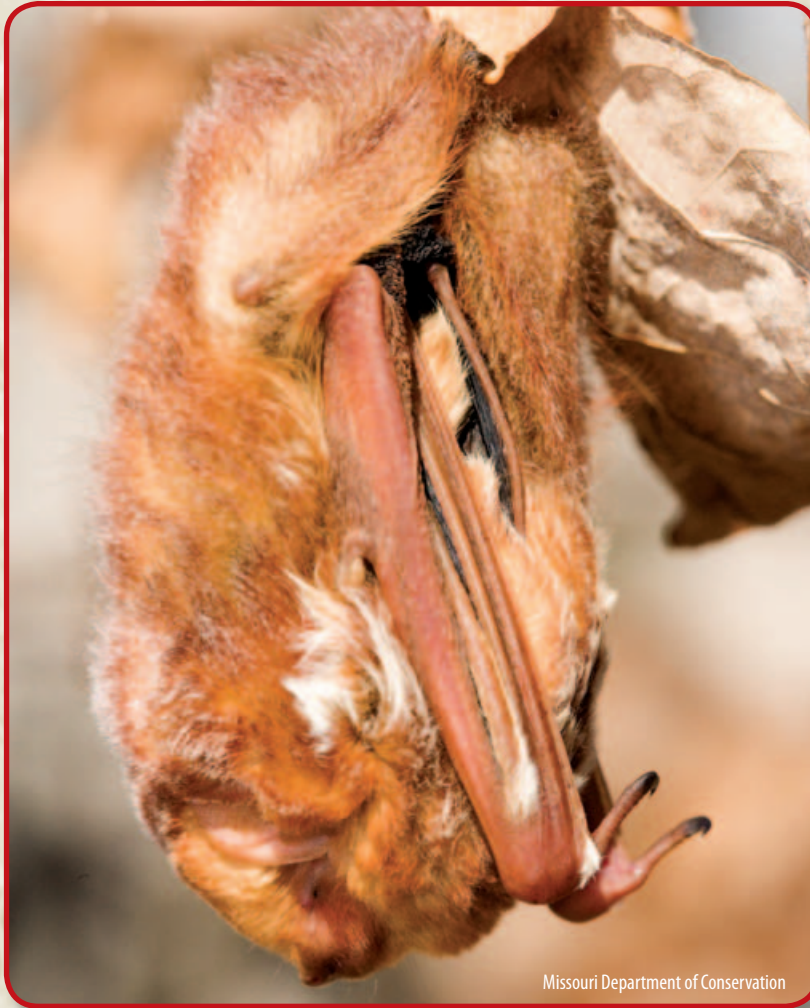
Conservation Status: Big brown bats are common throughout Indiana.



Adapted from Burt and Grossenheider (1980)

Eastern Red Bat

Lasiurus borealis



Missouri Department of Conservation



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Eastern Red Bat

Lasiurus borealis

Department of Forestry & Natural Resources

Order: Chiroptera

Family: Vespertilionidae

General Description: The eastern red bat is one of the most beautiful bat species in North America. The fur is bright yellowish-red to rust colored with white tips, giving the bat an almost frosted appearance. The tail membrane is thickly furred on top and lightly furred underneath. This is one of the few mammals where males and females differ in color. The males are bright red whereas females appear a dull, buffy chestnut with heavily frosted fur.

Weight: 9.5-16 g (0.3-0.6 oz)

Total Length: 95-126 mm (3.7-5 in), wingspread 290-332 mm (11.4-13.1 in)

Dental Formula: $I \frac{1}{3} \ C \frac{1}{4} \ P \frac{2}{2} \ M \frac{3}{3} = 32$

Life Span: Unknown

Habitat: Eastern red bats are primarily forest bats, but they also reside in parks and neighborhoods with abundant trees. They prefer areas with relatively sparse understories for ease of flight.

Home Range: Unknown

Food Habits: Eastern red bats are insectivores, eating mostly moths and beetles. They also consume flies, leafhoppers, and flying ants.

Reproduction: Eastern red bats mate in August and September, but fertilization of the eggs is delayed until spring. Gestation is thought to be 80-90 days after which two to four young are born, usually in June. The young can fly after 4-5 weeks.

Ecology and Behavior: Eastern red bats are nocturnal; however, they can occasionally be seen foraging in late afternoon. Feeding occurs around trees, lights, and over water in the evening. Eastern red bats often dive at moths, making several attacks before a successful catch. About 40% of the attacks are successful, and they will attack an insect about every 30 seconds. They are solitary and roost among the leaves of trees during the day, often about 1-3 m (3-10 ft) above the ground. They also roost on the ground under leaves during fall and winter. Eastern red bats migrate south to hibernate, but the exact location is unknown.

Conservation Status: The eastern red bat is a species of special concern in Indiana.



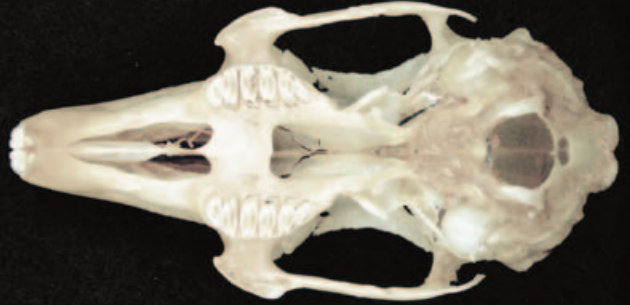
Eastern Cottontail

Sylvilagus floridanus



Missouri Department of Conservation

SKULL



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Ohio Department of Natural Resources

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Eastern Cottontail

Sylvilagus floridanus

Department of Forestry & Natural Resources

Order: Lagomorpha

Family: Leporidae

General Description: The most widespread rabbit in the East, eastern cottontails have a rusty colored back and neck and buffy gray on the sides and rump. The belly and underside of the small cotton-ball-like tail are white. The rust colors usually give way to gray in the summer. The ears are long, and the hindfeet are large.

Weight: Males 801-1411 g (1.8-3.1 lbs), females 842-1533 g (1.9-3.4 lbs)

Total Length: Males 395-456 mm (15.5-18 in), females 400-477 mm (15.7-18.8 in)

Dental Formula: $I \frac{2}{1} \ C \ 0 \ P \ \frac{3}{2} \ M \ \frac{3}{3} = 28$

Life Span: Up to 4 years in the wild, but usually less than 1 year; 10 years in captivity

Habitat: Eastern cottontails are found within a mixture of pastures, croplands, and woodlots with weedy fencerows. They prefer areas with an abundance of thick shrubs and brush piles surrounded by lush herbaceous vegetation. They also do well in city neighborhoods.

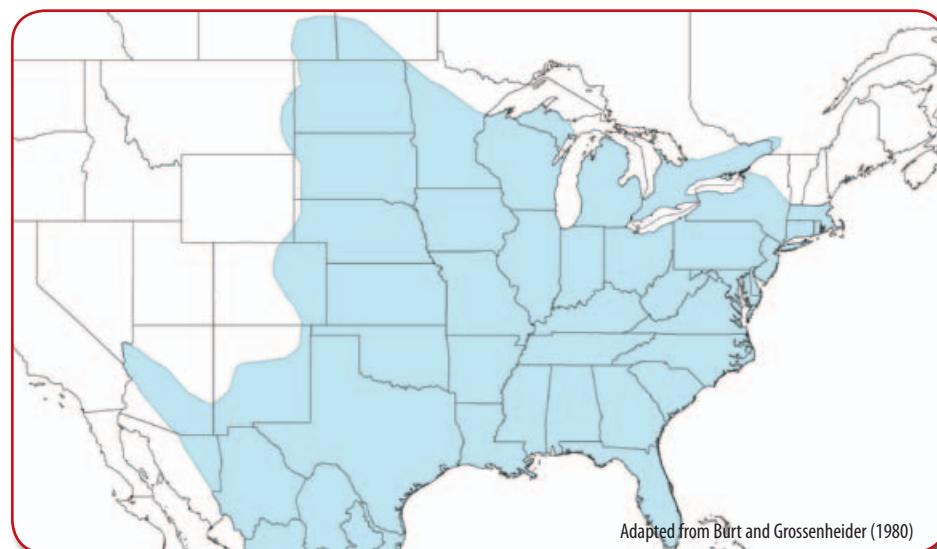
Home Range: Up to 2 ha (5 acres)

Food Habits: Eastern cottontails are strict herbivores and the list of plants they consume is quite large. The bulk of their summer diet is grass, clovers, dandelions, and many garden plants. Winter diets consist mostly of tender twigs and buds of woody plants.

Reproduction: Mating occurs from late March though September. Gestation averages 28 days and litters contain three to six young. Young are weaned at 3-4 weeks and are mature at 2-3 months.

Ecology and Behavior: Eastern cottontails are active 3-4 hours after sunrise and from sunset to 1 hour after sunset. They have two types of feces, hard brown pellets and soft green pellets. The rabbits will eat the soft green pellets to further extract predigested nutrients. This behavior is called coprophagy. Eastern cottontails maintain many travel lanes between shrubby cover and feeding areas. They are rapid runners and when threatened will run in a zigzag pattern to the travel lanes and quickly run to cover.

Conservation Status: Eastern cottontails are common and abundant in Indiana.



Adapted from Burt and Grossenheider (1980)

Eastern Chipmunk

Tamias striatus



Missouri Department of Conservation

SKULL



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Ohio Department of Natural Resources

The *Nature* of Teaching

Eastern Chipmunk

Tamias striatus

Department of Forestry & Natural Resources

Order: Rodentia

Family: Sciuridae

General Description: Eastern chipmunks are small ground squirrels with five black stripes and two light stripes along the back. The middle black stripe fades into the rusty brown rump. The belly is white and the tail is flattened.

Weight: 90-149 g (3.2-5.2 oz)

Total Length: 183-275 mm (7.2-10.8 in)

Dental Formula: $1\frac{1}{2} C \ 0 \ P \ \frac{1}{2} \ M \ \frac{3}{2} = 20$

Life Span: Up to 13 years in the wild, but seldom longer than 2 years

Habitat: Eastern chipmunks prefer open deciduous woods and brushy areas along the edges of oak/hickory and beech/maple forests. They are often associated with rock and wood piles, stone fences, cemeteries, and landscaping around homes.

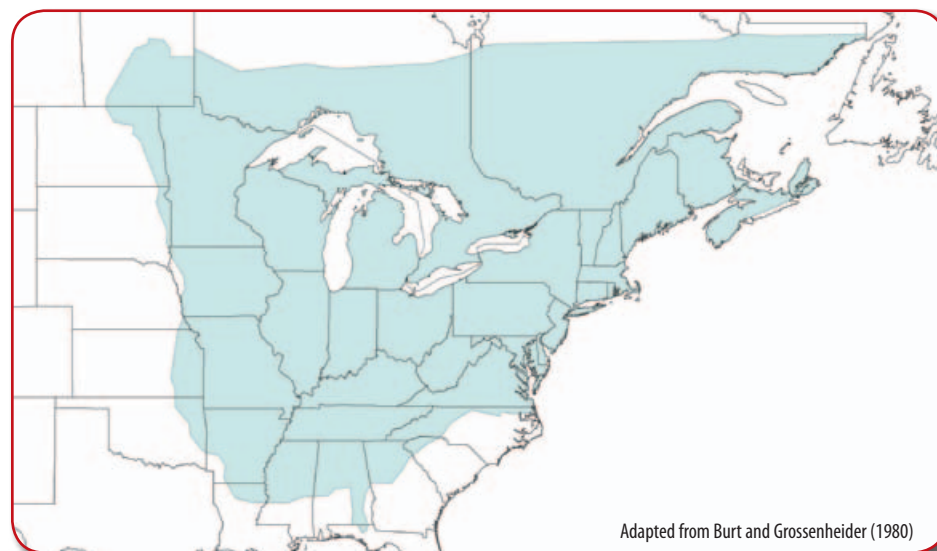
Home Range: 100 m² to 1 ha (1076.4 ft² to 2.5 acres)

Food Habits: Eastern chipmunks are primarily herbivores. They mostly eat nuts, seeds, fruits, and fungi. They also consume insects, earthworms, slugs, and occasionally bird eggs.

Reproduction: Mating occurs from late February through early April, and again from late May through early July. Gestation is about 31 days, and litters range from three to five young. The young are weaned at around 40 days and are mature by the next spring.

Ecology and Behavior: Eastern chipmunks are solitary and diurnal. They build elaborate burrow systems up to 1 meter (3.3 ft) below the ground. A burrow system may contain as many as 30 m (100 ft) of tunnels with up to five entrances. The tunnels connect nesting and food storage chambers. The fur-lined cheek pouches can be filled as large as their heads, and they may store up to a half bushel of acorns in the storage chambers. Chipmunks undergo a mild hibernation during winter, often awakening to eat from the stored food. They will sometimes emerge from their burrows and forage above ground on warm winter days.

Conservation Status: Eastern chipmunks are common and abundant in Indiana.



