
Mammal Tracks of the Carleton College Cowling Arboretum



For more information visit www.carleton.edu/campus/arb

Arboretum Office: 507-222-4543

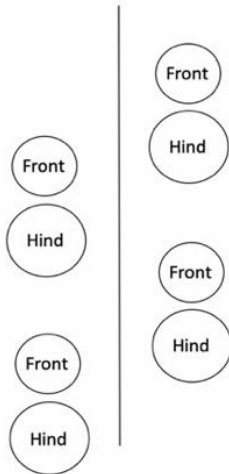
Table of Contents

3	.....	Key to digits and gaits
4a	.....	Gray Fox
4b	.....	Red Fox
5a	.....	Beaver
5b	.....	Muskrat
6a	.....	Woodchuck
6b	.....	Eastern Chipmunk
7a	.....	Striped Skunk
7b	.....	American Badger
8	.....	North American River Otter
9a	.....	Short-tailed Weasel
9b	.....	Long-tailed Weasel
10a	.....	Mink
10b	.....	Virginia Opossum
11a	.....	Raccoon
11b	.....	Coyote
12a	.....	Dog
12b	.....	Red Squirrel
13a	.....	Thirteen-lined Ground Squirrel
13b	.....	Fox Squirrel
14a	.....	Gray Squirrel
14b	.....	Eastern Cottontail

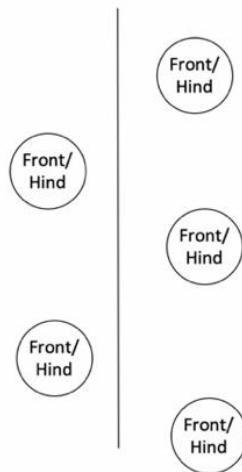
Diagnostic Key: Digits and Gaits

	4 front digits	5 front digits
5 front digits	Canids (pp. 4, 12, 13)	
5 hind digits	Rodents (pp. 6, 7, 13-15)	Raccoon (p. 12), mustelids (pp. 8-11) except Short-tailed Weasel, opossum (p. 11)

