ONTARIO ENVIROTHON PRESENTS

Mammal Identification and Tracking Guide



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Introduction to Ontario Mammals Tracking and Identification Guide

Ontario contains various types of habitats allowing a high biodiversity of mammals to live in this province. A high level of biodiversity within a region indicates healthy ecosystems and increased resistance to disturbances. Within Ontario there are 78 mammal species. Some mammals act as predators of many smaller animals and are therefore closely associated with the diversity of local vegetation and invertebrate communities. This guide includes 15 common mammal species found in Ontario and indicates how tracks, signs and scat can be used to identify the presence of a species.

Tracks

- o A familiarity with the basic track patterns allows the identification of mammals by the tracks they have left behind.
- o Tracks can not only tell you whether or not a certain species is in the area, but they can also tell you stories about what the animal was doing
- o Included in this guide are the average size of the fore paws and the hind paws and a picture of tracks for each species. The distance between tracks (a.k.a. stride) and the width of the track (a.k.a. straddle) is also included for each species.

Signs

- o Mammals often leave signs of their presence that act like clues that aid trackers in wildlife identification, allowing them to record the presence of that species.
- o These signs can include nests, dens, browse marks, food scraps and tree trunk rubs.

• Scat (a.k.a. feces)

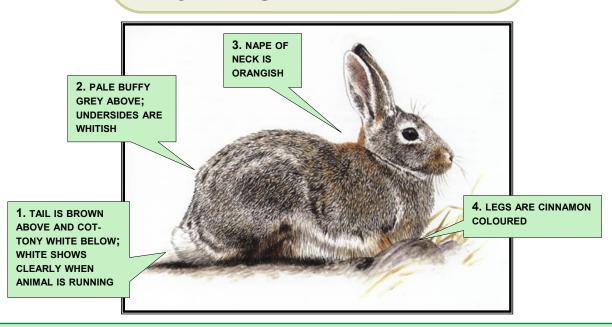
- o The identification and analysis of scat is a common method for identifying the presence of a species in an area.
- o Scat may contain hairs of the mammal that excreted it (from grooming) which may help in identification. Scat can also contain hairs from prey that has been consumed, which can lead to misidentification. Therefore it is important to use the size and shape of scat to help in species identification.
- o Humans should never handle scat directly as there are numerous parasites and diseases present in wildlife scat that are dangerous to people.

MAMMAL IDENTIFICATION

SPECIES # 1

Eastern Cottontail Rabbit

Sylvilagus floridanus



Total Length: 40 - 45 cm **Weight**: 0.8 - 1.6 kg

Tail Length: 4 - 7 cm

Habitat:

- Only require some cover (E.g. brush, rocks, buildings)
- Ideal habitat is at the edge of a forest meadow or at the edge of agricultural land
- Den only pregnant does create dens which are lined with grass or hair and measure about 25 cm length by 15 cm width
- Dens are very difficult to see as they are always covered with forest litter

Food:

- Herbivore
- Herbaceous vegetation (E.g. Clover, grasses)
- Woody bush or bark of young trees in winter



Provincial Range:

 Southeastern border of Ontario

Fun Fact

The eastern cottontail has an extremely large range. It overlaps the ranges of seven other species of cottontails and six species of hares!

MAMMAL IDENTIFICATION

Mating:

- Gestation period of 18 30 days
- 1 9 pups born per litter
- Mother goes back into estrus within hours of giving birth
- Young are independent by 1 month and can mate and breed as early as 4 months
- No distinct mating time; all climates suitable

Similar Species:

- European Hare is larger with longer ears
- Snowshoe Hare is larger with larger prints
- Tracks of Squirrels are similar, but the fore prints are consistently side by side

Tracks:

Fore Prints

• Length: 2.5 – 3.8 cm

• Width: 2.0 – 3.3 cm

Hind Prints

Length: 7.6 – 8.9 cm
Width: 2.5 – 3.8 cm

• Straddle: 10 – 13 cm

• Stride: 18 – 91 cm





Sign:

Browse

- Twigs with 45 degree angled cuts (same with all members of the rodent family)
- Debarking on low lying branches
- · Often from deciduous trees and woody shrubs

Scat:

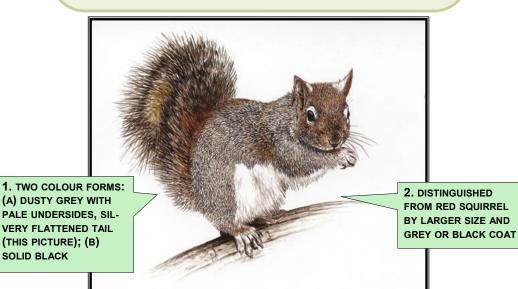
- Small round pellets
- Sometimes wrinkled
- Can sometimes be confused with deer scat
- Pile of cottontail scat indicates prolonged eating in that spot