Adapted from Burt and Grossenheider (1980)

Woodchuck/Groundhog

Marmota monax



Missouri Department of Conservation



SKULL



TRACK

Ohio Department of Natural Resources

Woodchuck/Groundhog

Marmota monax

Department of Forestry & Natural Resources

Order: Rodentia
Family: Sciuridae

General Description: The woodchuck is Indiana's largest member of the squirrel family. The fur on the back is a grizzled grayish brown and the belly is a reddish brown. The body is chunky with short legs and little ears. The tail is short and dark-colored and the feet are almost black.

Weight: 2-5.8 kg (4.8-12.8 lbs)

Total Length: 44-70 cm (17.3-27.6 in)

Dental Formula: $I \frac{1}{1} C 0 P \frac{2}{1} M \frac{3}{3} = 22$

Life Span: Up to 6 years, 10 years in captivity

Habitat: Woodchucks can be found where soils are loose and well-drained in forests, open woods, and rolling farmland interspersed with grassy pastures or brushy fencelines.

Home Range: Males average 1 ha (2.5 acres); females average 2500 m² (0.6 acres).

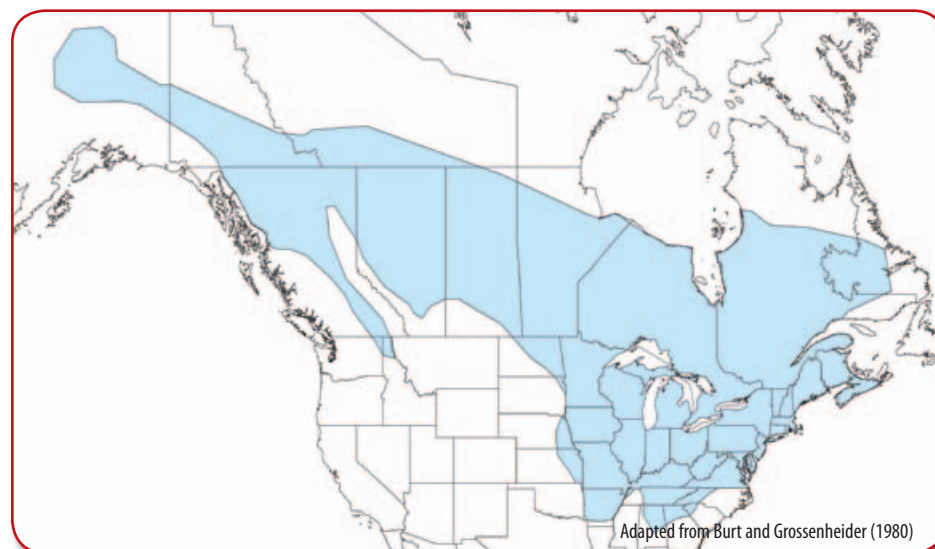
Food Habits: Woodchucks are herbivores and consume a wide variety of grasses, forbs, and the leaves and fruit of woody vegetation. They occasionally consume invertebrates.

Reproduction: Woodchucks mate soon after emerging from hibernation in March and April. Gestation is about 31 days, and litters range from one to nine young. Young are weaned around 6 weeks and mature the following spring.

Ecology and Behavior: Woodchucks are diurnal and solitary. Daily activity peaks in early morning and late afternoon.

Woodchucks are good climbers, but spend more time below ground, where they dig extensive burrow systems up to 1.5 m (4.9 ft) deep and up to 15 m (49.2 ft) long. The burrows contain several tunnels and chambers used as summer dens. There can be several entrances, but the main entrance is often beneath a stump, rock fence, or wood and rock piles with fresh dirt on the outside. Separate burrows with single entrances are used for overwinter hibernation. Hibernation usually occurs between October and March or April, although some may emerge in February. They may lose 30% of their body weight during hibernation. Summer burrows are reopened after emerging from hibernation. Woodchucks spend considerable time standing on their haunches looking around, and emit shrill whistles when disturbed or frightened.

Conservation Status: Woodchucks are common throughout Indiana.



Thirteen-lined Ground Squirrel *Spermophilus tridecemlineatus*



SKULL



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Ohio Department of Natural Resources



Michael Patrikeev/Wild Nature Images

Thirteen-lined Ground Squirrel

Spermophilus tridecemlineatus

Department of Forestry & Natural Resources

Order: Rodentia

Family: Sciuridae

General Description: The thirteen-lined ground squirrel is easily identified by the thirteen stripes (six gray or tan and seven dark brown) on its back. The dark brown stripes contain a row of light-colored spots. The body is slender with bristly, dark brown fur. The tail is thin and the ears are small.

Weight: 110-280 g (3.9-9.9 oz)

Total Length: 170-297 mm (6.7- 11.7 in)

Dental Formula: $I \frac{1}{1} C 0 P \frac{2}{1} M \frac{3}{3} = 22$

Life Span: Up to 3 years in the wild, 8 years in captivity

Habitat: Thirteen-lined ground squirrels prefer open areas with short grass and loose soil. Mowed lawns, golf courses, cemeteries, and road and utility rights-of-ways make good habitat.

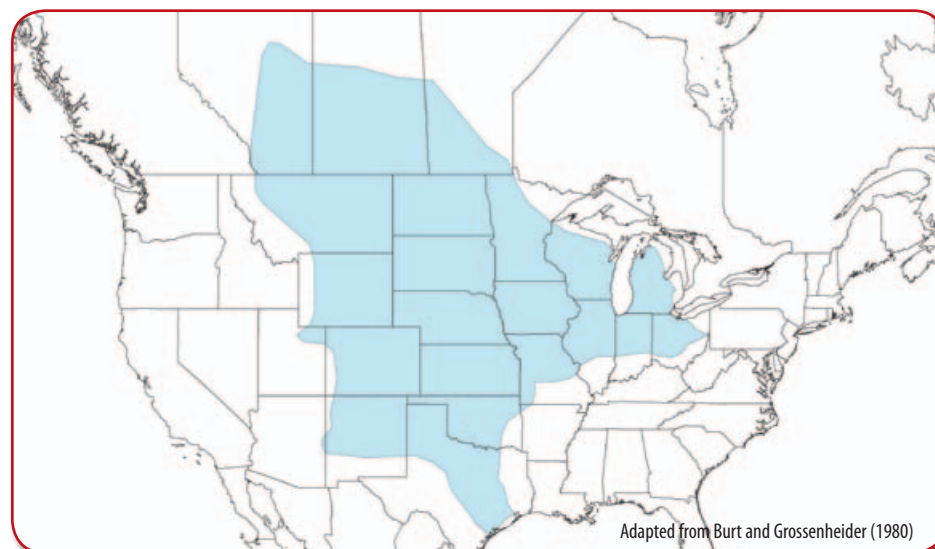
Home Range: Males up to 12.7 ha (31.4 acres), females up to 5.7 ha (14.1 acres)

Food Habits: Thirteen-lined ground squirrels are omnivores. Their diet includes seeds, succulent vegetation, insects, small mammals, young birds and bird eggs, lizards, snakes, and carrion.

Reproduction: Thirteen-lined ground squirrels mate within five days after emerging from hibernation in April to early May. Gestation is 28 days, and litters range from 6 to 13 young. Young are weaned at 6-8 weeks and are adult size by 11 weeks.

Ecology and Behavior: Thirteen-lined ground squirrels are almost exclusively diurnal and are most active during mid-day. They will remain in their burrows during cloudy days and feed on stored food. They are fast, running at speeds up to 13 km/hr (8 mph) and rarely venture far from their burrows. Thirteen-lined ground squirrels are social and can be found in loose colonies. They dig nesting, escape, and hibernation burrows that can be up to 30 cm (1 ft) deep. Adults begin hibernating in September, while young remain active as late as October. During hibernation, their heart beat drops to five beats per minute, they only take four breaths per minute, and they may lose 40-50% of their body weight.

Conservation Status: Thirteen-lined ground squirrels are common and widespread throughout Indiana.



Adapted from Burt and Grossenheider (1980)

Eastern Gray Squirrel

Sciurus carolinensis



SKULL



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Ohio Department of Natural Resources

Eastern Gray Squirrel

Sciurus carolinensis

Department of Forestry & Natural Resources

Order: Rodentia
Family: Sciuridae

General Description: The eastern gray squirrel gets its name from the gray fur covering most of its body. The belly is a yellowish-white, there is a white patch behind each ear, and each eye has a white ring. The bushy tail is as long as the body with a hint of brown at the base and black in the middle. A few populations can be solid black.

Weight: 403-610 g (14.2-21.5 oz)

Total Length: 404-530 mm (15.9-20.9 in)

Dental Formula: $I \frac{1}{1} C 0 P \frac{2}{1} M \frac{3}{1} = 22$

Life Span: Up to 13 years in the wild, 15 years in captivity

Habitat: Gray squirrels are associated with mature deciduous trees. They can be found in dense forests and woodlots, riparian areas, and in neighborhoods and parks of cities and towns. They are most abundant where there are oak and hickory trees.

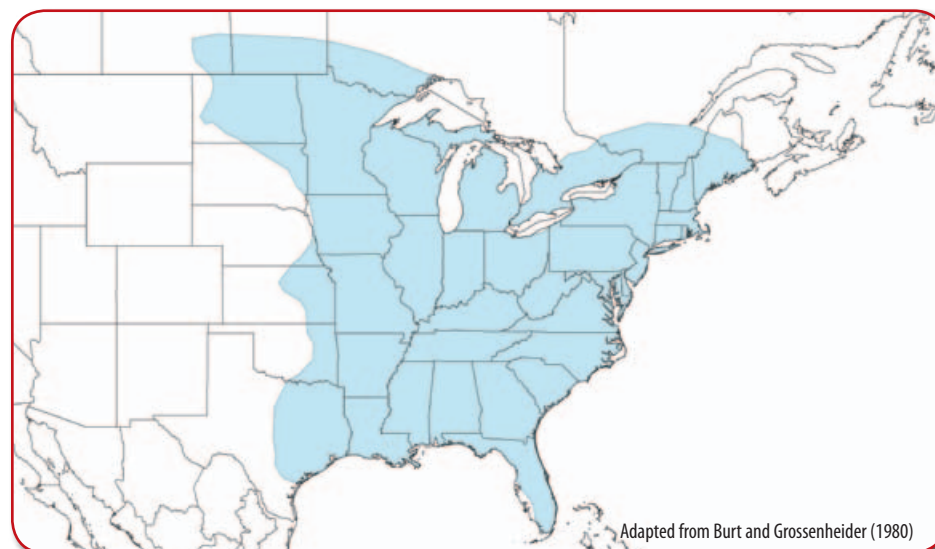
Home Range: 0.5-20.2 ha (1.2-49.9 acres)

Food Habits: Gray squirrels are herbivores. Their preferred foods are nuts from oak, hickory, walnut, and beech trees. They also consume buds, berries, fungi, and the inner bark of maple and elm. They will occasionally eat insects and young birds.

Reproduction: Gray squirrels mate twice a year, once from January to February and again between late May and early July. Gestation is about 44 days, and litters contain two to four young. The young are weaned at 60 days and mature at 10 months.

Ecology and Behavior: Gray squirrels are diurnal and most active in early morning and late afternoon. They spend considerable time in trees, but come to the ground to forage. They are very agile, capable of making leaps in the trees of 2 m (6.6 ft), using their tails for balance. On the ground they can run up to 24 km/h (14.9 mph) and can leap 1.5 m (4.9 ft). Tree cavities are the primary choice for dens, but they also construct leaf nests. Gray squirrels are vocal, producing harsh squalls and warning barks when disturbed. They also will chatter their teeth. During the fall, gray squirrels collect and bury nuts for use during winter. About 85% of these caches are recovered.

Conservation Status: Eastern gray squirrels are common throughout Indiana; however, populations are declining in northern Indiana.



Adapted from Burt and Grossenheider (1980)

Fox Squirrel

Sciurus niger



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Ohio Department of Natural Resources

Fox Squirrel

Sciurus niger

Department of Forestry & Natural Resources

Order: Rodentia

Family: Sciuridae

General Description: Fox squirrels are the largest tree squirrels in Indiana. They have dull orange fur, mixed with brownish black on the back. The tail is bushy and as long as or longer than the body.

Weight: 504-1207 g (17.7-42.6 oz)

Total Length: 418-627 mm (16.5-24.7 in)

Dental Formula: $1\frac{1}{2} C \ 0 P \ 1\frac{1}{2} M \ 3\frac{2}{3} = 20$

Life Span: Up to 13 years in the wild, 15 years in captivity

Habitat: Fox squirrels prefer deciduous and mixed-forest habitats with open understories, especially those with oaks, hickories, walnuts, and pines. They also do well in small, fragmented woods with open understories.