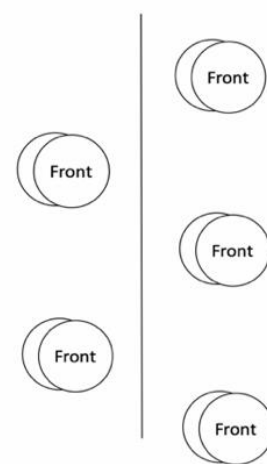
2x2 walk



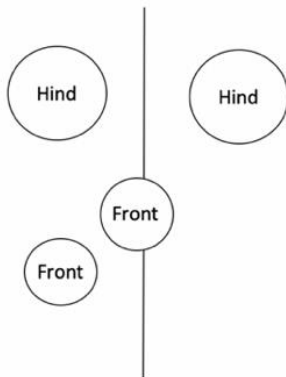
Direct register walk



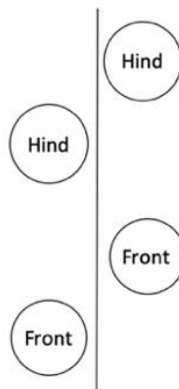
Indirect register walk



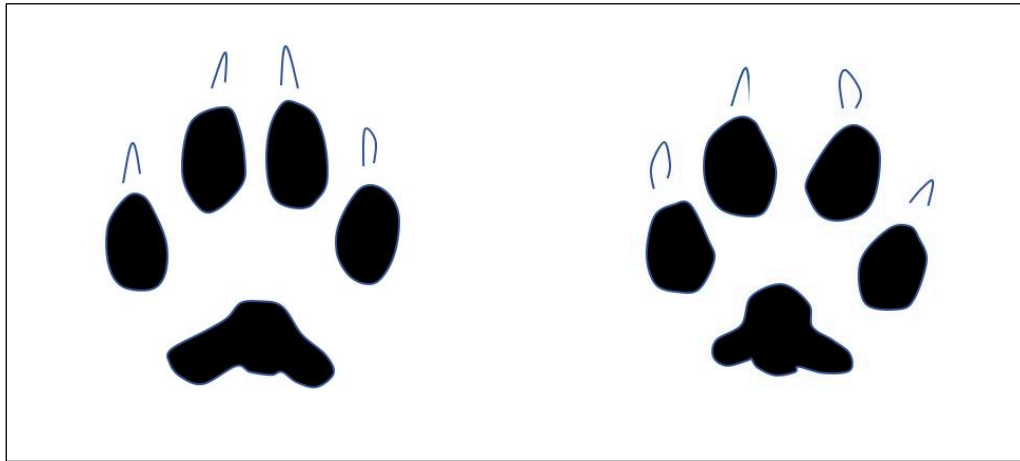
Bound



Gallop



Gaits denote the unique configurations of prints that mammals leave on the ground. Some species consistently use a single gait, though many change gaits based on running speed. For instance, a raccoon may usually use a register walk, but will switch to a gallop when escaping a predator. Note that when examining a direct register walk, it may be very difficult to properly identify the species because the hind tracks are “pressed into” the front tracks on each respective side; the reverse is true for an indirect register walk.



F 2.5-4.4 cm L x 3.0-4.1 cm W

H 3.2-4.1 cm L x 2.44-3.5 cm W

Gray Fox, *Urocyon cinereoargenteus*

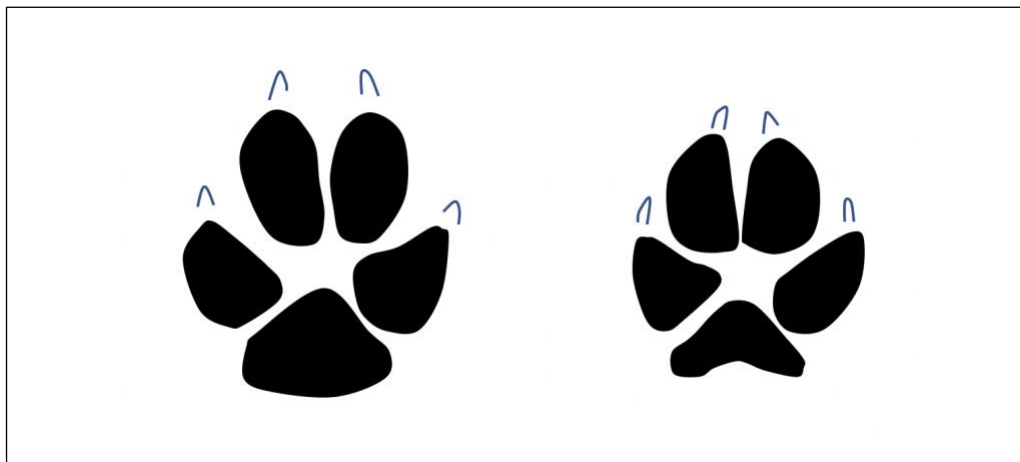
Size: Medium-sized; 0.8-1 m

Appearance: Small canid with contrasting silver-and-black dappled back with orange margins; orange legs and back of head; white throat and chest; very long black-tipped tail

Behavior: Solitary, secretive; hunts both on ground and in trees

Habitat: Mainly forest, but may range into developed areas

In the Arb: Gray foxes are difficult to find, but likely present in wooded areas of the Upper and Lower Arb.



F 4.8-7.3 cm L x 3.5-5.4 cm W

H 4.1-6.4 cm L x 3.2-4.8 cm W

Red Fox, *Vulpes vulpes*

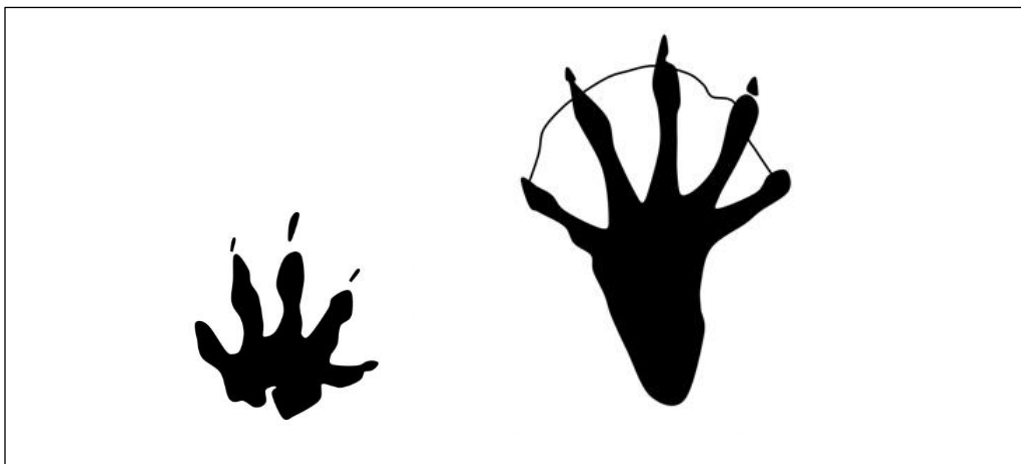
Size: Medium-sized; near 0.9 m

Appearance: Relatively small, sleek canid with rust-red coat, white underparts, dark legs, and bushy white-tipped tail