MAMMAL IDENTIFICATION

SPECIES #2

Eastern Grey Squirrel Sciurus carolinensis



Total Length: 43 – 50 cm **Weight**: 400 – 720 g

Tail Length: 21 – 24 cm

Habitat:

- Prefer deciduous or mixed forests
- Older forests support larger populations, with more food and nesting sites
- Den natural tree cavities or refurbished woodpecker holes lines with dry vegetation year round
- Build dreys (spherical leaf and twig nests) when holes are not available

Food:

- Omnivore
- Main diet consists of seeds from oak, maple, ash and elm
- In spring and summer they will also eat twigs, buds and occasionally eggs and nestling birds



Provincial Range:

 Throughout southern Ontario

Fun Fact

It is commonly known that squirrels store nuts and seeds throughout the warmer months of the year to eat during the winter. Something you may not know is that they intelligently bite off the germinating ends of the seeds and nuts to ensure they stay well preserved until its meal time!

MAMMAL IDENTIFICATION

Mating:

- Gestation period of 40 45 days
- 1 8 young are born per year in late March to April
- Young open their eyes at 32 40 days
- Young are weaned at 3 4 weeks later
- Mating occasionally occurs in July or August, but females will only have 1 litter a year

Similar Species:

- The Red Squirrel is smaller, redder, with smaller prints
- Chipmunk prints have a similar pattern, but have smaller prints and a shorter straddle

Tracks:

Fore Prints:

Width: 2.5 cm Hind Prints:

Length: 5.8 – 7.6 cm Width: 28 - 3.8 cm

Length: 2.5 – 4.6 cm • Straddle: 9.7 – 15 cm

Stride: 21 – 91 cm





Sign:

Nests (left)

- Found high in deciduous trees
- Larger and more loosely made than red squirrel nests

Nip Twigs

- Tips of branches that have been bitten off and dropped to the ground
- Often from hemlock, spruce or oak trees

Scat:

Size

0.5cm -1cm in length

Form

- Usually oval shaped
- Rather smooth
- Often seen as small piles in the snow

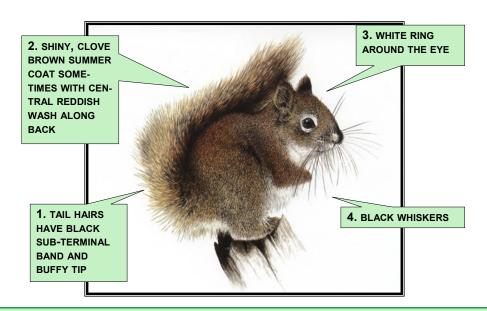


MAMMAL IDENTIFICATION

SPECIES#3

Red Squirrel

Tamiasciurus hudsonicus



Total Length: 27 – 36 cm **Weight**: 140 – 250 g

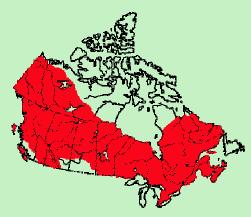
Tail Length: 9 – 16 cm

Habitat:

- Boreal coniferous forests and mixed forests are favoured
- Heavily wooded urban areas can also suffice
- Den tree cavities, logs and burrows serve as dens
- Opening is fairly small (15 cm) but opens up to a large nest (40 cm)

Food:

- Omnivore
- Seeds from conifer cones are bulk of diet
- Also eat flowers, berries, mushrooms, eggs, birds, mice, insects, chipmunks, or even baby snowshoe hares



Provincial Range:

Throughout Ontario

Fun Fact

The red squirrel is known for it's extremely playful attitude and alarming vocal talents. Even when undisturbed, it darts around energetically making a variety of chirping sounds.