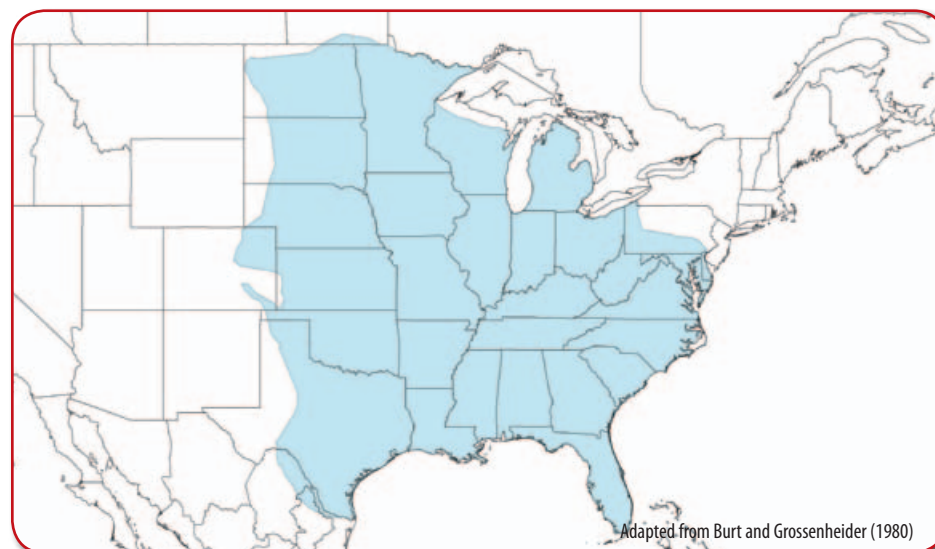
Home Range: Males 1.5-42.8 ha (3.8-105.8 ac), females 0.85-17.2 ha (2.1-42.5 ac)

Food Habits: Fox squirrels are mostly herbivores. Well over 100 plant species are known to be eaten by fox squirrels; however, they feed heavily on the nuts, buds, and flowers of oaks, hickories, pecans, walnuts, American beech, and pines. Fox squirrels also will eat insects and insect larvae, birds and bird eggs, and fungi (especially mushrooms).

Reproduction: Fox squirrels have two primary mating seasons: November-February and April-July. Gestation lasts from 44-45 days, after which one to four young are born. Fox squirrels may have two litters per year. Young are weaned by 12 weeks and may reach maturity as early as 8 months.

Ecology and Behavior: Fox squirrels are diurnal and arboreal. They are classic scatter hoarders, dispersing tree nuts into caches that are buried just below the soil surface or in leaf litter. Between 33% and 99% of these caches are relocated. Fox squirrels use many dens, typically in tree cavities or hollow stumps. Leaf nests are used during the summer, especially where few tree cavities exist. Fox squirrels will readily use artificial nest boxes.

Conservation Status: Fox squirrels are common and widespread in Indiana.



Red Squirrel

Tamiasciurus hudsonicus



SKULL



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Ohio Department of Natural Resources

The *Nature* of Teaching

Red Squirrel

Tamiasciurus hudsonicus

Department of Forestry & Natural Resources

Order: Rodentia

Family: Sciuridae

General Description: Red squirrels are small tree squirrels with reddish-brown fur along the back and tail. The olive sides and white belly are separated by a narrow black line. In winter, the back is a brighter rusty red, the narrow black band disappears, and the ears have black tufts on the tips.

Weight: 150-252.3 g (5.3-8.9 oz)

Total Length: 262-390 mm (10.3-15.4 in)

Dental Formula: $I \frac{1}{1} C 0 P \frac{2}{1} M \frac{3}{3} = 20$

Life Span: Up to 3 years in the wild, 10 years in captivity

Habitat: Red squirrels prefer extensive stands of coniferous trees or woodlands of mixed coniferous/deciduous trees. They also do well in deciduous forests.

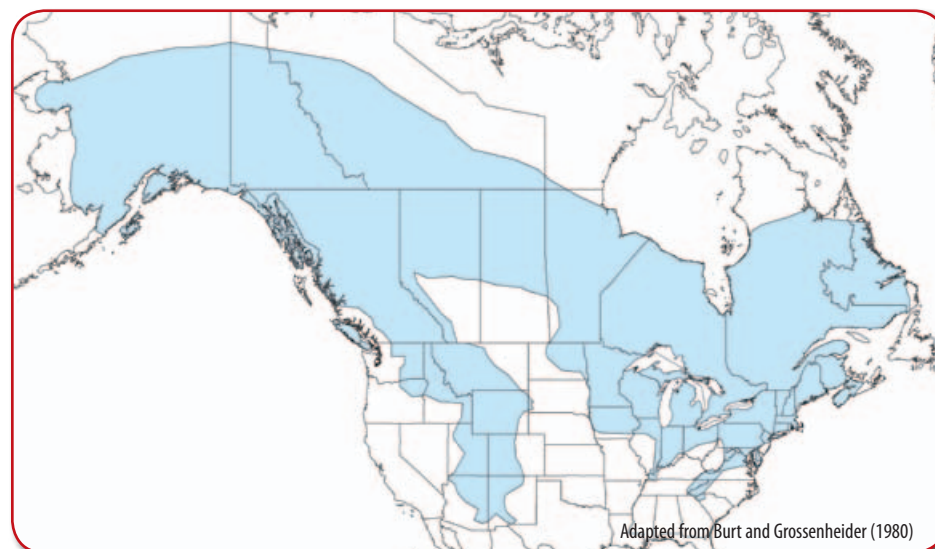
Home Range: 1.3-1.5 ha (3.2-3.7 acres)

Food Habits: Red squirrels are omnivores. Preferred foods are seeds from the cones of pine, hemlock, spruce, larch, and fir trees. They also eat nuts from deciduous trees, buds, berries, mushrooms, and maple sugar. Animal matter makes up a significant part of their diet and includes insects, birds, mice, voles, and young rabbits.

Reproduction: Red squirrels mate twice a year, once from February to March and again between June and July. Gestation is about 35 days and litters contain three to six young. The young are weaned at 7-9 weeks and mature at 10-12 months.

Ecology and Behavior: Red squirrels are diurnal and most active in early morning and late afternoon. Tree cavities are preferred for dens but they will construct basketball sized nests of woven twigs and leaves. Red squirrels use underground burrows, which can be up to 5 m (16.4 ft) long, and can tunnel under the snow during winter. Nuts and seeds are stored in the underground burrows or in hollow trees. Cones are stored underground, at the base of trees, or along logs, often in wet areas to keep the cones fresh and from opening. Red squirrels cherish maple sugar and bite holes in the bark of sugar maple trees then wait a few days while the sap flows out. They return after the sap has dried to lick the concentrated sugar.

Conservation Status: Red squirrel populations are increasing in Indiana and are most common in the northern third of the state.



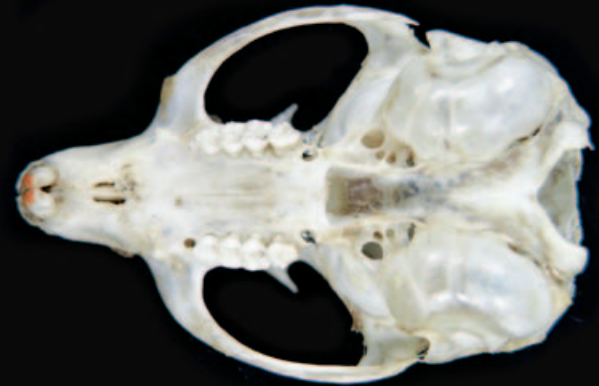
Southern Flying Squirrel *Glaucomys volans*



Missouri Department of Conservation



SKULL



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Ohio Department of Natural Resources

Southern Flying Squirrel

Glaucomys volans

Department of Forestry & Natural Resources

Order: Rodentia
Family: Sciuridae

General Description: Southern flying squirrels are the smallest tree squirrels in Indiana. The fur on the back is gray to grayish brown, and the belly is a creamy white. They have large eyes, a dorsally flattened tail, and a fold of skin that stretches from each wrist to each ankle.

Weight: 45-113.6 g (1.6-4 oz)

Total Length: 196-256 mm (7.7-10.1 in)

Dental Formula: $I \frac{1}{1} C 0 P \frac{2}{1} M \frac{3}{3} = 22$

Life Span: Up to 10 years in the wild, 13 years in captivity

Habitat: Southern flying squirrels prefer open, mature, deciduous woods with scattered shrubs. They also do well in small woodlots and suburban parks that are close to wooded areas.

Home Range: 0.4-9.9 ha (1-24.5 acres)

Food Habits: Southern flying squirrels are mostly herbivorous, but eagerly feed on animal matter. They feed heavily on the buds, twigs, flowers, and nuts of oaks and hickories. Southern flying squirrels also eat insects and insect larvae, nestling birds and bird eggs, mushrooms, and lichens.

Reproduction: Southern flying squirrels mate twice a year: February-May and July-September. Gestation is 40 days, after which three to four young are born. Young are weaned by 8 weeks, and may reach maturity as early as 9 months.

Ecology and Behavior: Southern flying squirrels are mostly nocturnal and arboreal. Not true flyers, they glide from tree to tree with the aid of outstretched membranes between their legs and arms. The flattened tail does not serve as a rudder, but rather aids in balance while gliding. They can glide distances of up to 30 m (100 ft). Southern flying squirrels extensively use tree cavities for dens, food storage, and latrines. Old cavities created by Downy Woodpeckers are frequently used, because of the small diameter opening. Southern flying squirrels will readily use artificial nest boxes.

Conservation Status: Southern flying squirrels are common throughout Indiana.



Adapted from Burt and Grossenheider (1980)

Plains Pocket Gopher

Geomy bursarius



Michael Patrikeev/Wild Nature Images



SKULL



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Plains Pocket Gopher

Geomy bursarius

Order: Rodentia

Family: Geomyidae

Department of Forestry & Natural Resources

General Description: Plains pocket gophers are large gophers. The fur ranges from pale brown to black, and the belly is somewhat lighter. The fur color closely parallels the soil color where it lives. The feet are covered with white hairs, and the front feet have very long claws. The short ears and tapered tail are naked, and the cheeks have fur-lined external pouches.

Weight: Males 230-451 g (8.1-15.9 oz), females 128-380 g (4.5-13.4 oz)

Total Length: Males 252-328 mm (9.9-12.9 in), females 212-296 mm (8.3-11.7 in)

Dental Formula: $1\frac{1}{2} C \ 0 P \ \frac{1}{2} M \ \frac{3}{2} = 20$

Life Span: Up to 5 years in the wild

Habitat: Plains pocket gophers prefer moist, deep, sandy loam soils associated with prairies, pastures, and agricultural lands with sparse tree cover.

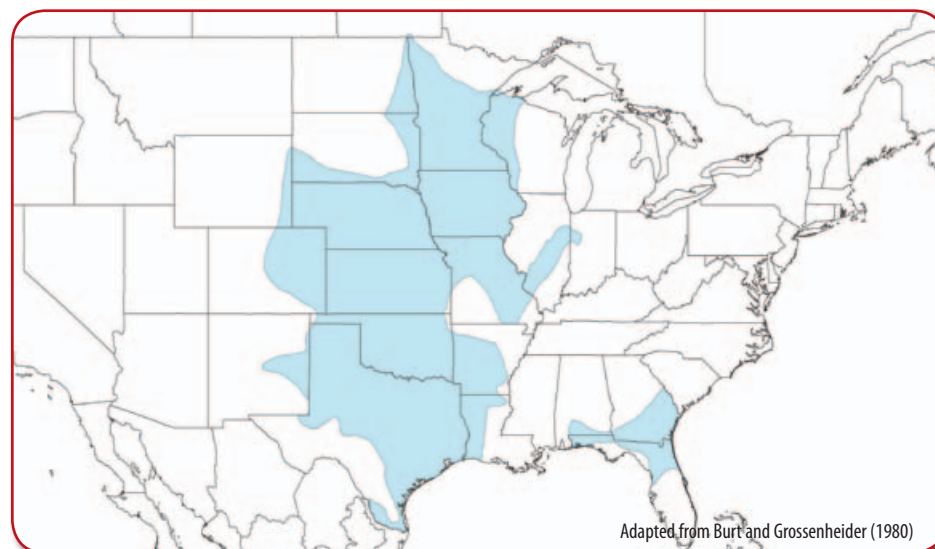
Home Range: Unknown

Food Habits: Plains pocket gophers are herbivores. Primary foods consumed include tender green plants and fleshy roots, such as bulbs and rhizomes.

Reproduction: Mating occurs mainly from March through May. Gestation is unknown but is thought to be 30-51 days. Litters consist of two to six young and are weaned at 5 weeks. The young leave their mother's burrow at 2-3 months and are mature at 12 months.

Ecology and Behavior: Plains pocket gophers are solitary and highly aggressive toward others except when mating. They are active during the day all year, mostly around sunrise and sunset. Their elaborate burrow systems can be 1-3 m (3.2-9.8 ft) below the surface and 150 m (492.1 ft) long with many side tunnels. Chambers are used for nesting, latrines, and food storage. The gophers dig with their forefeet and powerful incisors, pushing up dirt into conspicuous surface mounds. They can move backwards in their tunnels just as fast as they can move forward and use their naked tails to feel the way. The cheek pouches are used to carry food to storage chambers.