Behavior: Solitary, typically shy; often hunts in dense brush or grass

Habitat: Variable, including rural settings

In the Arb: Common resident, though rarely seen. May be more easily spotted in winter, when they have been reported on campus grounds.



F 6.7-8.9 cm L x 4.1-7.3 cm W

H 5.7-8.3 cm L x 3.8-6.4 cm W

Beaver, *Castor canadensis*

Size: Medium-sized; typically 0.8-1 m

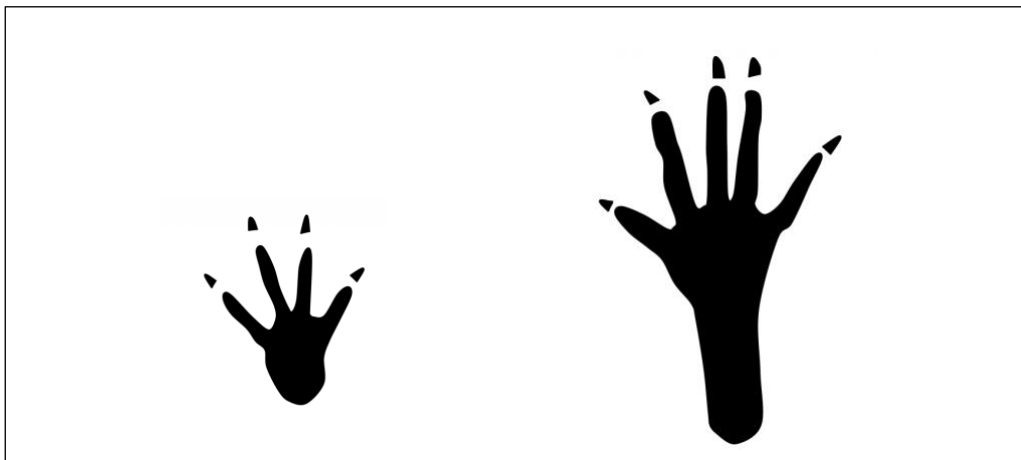
Appearance: Large brown rodent with paddle-shaped tail

Behavior: Feeds on woody plant matter, leaving ring-marks on trees; transports bark along well-worn trails to water's edge

Habitat: Rivers, creeks, lakes, bogs, wetlands, and seasonally flooded forest

In the Arb: Very common along the Cannon River in the Lower Arb.

Individuals periodically colonize Lyman Lakes and Spring Creek.



F 2.2-3.8 cm L x 2.5-3.8 cm W

H 3.8-7.0 cm L x 3.8-6.4 cm W

Muskrat, *Ondatra zibethicus*

Size: Small; 0.5 m

Appearance: Medium-sized rodent with dark face and whitish bib; long thin tail

Behavior: Similar feeding habits to beaver, but rarely transports large material; often seen swimming

Habitat: All areas with substantial water

In the Arb: The most commonly seen aquatic rodent in the Arb, regularly sighted at Lyman Lakes.



F 4.8-7.0 cm L x 2.5-5.4 cm W

H 4.1-7.9 cm L x 3.5-5.1 cm W

Woodchuck, *Marmota monax*

Size: Relatively small; 0.4 m

Appearance: Robust ground squirrel with rusty-pale underside, small round ears, and short black tail

Behavior: Often seen sitting upright, or rummaging across the ground, in open fields or field edges

Habitat: Grassland, prairie, and cultivated areas

In the Arb: Woodchucks, or groundhogs, can be found in open areas across the Arb, such as in Upper Arb fields or McKnight Prairie.



F 1.9-2.5 cm L x 1.1-2.2 cm W

H 1.3-2.5 cm L x 1.6-2.4 cm W

Eastern Chipmunk, *Tamas striatus*

Size: Small; 0.2 m

Appearance: Small reddish-brown squirrel with four black lines running across back

Habitat: Wooded areas

In the Arb: Chipmunks are most often sighted in the Upper Arb near Spring Creek.