Conservation Status: Plains pocket gophers are sparse throughout their range and are a species of special concern in Indiana.



Adapted from Burt and Grossenheider (1980)

American Beaver

Castor canadensis



Steven Wayne Rotsch



SKULL



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Ohio Department of Natural Resources

American Beaver

Castor canadensis

Department of Forestry & Natural Resources

Order: Rodentia

Family: Castoridae

General Description: The American beaver is North America's largest rodent. It is easily identified by its large, plump body and its broad, scaly, paddle-like tail. The thick fur is dark brown. The eyes and ears are small and hindfeet are webbed. The nostrils and ears can be closed while underwater.

Weight: 13-32 kg (28.6-70.5 lbs)

Total Length: 90-117 cm (35.4-46.1 in)

Dental Formula: $I \frac{1}{1} C 0 P \frac{1}{1} M \frac{3}{3} = 20$

Life Span: Up to 20 years in the wild, 23 years in captivity

Habitat: Forests adjacent to rivers, streams, lakes, ponds, or seeps

Home Range: 40-300 ha (98.8-741.3 acres), or 0.2 – 1.9 colonies per km of stream

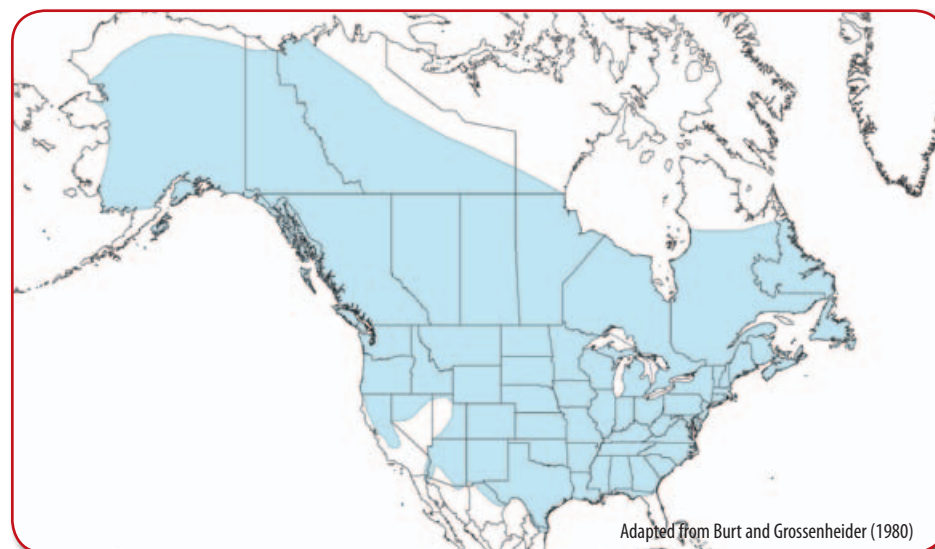
Food Habits: American beavers are herbivores. They eat herbaceous plants and the leaves, twigs, and bark of woody plants.

Reproduction: American beavers mate from January to March. One to nine young are born after a 105-107 day gestation. Young are weaned at 6 weeks to 2 months. American beavers mature between their second and fourth year.

Ecology and Behavior: American beavers are primarily diurnal, and are often active for as long as 12 hours. They live in family groups of up to 12 individuals consisting of a pair and their offspring.

The sound of running water stimulates American beavers to build dams. Dams are constructed with logs that are packed with mud, stones, and sod. The pools created by the dams can be large and deep, promoting growth of food plants, and providing locations for lodges and food storage. The pools also provide habitat for many other species of fish and wildlife. The lodges can be 1.5-3 m (4.9-9.8 ft) high and 4-9 m (13.1-29.5 ft) tall and consist of interlaced branches and sapplings with two or three underwater entrances. They may sometimes tunnel into a bank instead of building a lodge. American beavers are excellent swimmers and can stay submerged for up to 15 minutes.

Conservation Status: American beavers are common and widespread in Indiana.



Adapted from Burt and Grossenheider (1980)

Western Harvest Mouse

Reithrodontomys megalotis



Michael Patrikeev/Wild Nature Images

NO PHOTO
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SKULL

NO PHOTO
AVAILABLE



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Ohio Department of Natural Resources

Western Harvest Mouse

Reithrodontomys megalotis

Department of Forestry & Natural Resources

Order: Rodentia

Family: Cricetidae

General Description: The western harvest mouse is a small mouse with a long tail. The back is brown, the sides are buffy brown to dull orange, and the belly is white. The tail is almost as long as the body and is distinctly bi-colored, dark on top and light underneath.

Weight: 9.1-21.9 g (0.3-0.8 oz)

Total Length: 114-146 mm (4.5-5.7 in)

Dental Formula: $I \frac{1}{1} C 0 P 0 M \frac{3}{3} = 16$

Life Span: Up to 18 months

Habitat: Western harvest mice can be found in prairies, meadows, pastures, borders of agricultural fields, and rights-of-way.

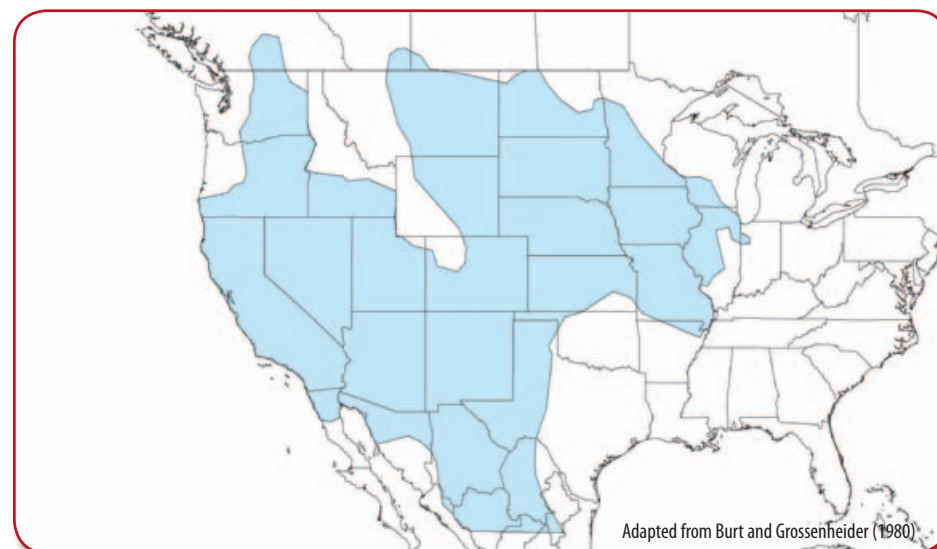
Home Range: 3000-5000 m² (0.7-1.2 acres)

Food Habits: Western harvest mice eat mostly grass seeds and young sprouts. Although their dentition is characteristically herbivorous, up to 50% of their diet may consist of insects, earthworms, centipedes, and spiders.

Reproduction: Western harvest mice can breed year round, however reproduction primarily occurs from early spring to late fall. Gestation is 23-24 days, and litters usually contain four young. Weaning is complete at 24 days, and young may reach reproductive age as early as 4 months.

Ecology and Behavior: Western harvest mice can be active during the day, but they are primarily nocturnal. They are good climbers and will frequently climb stems and stalks when searching for food. Ball-shaped nests are made from shredded vegetation and are located in thick grass or in shrubs. Western harvest mice do not hibernate, but rather depend on stored seeds to help survive through winter.

Conservation Status: The western harvest mouse was first found in Indiana in 1969. It is now common in west central and northwest Indiana and continues to expand its range.



White-footed Mouse

Peromyscus leucopus



Missouri Department of Conservation



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Ohio Department of Natural Resources

White-footed Mouse

Peromyscus leucopus

Department of Forestry & Natural Resources

Order: Rodentia

Family: Cricetidae

General Description: The white-footed mouse is a small mouse with large black eyes and large grayish-brown ears. The fur on the back is orangish-brown with a dark band extending from head to rump. The belly and feet are white. The tail is slightly less than half of its total length and is bicolored, dark on top and light beneath.

Weight: 17-33 g (0.6-1.2 oz)

Total Length: 147-199 mm (5.8-7.8 in)

Dental Formula: $1\frac{1}{2} C \% P \% M \frac{3}{3} = 16$

Life Span: Up to 2 years in the wild

Habitat: White-footed mice can be found in deciduous woodlands with abundant rocks and/or logs and moderate herbaceous cover. They also occupy agricultural areas with lots of woodland edges, hedgerows, or brushy areas.

Home Range: Average home range is 0.1 ha (0.2 acres)

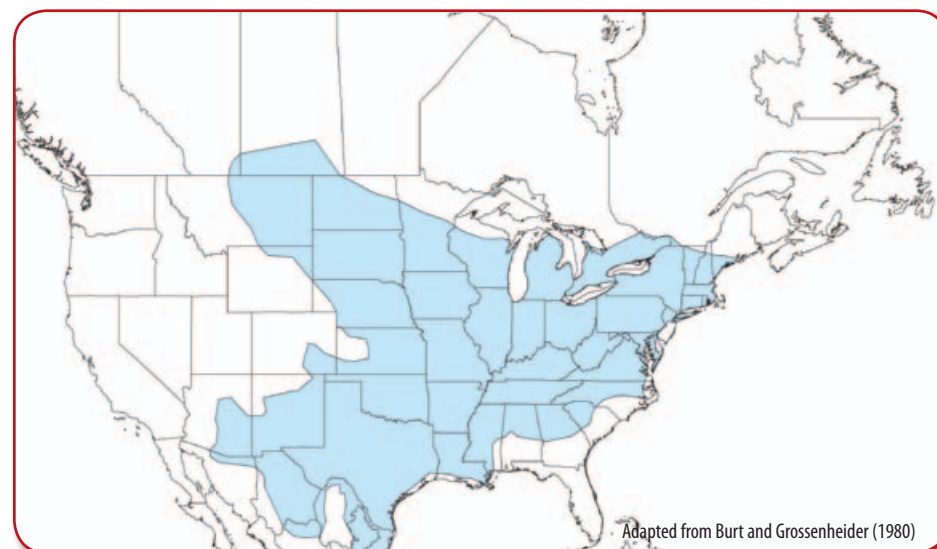
Food Habits: White-footed mice are mainly omnivorous. Their diet consists largely of nuts, berries, and seeds. They also eat large quantities of insects, especially beetles, centipedes, snails, and occasionally bird eggs.

Reproduction: White-footed mice mate from March through November, and females may have several litters per year.

Gestation for the first litter is about 23 days, and subsequent litters have a gestation of about 37 days. Litter size ranges two to eight young. Young are weaned at 3-4 weeks and mature in 2 months.

Ecology and Behavior: White-footed mice are nocturnal. They are excellent climbers and often forage in trees, using the tail for balance and as a prop. Food is carried in cheek pouches and stored for later consumption. Nests of shredded bark and vegetation are located in hollow stumps and logs, tree cavities, and sometimes in underground burrows dug by other animals. They also nest readily in buildings. White-footed mice are solitary, but sometimes shelter in pairs or family groups during winter.

Conservation Status: White-footed mice are abundant throughout Indiana.



Allegheny Woodrat

Neotoma magister



Aaron Holbrook



SKULL



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Ohio Department of Natural Resources

Allegheny Woodrat

Neotoma magister

Department of Forestry & Natural Resources

Order: Rodentia

Family: Muridae

General Description: The head and back of the Allegheny woodrat varies from a pale cinnamon to brownish gray. The sides are a buffy, light brown and the belly and feet are creamy white. The ears are large and the furred tail is dark on top and light on the bottom.

Weight: 193.6-383.5 g (6.8-13.5 oz)

Total Length: 348-431 mm (13.7-17 in)

Dental Formula: $I \frac{1}{1} C 0 P 0 M \frac{3}{3} = 16$

Life Span: Up to 4 years in the wild

Habitat: Allegheny woodrats are found in deciduous forests on steep rocky outcrops, dry caves, cliffs with narrow crevices, and rocky slopes.

Home Range: 1.5-11.4 ha (3.7-28.2 acres)

Food Habits: Allegheny woodrats are herbivores. Their diet consists largely of leaves, seeds, acorns and other nuts, mushrooms, and soft fruits.

Reproduction: Mating begins in late-winter or early spring and continues through mid-fall; females may have as many as four litters. Gestation is around 35 days and each litter may contain one to six young. Young are weaned at 4-5 weeks and typically do not mature until the following spring.

Ecology and Behavior: Allegheny woodrats are nocturnal and solitary. Unlike other woodrats that build structures out of sticks and twigs, the Allegheny woodrat builds structures by weaving strands of woody fibers from the outer bark of eastern redcedar and wild grape vines, or from the inner bark of hemlock and basswood. These nests are often located in tight crevices or rocky ledges but are sometimes found in buildings. The Allegheny woodrat and other woodrats are also known as “pack rats” because of their habit of collecting and storing various items in mounds near their nests. They collect everything from broken glass, bones, feathers, and bottle caps to raccoon feces. They use a specific latrine site where feces may pile as high as 5 cm (2 in).

Conservation Status: The Allegheny woodrat is endangered in the state of Indiana.



Adapted from Burt and Grossenheider (1980)

Meadow Vole

Microtus pennsylvanicus



SKULL



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Ohio Department of Natural Resources

Meadow Vole

Microtus pennsylvanicus

Department of Forestry & Natural Resources

Order: Rodentia

Family: Muridae

General Description: The meadow vole is a large, plump mouse-sized mammal. The tail is long — about twice as long as the hind foot. The coarse fur is dark brown or black on the back, and gray or silvery on the belly. The small, rounded ears are almost hidden in the thick fur.

Weight: 35-60 g (1.2-2.1 oz)

Total Length: 130-196 mm (5.1-7.7 in)

Dental Formula: $I \frac{1}{1} C 0 P 0 M \frac{3}{3} = 16$

Life Span: Up to 18 months in the wild, but seldom longer than 6 months

Habitat: Meadow voles are mostly found in moist, open, grassy habitats such as meadows, old fields, marshes, swamps, and the edges of rivers and streams. They can occasionally be found in forests with grassy openings or woodlots surrounded by grassy fields.

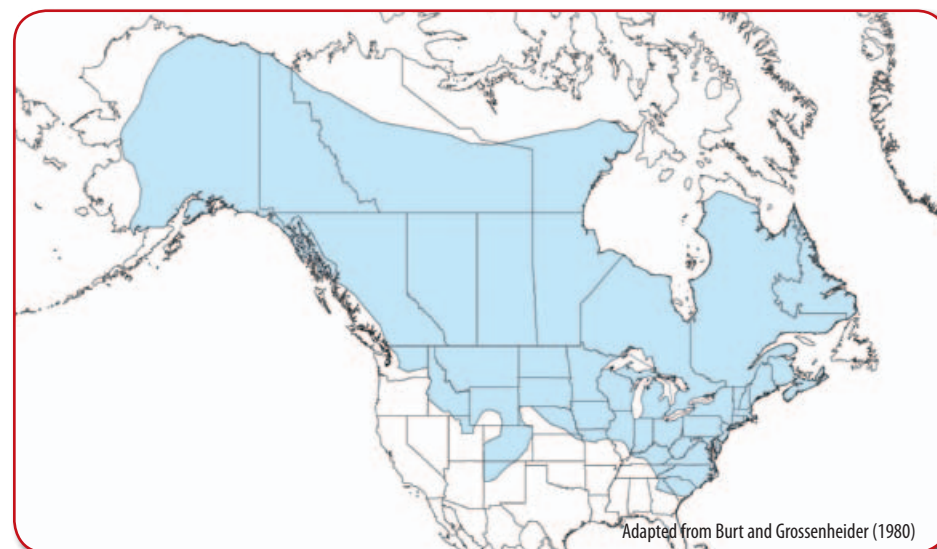
Home Range: Males 405-3480 m² (0.1-1 acre), females 160-3115 m² (0.03-0.8 acres)

Food Habits: Meadow voles are herbivores. They eat primarily grasses and sedges, but the diet also includes herbs, tender bark of trees, and invertebrates.

Reproduction: Meadow voles breed throughout the year. Litters of one to eleven are born after a 21-day gestation. Young are weaned at 12 days, and females can reproduce at 3 weeks. Females will have four to eight litters per year.

Ecology and Behavior: Meadow voles are most active during early morning or late afternoon, but can be active at all hours. Activity increases at night during the warm summer months and during the day in winter. Meadow voles carve complex systems of canopied runways and tunnels through grass that lead to and from nest sites, burrows, latrines, and feeding areas. They also appear to use the sun for orientation. These rodents constantly groom themselves and use communal latrine sites.

Conservation Status: Meadow voles are common and abundant in Indiana.



Muskrat

Ondatra zibethicus



Missouri Department of Conservation



SKULL



TRACK



Ohio Department of Natural Resources

Muskrat

Ondatra zibethicus

Department of Forestry & Natural Resources

Order: Rodentia

Family: Cricetidae

General Description: Muskrats are large, chunky rodents with glossy brown, waterproof fur. The belly is lighter than the back and is often a rusty color. The tail is naked, scaly, and flattened from side to side. The hind feet are partially webbed with stiff hairs along the toes. It can be distinguished from the beaver by its smaller size and lack of a broad, paddle-like tail.

Weight: Males 724-1498 g (1.6-3.3 lbs), females 618-1525 g (1.3-3.4 lbs)

Total Length: Males 463-631 mm (18.2-24.8 in), females 447-598 mm (17.6-23.5 in)

Dental Formula: $1\frac{1}{2} \ C \ \% \ P \ \% \ M \ \frac{3}{3} = 16$

Life Span: Up to 4 years in the wild

Habitat: Muskrats prefer standing water of 1.5-2 m (4.9-6.6 ft) deep. They are found in wetland areas, including marshes, wooded swamps, sloughs, slow-flowing rivers and streams, ponds, and lakes.

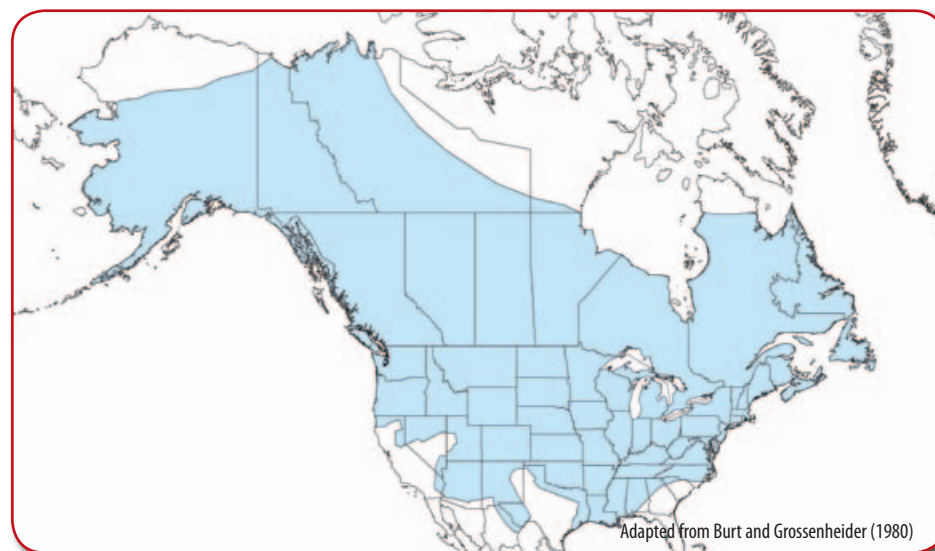
Home Range: Relatively small, within 15 m (49.2 ft) of their lodges

Food Habits: Muskrats are herbivores and eat mostly roots, stalks, and leaves of aquatic vegetation. They also will consume agricultural plants and occasionally insects, freshwater clams, fish, small turtles, frogs, and crustaceans.

Reproduction: Muskrats mate between February and September, and females may produce up to three litters per year. Gestation is about 30 days, and litters contain four to eight young. Young are weaned at 4 weeks and are mature by their first spring.

Ecology and Behavior: Muskrats are mostly nocturnal, but can be active any time of day. Muskrats are excellent swimmers. They can swim at speeds of 1.5-5 km/h (0.9-3.1 mph), can stay submerged for up to 20 minutes, and can swim backwards. They construct cone-shaped lodges out of mud and vegetation that can be up to 2 m (6.6 ft) in diameter and 1.2 m (3.9 ft) tall with an underwater entrance. A lodge can hold 10 or more individuals. Smaller lodges that hold one individual are often constructed and used for feeding. Lodges and feeding areas are connected by runways dug in the mud. Muskrats also dig tunnels into banks and dams. Entrances to these tunnels are below the water line and lead to an enlarged chamber well above the high-water line.

Conservation Status: Muskrats are common throughout Indiana.



Southern Bog Lemming

Synaptomys cooperi



Phil Myers



SKULL



TRACK

Ohio Department of Natural Resources

Southern Bog Lemming

Synaptomys cooperi

Department of Forestry & Natural Resources

Order: Rodentia

Family: Cricetidae

General Description: The fur of the southern bog lemming is long and shaggy with a grizzled appearance. The back and sides are a dull brown mixed with gray and black and the belly is silver to light gray. The head appears large and the tail is usually shorter than the hind foot.

Weight: 14-52 g (0.5-1.8 oz)

Total Length: 99-135 mm (3.9-5.3 in)

Dental Formula: $I \frac{1}{1} C 0 P 0 M \frac{3}{3} = 16$

Life Span: Up to 1 year in the wild, 2 years in captivity.

Habitat: Southern bog lemmings can be found in areas with abundant grasses and sedges, including bogs, prairies, fields and meadows, and forests.

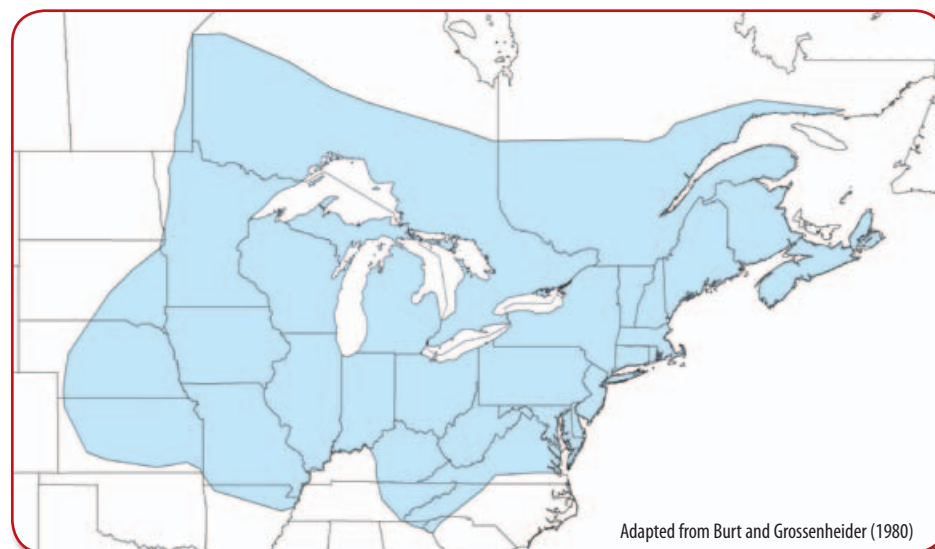
Home Range: 0.04-0.32 ha (0.1-0.8 acres)

Food Habits: Southern bog lemmings are herbivores. They eat mostly grasses and sedges, but food items also include mosses, fruits, fungi, bark, and roots.

Reproduction: Southern bog lemmings can breed year-round, however, mating typically occurs from March through October. Females may have two to three litters per year. Gestation is 23-26 days, and litters contain one to eight young. Young are weaned at 3 weeks.

Ecology and Behavior: Southern bog lemmings are primarily nocturnal and social, occurring in colonies of up to several dozen individuals. They will often leave little piles of grasses or sedges along their runways. Their droppings are bright green and are also found in piles along runways. Nests are balls of woven grass and are usually located in stumps, hollow logs, or grassy tangles.

Conservation Status: Southern bog lemmings are widespread and locally common in Indiana.



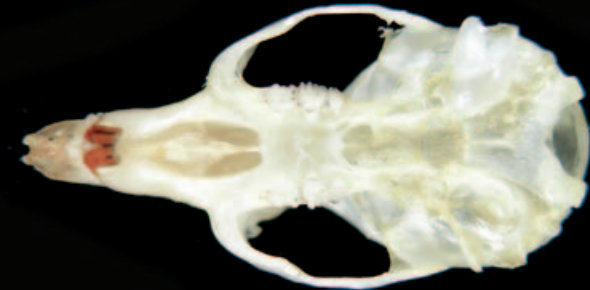
Adapted from Burt and Grossenheider (1980)

Meadow Jumping Mouse

Zapus hudsonius



SKULL



TRACK

Ohio Department of Natural Resources

Meadow Jumping Mouse

Zapus hudsonius

Department of Forestry & Natural Resources

Order: Rodentia

Family: Dipodidae

General Description: This is a small mouse with large kangaroo-like hind feet and a long tail. The coarse fur is yellowish to orangish brown with a dark band down the back. The belly is white. The tail is longer than the head and body, and is bicolored, dark on top and light underneath.