F 4.1-5.2 cm L x 2.4-3.0 cm W

H 3.3-5.4 cm L x 2.4-3.0 cm W

Striped Skunk, *Mephitis mephitis*

Size: Medium-sized; 0.6-0.8 m

Appearance: Unmistakable; black mustelid with two white stripes running along back; giant shaggy tail; distinctive white facial stripe

Behavior: Typically nocturnal; often seen in family groups

Habitat: Varied, including urban areas; typically avoids dense forest

In the Arb: Due to their nocturnal nature, skunks are rarely seen in the Arb, though they are common. During winter, look for skunk tracks in fresh snow throughout the Lower Arb.



F 7.3-9.8 cm L x 4.0-6.7 cm W

H 4.8-7.0 cm L x 3.5-5.1 cm W

American Badger, *Taxidea taxus*

Size: Medium-sized; 0.6-0.8 m

Appearance: Stocky with wide, flat head, low-set ears, and shaggy silvery coat; rust- or cream-colored underparts; black legs; “masked” appearance

Behavior: Mainly diurnal and solitary; hunts rodents in grassland habitat, where it maintains burrows and home territory

Habitat: Grassland, especially restored prairie

In the Arb: Look for badger burrows at McKnight prairie and in the prairies of the Upper Arb.



F 5.4-8.3 cm L x 4.8-7.6 cm W

H 5.4-10.2 cm L x 5.4-9.5 cm W

North American River Otter, *Lontra canadensis*

Size: Medium-sized; 1.2-1.7 m

Appearance: Dark brown mustelid with long body and tail; slender and streamlined build; flat head with small ears and large nose; whitish throat and underparts

Behavior: Typically crepuscular, but may be active at any time; family groups inhabit river-edge dens

Habitat: Rivers, streams, wetlands, and lakes

In the Arb: Otters have recently colonized the Arb from the northeast. In the winter, their tracks and “slide marks” are visible along the Cannon River and Spring Creek.



F 1.1-1.6 cm L x 1.1-1.6 cm W

H 1.1-2.2 cm L x 1.0-1.9 cm W

Short-tailed Weasel (Ermine/Stoat), *Mustela erminea*

Size: Small; 18-33 cm

Appearance: Sleek and long-bodied, with very short legs, small ears and short snout; in summer, dark brown with white underparts; in winter, entire white with black-tipped tail; *tail length about 1/3 of body length*

Behavior: Solitary; nocturnal and diurnal

Habitat: Varied

In the Arb: While rarely seen, the ermine is probably common throughout the Arb given the abundance of mouse, vole, rabbit, and squirrel prey.



F 1.6-3.7 cm L x 1.9-3.0 cm W

H 1.9-3.8 cm L x 1.4-2.5 cm W

Long-tailed Weasel, *Mustela frenata*

Size: Small; 30-35 cm

Appearance: Very similar to ermine (*M. erminea*), but snout is more pronounced, and dark brown summer coat may be buff-colored instead of white below; winter coat is all white with black-tipped tail; *tail length more than half of body length*

Behavior: See ermine (*M. erminea*)

Habitat: Varied

In the Arb: Though relatively puny, the short-tailed weasel is a voracious predator of small mammals.