Weight: 14-26 g (0.5-0.9 oz)

Total Length: 207-222 cm (8.1-8.7 in)

Dental Formula: $I \frac{1}{1} C 0 P \frac{1}{1} M \frac{3}{3} = 18$

Life Span: Up to 3 years in the wild, 5 years in captivity

Habitat: Grassy fields and woods with thick herbaceous vegetation

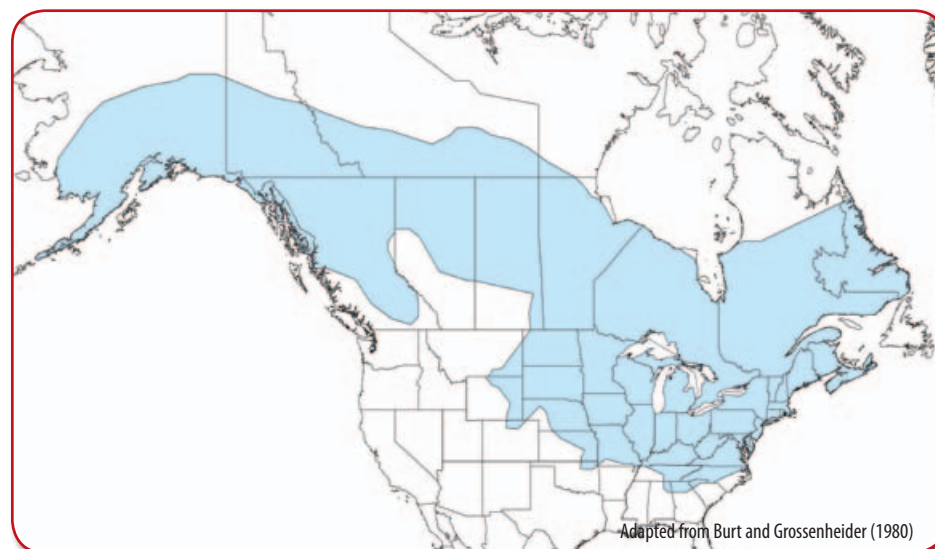
Home Range: Males 567-11000 m² (.14-2.7 acres), females 809-6475 m² (.2-1.6 acres)

Food Habits: Meadow jumping mice eat mostly seeds, especially grass seeds. They also consume large amounts of fleshy fruits, fungi, beetles, and caterpillars. In the spring after emerging from hibernation, about half of their diet consists of animal matter.

Reproduction: Mating occurs soon after females emerge from hibernation in late April to early May. Gestation is 18 days and litters range from two to eight young. The young are weaned at about 5 weeks. Adult females may have up to three litters per summer.

Ecology and Behavior: Meadow jumping mice are primarily nocturnal, but can be active on overcast days. They forage slowly through grass on all four legs or using short hops of about 2-15 cm (0.8-5.9 in). If startled, they may make short hops of 30 cm (11.8 in). Meadow jumping mice do not store food, but rather increase body fat to meet their energy needs during hibernation. They may increase their weight by 60-80% in the few weeks leading up to hibernation. Hibernation lasts from October to early April, during which time a mouse curls up in a tight ball in a chamber up to 50 cm (19.7 in) deep. Males begin hibernating first, followed by females, and then juveniles. Males are usually the first to emerge in spring. Up to 75% may die during hibernation, having not stored enough fat to make it to spring.

Conservation Status: Meadow jumping mice are widespread throughout Indiana.



Coyote

Canis latrans



Doug Herr



SKULL



TRACK

Ohio Department of Natural Resources

The *Nature* of Teaching

Coyote

Canis latrans

Department of Forestry & Natural Resources

Order: Carnivora

Family: Canidae

General Description: Coyotes are medium-sized canids with erect ears and drooping, bushy tails. Fur color varies from grayish brown to yellowish gray along the back and sides. The throat and belly are white, while the feet, head and muzzle are reddish gray. The underfur has black-tipped guard hairs producing a dark band along the back. The black-tipped tail is held below the back when running. The muzzle is long and slender.

Weight: 7-17.5 kg (15.4-38.5 lbs), males typically larger than females

Total Length: 100-135 cm (3.3-4.4 ft)

Tooth Formula: $I \frac{3}{3} \ C \frac{1}{1} \ P \frac{4}{4} \ M \frac{2}{3} = 42$

Life Span: Up to 8 years in the wild, 18 years in captivity

Habitat: Coyotes are highly adaptable and occupy a wide range of habitats. They can be found in forests, prairies, deserts, and swamps, but are most common in brushy areas, wooded edges, and fragmented forest landscapes. Coyotes have developed a high tolerance for humans and are common in urban, suburban, and agricultural areas.

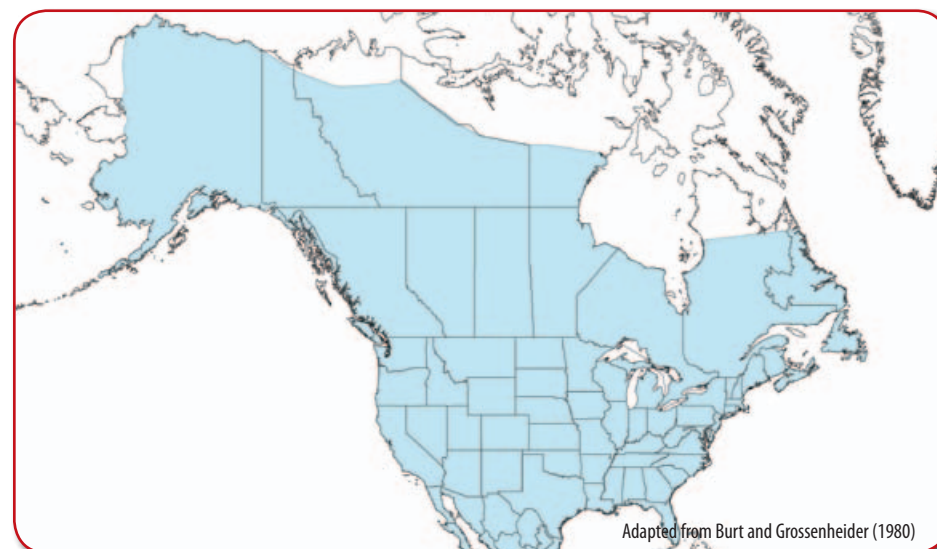
Home Range: Males up to 40 km² (15 mi²), females up to 12 km² (4.5 mi²)

Food Habits: Small mammals (mostly rodents and rabbits) make up about 90% of the coyote's diet. They also eat birds, insects, amphibians, reptiles, seeds, fruit, and carrion.

Reproduction: Mating typically occurs from January through March. Gestation averages 58-65 days. Litters range from one to nineteen pups. Pups begin playing around the den entrance at 2-3 weeks and disperse after 6-9 months. Coyotes become mature around 12 months.

Ecology and Behavior: Coyotes are nocturnal, but can be seen occasionally during the day. They are solitary and rarely form packs, although they will sometimes hunt with mates or family units. Coyotes use a variety of vocal, visual, olfactory, and tactile signals to communicate. Coyote vocalizations are common night sounds in rural areas. Contrary to popular belief, their relatively recent range expansion in Indiana and the eastern United States was natural and not a result of trap and relocation programs.

Conservation Status: Coyotes are common throughout Indiana.



Adapted from Burt and Grossenheider (1980)

Red Fox

Vulpes vulpes



SKULL



TRACK



Ohio Department of Natural Resources

The *Nature* of Teaching

Red Fox

Vulpes vulpes

Department of Forestry & Natural Resources

Order: Carnivora

Family: Canidae

General Description: Red foxes are relatively small, slender canids with long muzzles, large pointed ears, round bushy tails, and long slender legs with small feet. The fur ranges from pale yellowish red to deep reddish brown on the back and white on the belly. The tips of the ears, lower legs, and feet are black and the tip of the tail is white. Red foxes can also be a strong silver to nearly black color.

Weight: 3-14 kg (6.6-30.8 lbs), males slightly larger than females

Total Length: 455-900 mm (17.9-35.4 in)

Tooth Formula: $I \frac{3}{3} \ C \frac{1}{1} \ P \frac{4}{4} \ M \frac{2}{3} = 42$

Life Span: Up to 3 years in the wild, 12 years in captivity

Habitat: Red foxes occupy a wide range of habitats and are typically found in mixed vegetation communities such as edge habitats and mixed shrub and woodland. They also can be found in forests, tundras, prairies, deserts, mountains, farmlands, and cities.

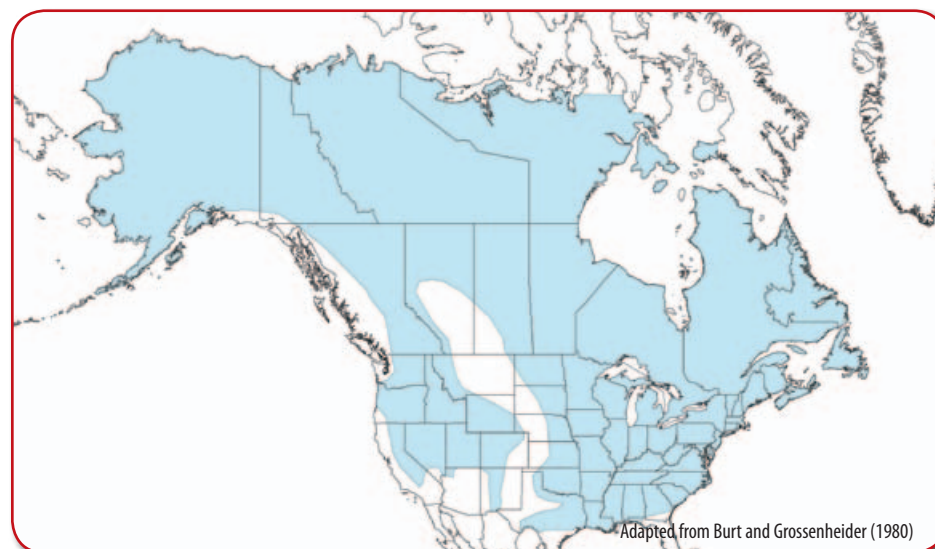
Home Range: 5-50 km² (1.9-19.3 mi²)

Food Habits: Red foxes eat mostly rodents and rabbits. They also eat nesting birds and bird eggs, insects, seeds, fruit, and carrion. Red foxes will store food and are very good at relocating these caches. A red fox eats between 0.5-1 kg (1.1-2.2 lbs) of food per day.

Reproduction: Mating occurs from January through March. Gestation averages 51-53 days. Litters range between one to thirteen pups. Pups will play around the den entrance at 4-5 weeks and are weaned between 8-10 weeks. Foxes become mature around 10 months.

Ecology and Behavior: Red foxes are solitary animals and are mostly nocturnal, although they can be active during early morning and early evening. Dens are used for shelter and raising young. Red foxes have a characteristic manner of hunting small mammals by standing motionless, listening, and watching intently. When it locates prey, a fox leaps high and brings the forelimbs straight down, pinning the prey to the ground.

Conservation Status: Red fox populations are common throughout Indiana but can decline where coyote numbers increase.



Adapted from Burt and Grossenheider (1980)

Gray Fox

Urocyon cinereoargenteus



SKULL



TRACK



Ohio Department of Natural Resources

The *Nature* of Teaching

Missouri Department of Conservation

Gray Fox

Urocyon cinereoargenteus

Department of Forestry & Natural Resources

Order: Carnivora
Family: Canidae

General Description: Gray foxes are smaller than red foxes. The fur is grizzled, or “salt and peppered” gray in appearance. The sides of the neck, back of the ears, outsides of the legs, and small areas around the belly are reddish. The tip of the tail, sides of the muzzle, and chin are black.

Weight: 3.2-5.9 kg (7-13 lbs)

Total Length: 805-1065 mm (31.7-41.9 in)

Tooth Formula: $I \frac{3}{3} \ C \frac{1}{1} \ P \frac{4}{4} \ M \frac{2}{3} = 42$

Life Span: Up to 2 years in the wild, 14-15 years in captivity

Habitat: Gray foxes are typically associated with deciduous forests, but also are found in swamps and pine woods in the southern United States. They generally avoid areas with large expanses of agriculture.

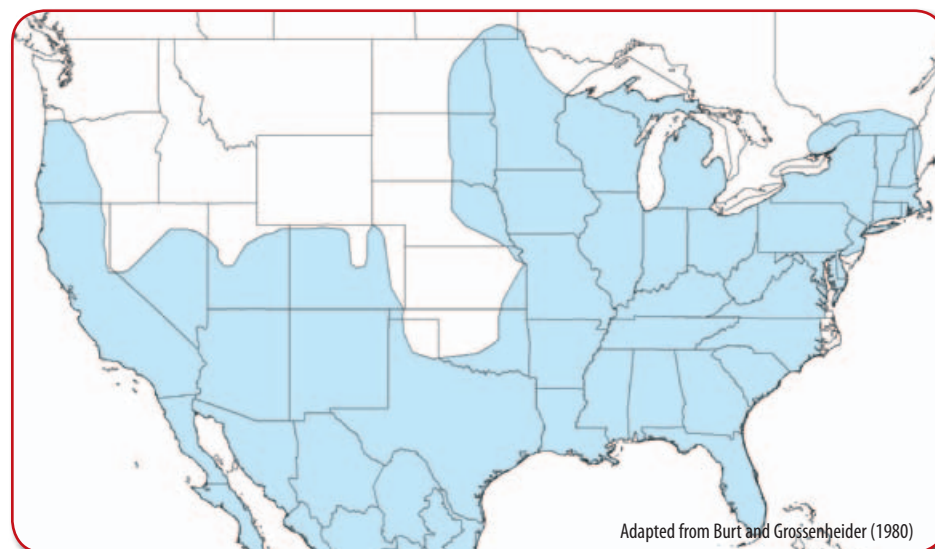
Home Range: 0.85-3.2 km² (0.3-1.2 mi²)

Food Habits: Gray foxes primarily eat rabbits, but mice, birds, insects, nuts, fruit, and carrion also are consumed.