F 2.9-7.3 cm L x 2.2-4.4 cm W

H 2.1-4.44 cm L x 2.4-4.1 cm W

Mink, *Neovison vison*

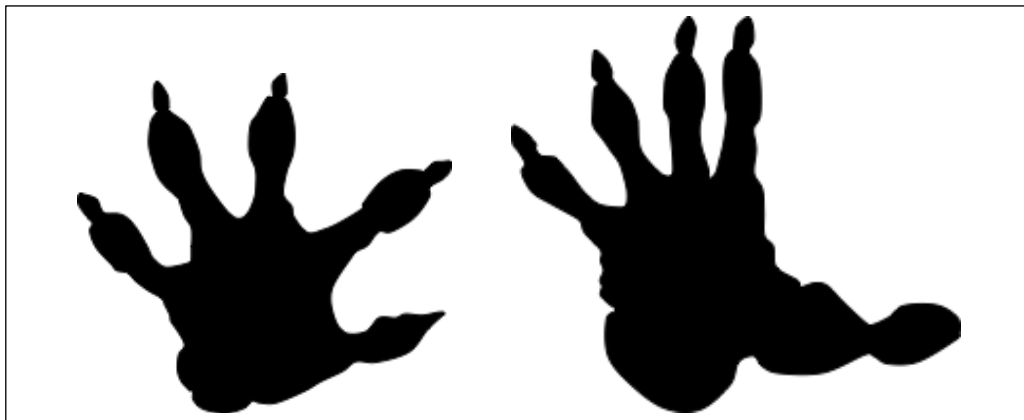
Size: Small; 35.5-50.8 cm

Appearance: Very dark brown overall, with white or yellowish chest patch (not always visible); body shape similar to other weasels

Behavior: Solitary; mainly crepuscular; often seen swimming or darting along water's edge

Habitat: Rivers, streams, lakes, bogs, wetlands, and adjacent terrestrial habitat

In the Arb: Every stretch of the Cannon and Spring Creek is occupied by minks, whose worn-in trails along the water's edge are visible in mud and snow. Look for their burrows starting a few feet above the high-water mark.



F 2.5-7.5 cm L x 3.2-6.44 cm W

H 3.0-7.0 cm L x 3.8-7.6 cm W

Virginia Opossum, *Didelphis virginianus*


Size: Medium-sized; 0.9 m


Appearance: Large gray rat-like mammal with a white face, black ears, pink nose, and long naked tail


Behavior: Solitary; mainly nocturnal and crepuscular


Habitat: Varied, including developed areas

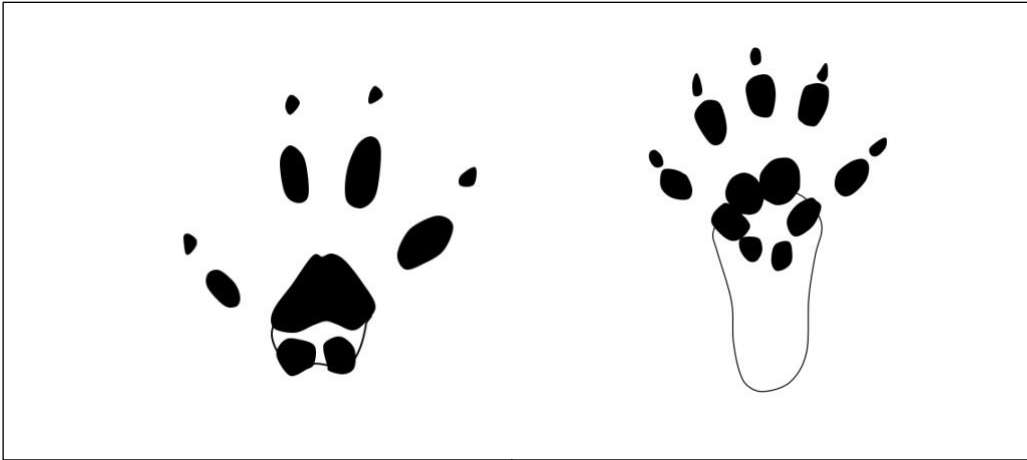
In the Arb: A relative newcomer to Minnesota, the opossum is common throughout the Arb, and is also frequently seen on campus grounds.

	
<i>F</i> 4.4-7.9 cm L x 3.8-8.3 cm W	<i>H</i> 5.4-10.2 cm L x 3.8-6.7 cm W
<p>Raccoon, <i>Procyon lotor</i></p> <p>Size: Medium-sized; 76-94 cm</p> <p>Appearance: Unmistakable; gray, black-masked mammal with striped tail</p> <p>Behavior: Solitary or in small family groups; mainly nocturnal</p> <p>Habitat: Varied, including developed areas; often near water</p> <p><i>In the Arb:</i> Look for raccoon sign at bogs in the floodplain forest east of the Cannon, at Kettle Hole Marsh, and along Spring Creek. They are also very common in Northfield suburbs.</p>	

	
<i>F</i> 6.7-8.9 cm L x 4.1-7.3 cm W	<i>H</i> 5.7-8.3 cm L x 3.8-6.4 cm W
<p>Coyote, <i>Canis latrans</i></p> <p>Size: Large; 1.5-1.6 m</p> <p>Appearance: Dog-like canid with rather thin, lanky build; light brown coloration with silver dappling across upperparts and white throat; long ears and thin snout; tail held down (not level) while running</p> <p>Behavior: Solitary, typically undisturbed by human presence</p> <p>Habitat: Variable, including rural and urban settings</p> <p><i>In the Arb:</i> Common throughout the Arb, though uncommonly seen. May be seen running across roads or paths.</p>	

	
<i>F</i> 6.7-8.9 cm L x 4.1-7.3 cm W	<i>H</i> 5.7-8.3 cm L x 3.8-6.4 cm W
<p>Dog, <i>Canis lupus familiaris</i> Size: Highly variable <i>In the Arb:</i> Usually seen with Arb visitors as pets.</p>	

	
<i>F</i> 2.5-3.2 cm L x 1.4-2.5 cm W	<i>H</i> 2.2-5.7 cm L x 1.6-2.9 cm W
<p>Red Squirrel, <i>Tamasciurus hudsonicus</i> Size: Small; 20 cm Appearance: Small rusty-red and grayish squirrel with white underparts and white eye-ring Behavior: Diurnal; highly aggressive and territorial among other squirrels Habitat: Forest and developed areas <i>In the Arb:</i> These small squirrels are commonly seen throughout the Arb and on campus.</p>	



F 1.1-1.6 cm L x 1.1-1.6 cm W

H 1.1-2.2 cm L x 1.0-1.9 cm W

Thirteen-lined Ground Squirrel, *Spermophilus tridecemlineatus*

Size: Small; 22-30 cm

Appearance: Small, light brown squirrel with elaborate patterns of black-and-white stripes and spotting along back; small, slightly bushy tail

Behavior: Gregarious; diurnal

Habitat: Prairie and grassland

In the Arb: These squirrels frequent open areas; look for their burrows in McKnight Prairie and in the restored prairie of the Upper Arb.



F 1.1-1.6 cm L x 1.1-1.6 cm W

H 1.1-2.2 cm L x 1.0-1.9 cm W

Fox Squirrel, *Sciurus niger*

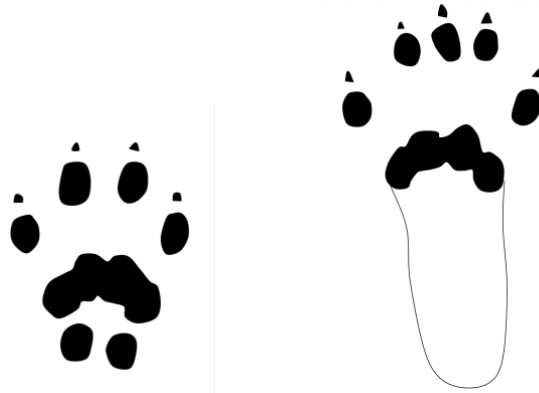
Size: Small; 22-30 cm

Appearance: Rather large squirrel; distinguished from Gray Squirrel by rusty underparts and tail

Behavior: Diurnal

Habitat: Open wooded areas

In the Arb: The least common squirrel species in the Arb, Fox Squirrels are most commonly sighted in forest-edge habitat in the Lower Arb.



F 1.1-1.6 cm L x 1.1-1.6 cm W

H 1.1-2.2 cm L x 1.0-1.9 cm W

Gray Squirrel, *Sciurus carolinensis*

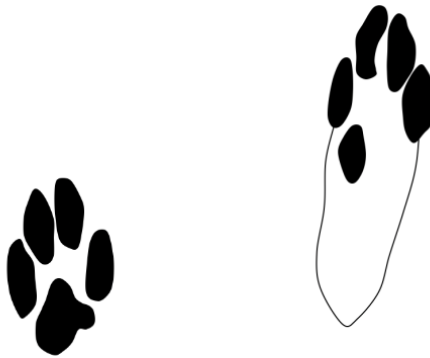
Size: Small; 22-30 cm

Appearance: Rather large gray or gray-brown squirrel

Behavior: Diurnal

Habitat: Varied

In the Arb: The most common squirrel species in the Arb and throughout Northfield.



F 5.4-8.3 cm L x 4.8-7.6 cm W

H 5.4-10.2 cm L x 5.4-9.5 cm W

Eastern Cottontail, *Sylvilagus floridanus*

Size: Small; 30-35 cm

Appearance: Small, brownish rabbit

Behavior: Often seen feeding on grasses on campus at night

Habitat: Most open habitats, including developed areas

Field Notes