Reproduction: Mating occurs from January through April. Gestation averages 58 days. Litter sizes range from three to five, and young mature around one year of age. The young remain at the den their first month and with the mother until they are mature.

Ecology and Behavior: Gray foxes are unique among Canids because of their tree-climbing ability. They are good climbers and often take to the trees when pursued. They are most active at night or near dawn and dusk. Dens are seldom used outside the breeding season. Daytime resting sites are generally above-ground in thickets, brushy areas, or rocky crevices.

Conservation Status: Gray foxes are widespread throughout Indiana.



Adapted from Burt and Grossenheider (1980)

Raccoon

Procyon lotor



SKULL



Bob Gress



TRACK

Ohio Department of Natural Resources

Raccoon

Procyon lotor

Department of Forestry & Natural Resources

Order: Carnivora

Family: Canidae

General Description: Raccoons are medium-size, stout-bodied mammals with distinctive black “masks.” The tail is long and bushy with four to seven black rings. The fur is long and thick and ranges from yellowish gray to grayish brown. The snout is slender and the ears are pointed.

Weight: 7-8 kg (15-18 lbs)

Total Length: 550-853 mm (21.6-33.6 in)

Tooth Formula: $I \frac{3}{3} \ C \frac{1}{1} \ P \frac{4}{4} \ M \frac{2}{2} = 40$

Life Span: Up to 2-3 years in the wild, 17 years in captivity

Habitat: Raccoons are most commonly found in wooded areas associated with water. However, raccoons are adaptable mammals and can live wherever there are suitable food and den sites. This includes isolated farm woodlots, cities, and towns.

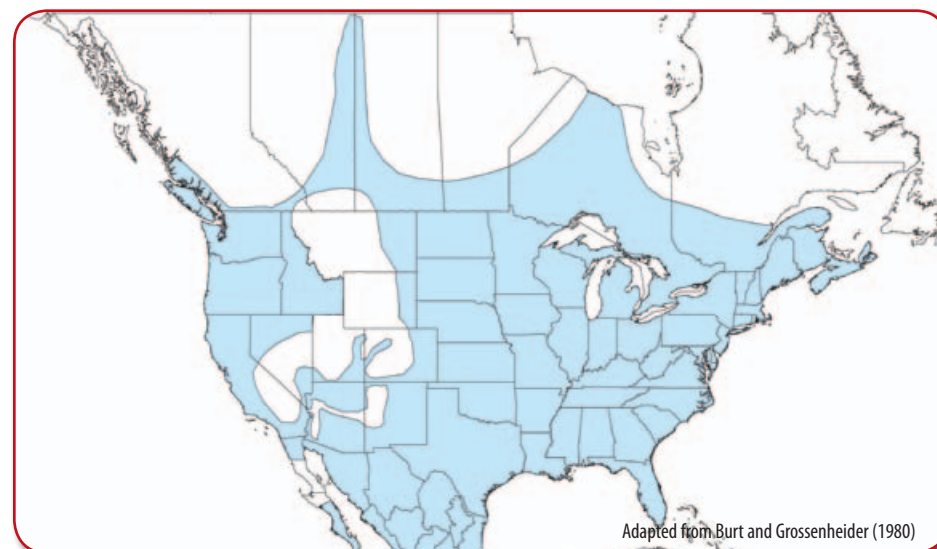
Home Range: 4-100 ha (10-250 acres)

Food Habits: Raccoons eat a wide range of plants and animals. They will regularly eat crayfish, insects, acorns, corn, fruits, and carrion. Raccoons are opportunistic foragers and will consume nearly any prey item available to them.

Reproduction: Mating occurs from February through March. Gestation averages 63 days. Each litter consists of two to six young. The young often remain with the female throughout summer and winter months.

Ecology and Behavior: Raccoons are most active at night as they forage along creeks and streams in search of prey. They are generally considered solitary, but it is not uncommon to see family groups during the winter months. Raccoons are excellent climbers and use hollow trees as den sites. It is commonly believed that raccoons wash their food before eating, but this behavior is simply a searching and kneading behavior of raccoons searching for aquatic prey.

Conservation Status: Raccoons are abundant and widespread throughout Indiana.



River Otter

Lontra canadensis



SKULL



Missouri Department of Conservation



TRACK

Ohio Department of Natural Resources

River Otter

Lontra canadensis

Department of Forestry & Natural Resources

Order: Carnivora

Family: Mustelidae

General Description: River otters are semi-aquatic with long, streamlined bodies, thick tapered tails, and short legs. They have wide, rounded heads, small ears, and nostrils that can be closed underwater. The fur is dark brown to almost black while the throat and cheeks are golden brown. The fur is dense, soft, and waterproof.

Weight: 5.4-9 kg (12-20 lbs)

Total Length: 900-1300 mm (35.4-51.2 in)

Tooth Formula: I $\frac{3}{3}$ C $\frac{1}{1}$ P $\frac{4}{3}$ M $\frac{1}{2}$ = 36

Life Span: Up to 13 years in the wild, 20 years in captivity

Habitat: River otters are found anywhere there is a permanent food supply and easy access to water. They live in freshwater and coastal marine habitats, including rivers, lakes, marshes, swamps, and estuaries.

Home Range: 15 km (9 miles) of waterway

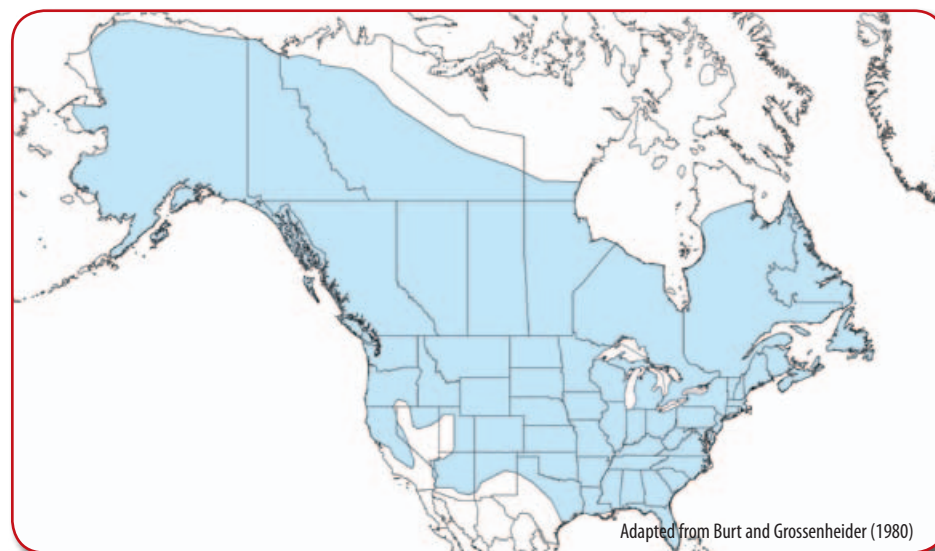
Food Habits: A large portion of a river otter's diet consists of fish, particularly carp and minnows. Crayfish, amphibians, and small mammals are also an important part of the diet.

Reproduction: Mating occurs from December through May, but implantation of fertilized eggs may be delayed up to 9 months

after mating. Gestation averages 60 days, and litters consist of two to three young. The young often remain with the female throughout fall and into the spring.

Ecology and Behavior: River otters are shy nocturnal animals that are active throughout the year. On land, river otters appear awkward, but in water they are strong and graceful swimmers. River otters seem playful and often "toboggan" down muddy banks, ice or snow covered slopes, and over grassy vegetation.

Conservation Status: Conservation efforts and reintroduction programs have re-established river otters in many locations throughout the Midwest, including Indiana. They remain a species of special concern in Indiana.



Adapted from Burt and Grossenheider (1980)

Least Weasel

Mustela nivalis



SKULL



TRACK

Ohio Department of Natural Resources

Least Weasel

Mustela nivalis

Department of Forestry & Natural Resources

Order: Carnivora

Family: Mustelidae

General Description: Least weasels are the world's smallest carnivore. They have slender bodies that are only 25 mm (1 in) in diameter with short legs. The fur is brown on the back and white with brown blotches on the belly. The head is flat and narrow with large, round ears and a long neck.

Weight: Males 26-68 g (0.9-2.4 oz), females 21-52 g (0.7-1.8 oz)

Total Length: Males 144-209 mm (5.7-8.2 in), females 149-188 mm (5.9-7.4 in)

Dental Formula: $I \frac{3}{3} \ C \frac{1}{1} \ P \frac{3}{3} \ M \frac{1}{2} = 34$

Life Span: Up to 3 years in the wild, 10 years in captivity

Habitat: Least weasels are found primarily in grasslands, hedgerows, and pond edges, especially in agricultural areas where voles are abundant. They also can be found in forests, deserts, alpine meadows, and coastal dunes.

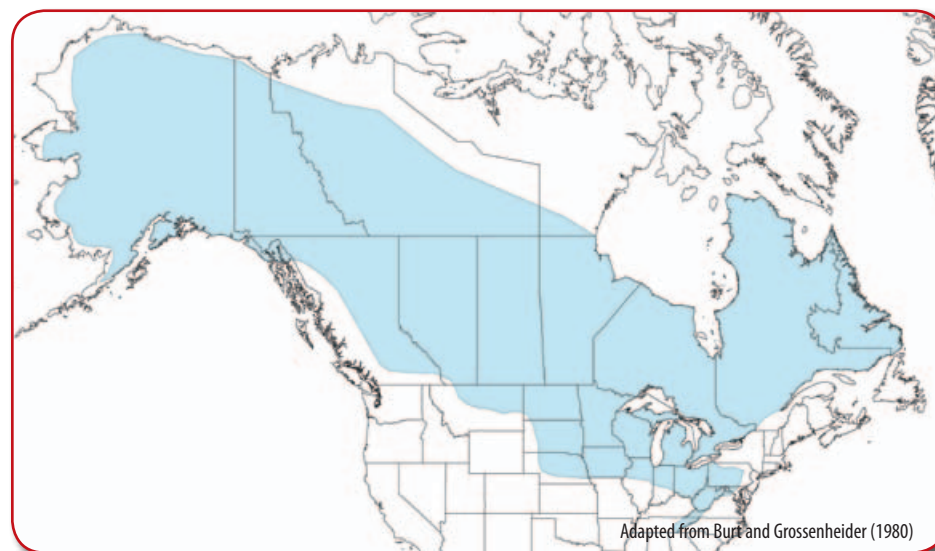
Home Range: Males 7-15 ha (17-37 acres), females 1-4 ha (2-10 acres)

Food Habits: Least weasels are carnivores, and their diet consists largely of small rodents, especially voles and mice. They also eat small rabbits and squirrels, bird eggs and nestlings, amphibians, lizards, insects, and earthworms.

Reproduction: Breeding can occur anytime during the year, but mostly from spring to early summer. Young are born after a 34-37 day gestation and litters range from one to six young. Juveniles grow fast and reach breeding age in 4-8 weeks and adult size in 12-15 weeks. Females may have up to three litters per year.

Ecology and Behavior: Active day and night, least weasels are very energetic and spend most of their time searching for food. They must eat 40% of their body weight per day to fuel their energetic lifestyle. They move quickly, searching every hole or crevice, and frequently stand on their hind legs looking and listening for prey. Least weasels take short rests periodically, usually in the nest or burrow of prey that has recently been consumed.

Conservation Status: Least weasels are a species of special concern in Indiana.



Adapted from Burt and Grossenheider (1980)

American Mink

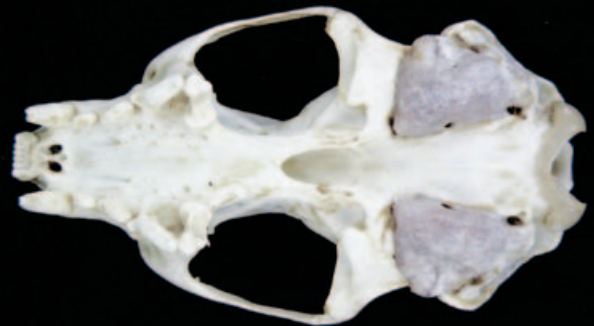
Mustela vison



Robert Barber



SKULL



TRACK

Ohio Department of Natural Resources

American Mink

Mustela vison

Department of Forestry & Natural Resources

Order: Carnivora

Family: Mustelidae

General Description: Mink have long, slender bodies, pointy face, short ears and legs, partially webbed feet, and long tails. The fur is dark brown except for small white patches on the chin, throat, chest, and belly. The tip of the tail is nearly black. The fur is soft and thick with oily guard hairs that make the fur water-resistant.

Weight: 700-1600 g (1.5-3.5 lbs), males typically larger than females

Total Length: 46-70 cm (1.5-2.2 ft)

Dental Formula: $I \frac{3}{3} \ C \frac{1}{1} \ P \frac{3}{3} \ M \frac{1}{2} = 34$

Life Span: Up to 3 years in the wild, 10 years in captivity

Habitat: Mink live in close proximity to water within a variety of habitats including forests, prairies, swamps, marshes, and backwaters of marine environments. Typically ponds, lakes, streams, and rivers with nearby shrubby or rocky cover are preferred.

Home Range: Males up to 760 ha (1900 acres), females 8-20 ha (20-50 acres)

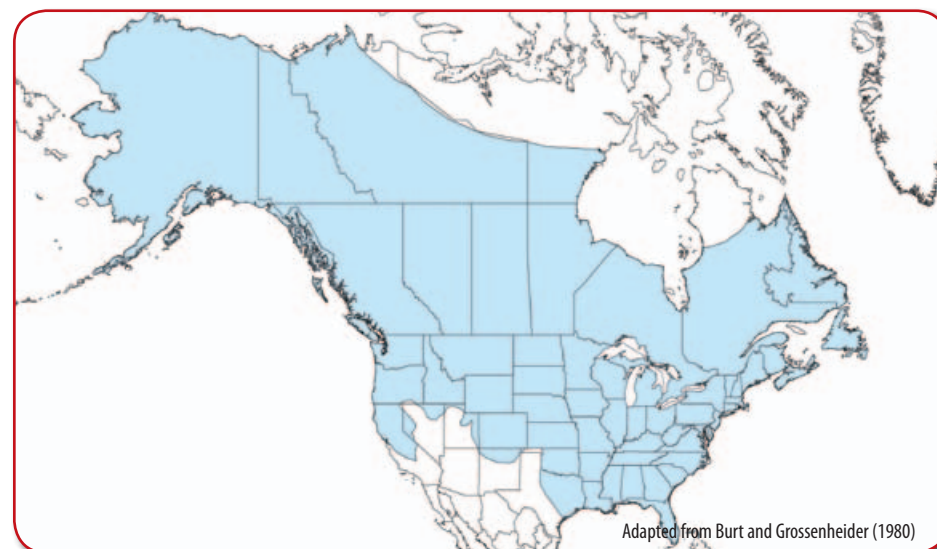
Food Habits: Mink are strict carnivores. Their diet consists largely of fish, amphibians, crustaceans, muskrats, and small mammals. They also eat rabbits, squirrels, birds and bird eggs, aquatic insects, earthworms, and snails.

Reproduction: Mating occurs from February through April. Gestation averages 51 days, and litters range from two to eight

young. Juveniles begin hunting at 8 weeks but do not leave the mother until fall. Females reach breeding age at 12 months and males at 18 months.

Ecology and Behavior: Mink are nocturnal, semi-aquatic predators. They are excellent swimmers, reaching speeds of 42 cm/s (1.4 ft/s) on the surface and 59 cm/s (1.9 ft/s) submerged. Mink dive to depths of 6 m (20 ft) and stay submerged for up to 20 seconds. They find refuge in burrows dug by other animals, cavities under trees, rock piles, brush piles, dense vegetation, culverts, and bridge foundations. Dens have two to five entrances that are located close to water. Mink communicate through sounds and scent. They have specialized glands that secrete a very strong, musky odor.

Conservation Status: Mink are common throughout Indiana.



Adapted from Burt and Grossenheider (1980)

Striped Skunk

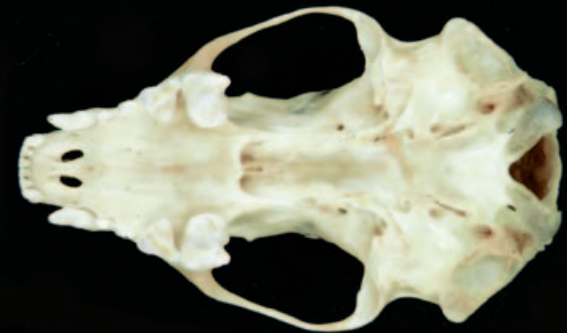
Mephitis mephitis



Erwin C. Nielsen



SKULL



TRACK

Ohio Department of Natural Resources

Striped Skunk

Mephitis mephitis

Department of Forestry & Natural Resources

Order: Carnivora

Family: Mephitidae

General Description: The striped skunk is easily recognized by its long black fur and prominent white stripe down the back. The stripe often splits towards the back and rump. The head is small and triangular, the legs are short, and the tail is bushy with a few white hairs on the end.

Weight: 0.9-5.3 kg (1.9-11.7 lbs)

Total Length: 44.7-80.0 cm (1.5-2.6 ft)

Dental Formula: $I \frac{3}{3} \ C \frac{1}{1} \ P \frac{3}{3} \ M \frac{1}{2} = 34$

Life Span: Up to 6 years in the wild, 10 years in captivity

Habitat: Striped skunks prefer a mix of forests, fields, and wooded ravines. They can also be found in areas of intensive agriculture and neighborhoods of small towns and suburbs.

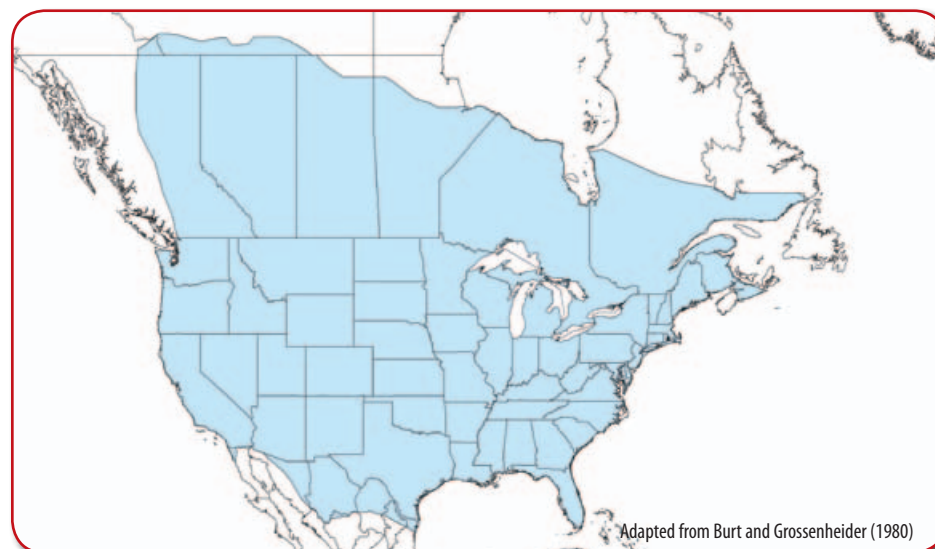
Home Range: Males average 512 ha (2 mi²), females average 378 ha (1.5 mi²)

Food Habits: Striped skunks are omnivorous. Their diets shift with the seasons depending on availability. In spring and summer they eat mostly invertebrates, small mammals, small birds and bird eggs, fish, and frogs. Fall and winter foods include fruits, agricultural crops, and small mammals, especially voles.

Reproduction: Mating occurs from mid-February through mid-April. Gestation ranges 62-66 days. Litters consist of two to ten kits that begin following their mother at 6-7 weeks. Striped skunks are weaned at 8 weeks and mature at about 12 months.

Ecology and Behavior: Striped skunks are nocturnal and solitary. They are usually docile and seem somewhat oblivious to other animals. Striped skunks are perhaps most noted for the strong odor produced by two musk glands. The musk is released by the skunk as a last defense when threatened and is capable of hitting targets the size of humans up to a range of 6 m (19.7 ft), but they are most accurate within 3 m (9.8 ft). Striped skunks do not hibernate but can sleep for several days during winter. They will dig burrows up to 2-8 m (6.6-26.2 ft) long and up to a meter (3.3 ft) deep and sometimes use burrows dug by other animals.

Conservation Status: Striped skunks are common and abundant throughout Indiana.



Bobcat

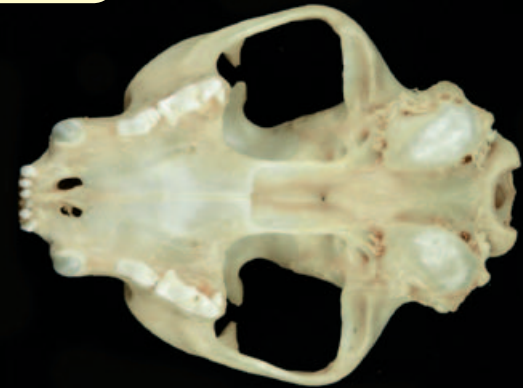
Lynx rufus



Steven Wayne Rotsch



SKULL



TRACK

Ohio Department of Natural Resources

Bobcat

Lynx rufus

Department of Forestry & Natural Resources

Order: Carnivora

Family: Felidae

General Description: Bobcats are the smallest wild cats in North America, however they are about two to three times larger than typical house cats. The fur is yellowish to reddish brown with black-tipped guard hairs along the sides. The belly is white with numerous, irregular, black spots. The front legs are tan and contain horizontal black bars on the inside. Bobcats have tufts of hair on the cheeks. The ears are marked with large, white spots and are erect. Each ear has a tuft of hair at the tip. The tail is short with several dark bars.

Weight: 4-15 kg (8.8-33 lbs), males are typically larger than females

Total Length: 65-105 cm (2.1-3.4 ft)

Tooth Formula: I $\frac{3}{1}$ C $\frac{1}{1}$ P $\frac{2}{2}$ M $\frac{2}{2}$ = 28

Life Span: Up to 15.5 years in the wild, 32 years in captivity

Habitat: Bobcats can be found in a variety of habitats, including forests, grasslands, swamps, deserts, and shrublands.

Home Range: Males 2.6-95.7 km² (1-37 mi²), females 1.1-38 km² (0.4-14.7 mi²)

Food Habits: Bobcats are strict carnivores. Their diet consists largely of rabbits and small to medium-sized rodents. They also eat birds and bird eggs, bats, deer, insects, reptiles, fish, and carrion.

Reproduction: Mating can occur throughout the year, but typically occurs from December through July. Gestation averages 63 days, and litters range from one to six kittens. Kittens begin traveling with their mothers around 3 months and travel alone after 6 months. Young typically disperse before the next litter and mature at 24 months.

Ecology and Behavior: Bobcats are solitary and nocturnal but can be seen occasionally during the day. They use hidden dens, typically hollow trees and rock piles, but also thickets and brush piles. Bobcats often rest near fresh kills. Prey is attacked by either stalking or ambush. Bobcats communicate using scent-marking and a variety of vocalizations including caterwauling, growls, and hisses.

Conservation Status: The bobcat is a species of special concern in Indiana.



Adapted from Burt and Grossenheider (1980)

White-tailed Deer

Odocoileus virginianus



SKULL



TRACK



Ohio Department of Natural Resources

The *Nature* of Teaching

White-tailed Deer

Odocoileus virginianus

Department of Forestry & Natural Resources

Order: Artiodactyla

Family: Cervidae

General Description: The white-tailed deer is currently the largest wild mammal in Indiana. The fur is reddish-brown in summer but grayer in winter. The undersides of the tail, the belly, and the throat are white. The snout and ears are long, and males have antlers from late summer to early winter. Fawns are reddish-brown and covered with white spots.

Weight: Males 68.6-140.9 kg (151.2-310.6 lbs), females 40.9-95.5 kg (90.2-210.5 lbs)

Total Length: Males 134-213.4 cm (4.4-7 ft)

Dental Formula: $I \frac{3}{3} \ C \frac{1}{1} \ P \frac{3}{3} \ M \frac{3}{3} = 32$

Life Span: Up to 14 years in the wild

Habitat: White-tailed deer can be found in a wide variety of habitats, from grasslands to forests. They occur in areas where there is a mixture of agricultural crops, young woods, and shrubby vegetation.

Home Range: 16-135 ha (39.5-333.6 acres), up to 520 ha (1284.9 acres) during winter

Food Habits: White-tailed deer are herbivores. Over 100 species of plants account for their diet, which shifts during the year as availability and nutritional needs change. Spring and summer diets consist largely of grasses, forbs, and leaves of woody plants. Acorns, twigs and buds of woody plants make up a large part of the fall and winter diet.

Reproduction: White-tailed deer mate from mid-October through November during what is called the "rut." Gestation averages 200

days after which one to three fawns are born. Young are weaned at 4 months and are mature at 6-8 months.

Ecology and Behavior: White-tailed deer can be active at anytime but are most active around dawn and dusk. Social groups may include a doe and her young, small groups of bucks, or mixed groups. Bucks, however, are solitary during the rut and often engage in combat over females and territory. In the northern part of their range, deer can form groups of over 150 individuals during prolonged, severe, winter weather in areas called "yards" where food is abundant. Deer have very good hearing, sense of smell, and eyesight and are always alert for signs of danger. They are good swimmers and can run up to 58 km/h (36 mph).

Conservation Status: White-tailed deer are abundant throughout Indiana.