MAMMAL IDENTIFICATION

Mating:

- Gestation period of 35 38 days
- 2 7 young are born per year in May to June
- Young open their eyes at 4 5 weeks
- Weaned by 7 8 weeks old
- Young are sexually by the next spring

Similar Species:

- Eastern Grey Squirrel prints are similar but larger
- Chipmunk prints are similar in pattern, but are smaller, and have a smaller straddle

• Straddle: 7.6 – 11 cm

Stride: 20 – 76 cm

Tracks:

Fore Prints:

Length: 2.0 – 3.8 cm
Width: 1.3 – 2.5 cm

Hind Prints:

Length: 3.8 – 5.8 cm
Width: 2.0 – 3.3 cm





Sign:

Middens (left and lower left)

- Hickory nut shells with large, jagged holes
- Scales and shafts of pine cones
- White Spruce twigs
- Scales cut very closely to the shaft making them smoother in appearance

Tunnels

• 5cm -10cm wide in the snow

Scat:

(not pictured)

- Very similar to gray squirrels
- Oval and rather smooth

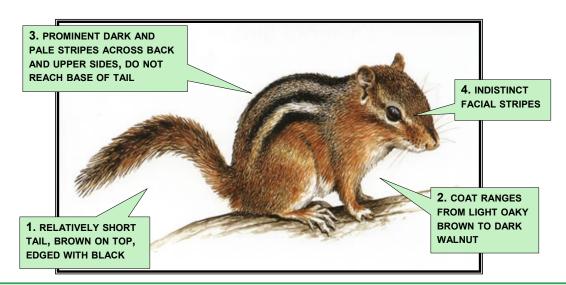


MAMMAL IDENTIFICATION

SPECIES#4

Eastern Chipmunk

Tamias striatus



Total Length: 23 – 30 cm **Weight**: 66 – 139 g

Tail Length: 7.2 – 10 cm

Habitat:

Both urban and wilderness inhabitants

- Live in both parks, backyards, forests, brush and rocky outcroppings
- Den dig both simple and complex burrows to suit their needs, with hidden entrances
- Occasionally a females may make a nest in a hollow tree

Food:

- Omnivore
- Continuously gathering berries, nuts, seeds and mushrooms
- More perishable foods, such as snails, slugs and insects are eaten right
- Will also feed on carrion if the opportunity arises



Provincial Range:

 Throughout southern and central Ontario

Fun Fact

Chipmunks put a lot of thought into making their burrows! To avoid predation, they will excavate a burrow from one hole, then cover it over. Another much smaller hole is created elsewhere. This prevents predators from guessing the location of their burrow from the excavated soil pile!

MAMMAL IDENTIFICATION

Mating:

- Gestation period of 2 months
- 3 5 young are born in May
- Young need continuous care for several weeks
- By 1 month, young resemble small adults

Similar Species:

Least Chipmunk has smaller prints and more distinct stripes over face

Tracks:

Fore Prints:

Length: 2.0 – 2.5 cm
 Straddle: 5.1 – 7.9 cm

Width: 1.0 – 2.0 cm • Stride: 18 – 38 cm

Hind Prints:

Length: 1.8 – 3.3 cm,
Width: 1.3 – 2.3 cm





Sign:

Dens

- Opening appears neatly cut
- Often mistaken for snake holes (snakes however don't dig holes, they have nothing to dig with)

Middens

- Small piles of food materials
- Often found on elevated surfaces such as rocks or logs

Digs

Small holes, often in ground covered in pine needles

Scat:

- · Not easily identified
- Small droppings
- · Varying according to animals diet



(Acorn Naturalists, 2008)

MAMMAL IDENTIFICATION

SPECIES #5

Beaver Castor canadensis



Total Length: 90 – 120 cm **Weight**: 16 – 30 kg

Tail Length: 28 – 53 cm

Habitat:

- Will occupy any freshwater habitat where there is access to woody vegetation
- Occasionally found feeding on dwarf willow trees above the tree line
- Den compiled from mud and sticks, where a hole is chewed through 1 metre under water for an entrance

Food:

- Herbivore
- Bark and cambium, particularly aspen, willow, alder, birch are eaten
- Some aquatic vegetation, grains and grasses are occasionally eaten



Provincial Range:

Throughout Ontario

Fun Fact

Beavers are one of the only mammals (other than humans) who significantly alter a landscape to create their preferred habitat. In doing so, they are simultaneously creating habitat for thousands of other organisms.

MAMMAL IDENTIFICATION

Mating:

- Gestation period of 4 months
- Usually 4 kits are born in May or June, with 2 litters being born in some years
- At birth, kits are fully furred, eyes open, and incisors erupted
- Kits are weaned and gnawing on woody vegetation by 4 months
- Young become sexually mature by 2 years, at which point they usually leave the colony

Similar Species:

Muskrats are smaller, with a laterally compressed tail, rather than flattened

Tracks:

Fore Prints:

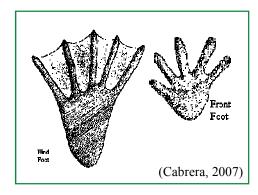
Length: 6.4 – 10 cm
Width: 5.1 – 8.9 cm

Hind Prints:

Length: 13 – 18 cmWidth: 8.4 – 13 cm

Straddle: 15 – 28 cm

Stride: 7.6 – 17 cm





Sign:

Lodges (left)

- Beaver's home
- Can be as high or higher than 3m tall
- Piles of branches covered in mud, debris and plants Cut Trees (lower left)
- Eat the inner layer (cambium) of tree bark
- Often drags trees to lodge or dam, leaving a trail Scent Mounds
- Territory markers made of vegetative material
- Secretions applied have a similar scent to a horse barn

Scat:

(not pictured)

- Resemble compact balls of sawdust
- Beavers most often defecate in water, so scat is rarely used as a form of tracking



MAMMAL IDENTIFICATION

SPECIES #6

Porcupine Erethizon dorsatum



2. UPPERPARTS HAVE LONG, THICK QUILLS **CRISS-CROSSING ONE** ANOTHER IN ALL **DIRECTIONS**

Total Length: 55 – 95 cm **Weight**: 3.5 – 18 kg

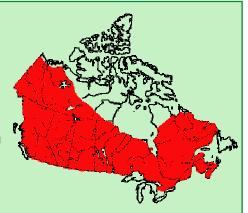
Tail Length: 14 – 25 cm

Habitat:

- Occupy a variety of forested areas
- Den prefer small caves or crevices, or abandoned buildings
- May sleep in treetops instead, when they are working on eating on tree bark

Food:

- Herbivore
- Leaves, buds, twigs, bark
- Extremely fond of salt, and will eat materials (i.e. Boots) that are salty from sweat or urine



Provincial Range:

Throughout Ontario except in the extreme north

Fun Fact

A porcupine's body is covered with up to 30, 000 quills! Quills are actually stiffened hairs with barbed tips that will stick into predators. Quills are designed to work themselves through whatever they are stuck in, so if they are not pulled out, they will keep going in deeper and deeper, as much as several millimetres per day! Ouch!

MAMMAL IDENTIFICATION

Mating:

- :Gestation period of 6.5 7 months
- 1 young is born per year in May or June
- Young are born with their guills, which harden within an hour of birth
- Will nurse for up to 4 months, but will begin eating green vegetation by 1 month
- Usually become sexually mature at 1.5 2.5 years

Similar Species:

- Badgers have similar prints, but do not drag their tails
- Raccoons may be mistaken in nocturnal situations

Tracks:

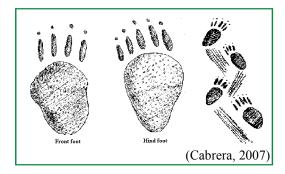
Fore Prints:

Length: 5.8 – 8.4 cm
 Straddle: 14 – 23 cm

Width: 3.3 – 4.8 cm • Stride: 13 – 25 cm

Hind Prints:

Length: 7.1 – 9.9 cmWidth: 3.8 – 5.1 cm





Sign:

Debarking (left)

- Porcupines feed on inner layer of bark
- Incisor marks can be seen on deciduous trees, but not on white pines

Browse

- Nip twigs, without any buds, often from red maples
- Cuts at 45-degree-angle

Acorns

- Shells that have been cut in a random fashion,
- Different shapes and sizes

Scat:

Size

1cm– 3cm in length

Form

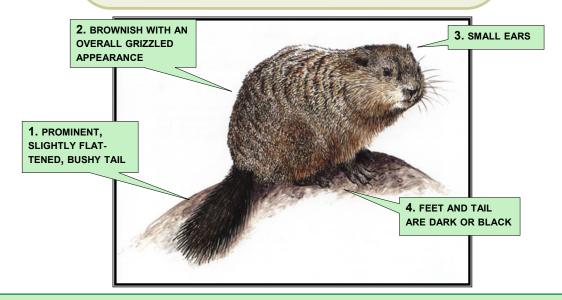
- Often seen in large piles at the bottom of a tree or the opening of a burrow
- Often cashew shaped





MAMMAL IDENTIFICATION

Woodchuck Marmota monax



Total Length: 46 – 66 cm **Weight**: 1.8 – 5.4 kg

Tail Length: 11 – 16 cm

Habitat:

- Pastures, meadows and open woodlands
- Prefer cultivated areas, such as backyards and farm fields, where food is easy to get
- Den Burrows are a series of chambers dug in areas of good drainage
- Main den is 3 15 m long and lined in grasses, while another chamber is used for waste

Food:

- Omnivore
- Mostly eat grass, leaves, seeds and berries, with some carrion
- In urban areas, woodchucks will live off vegetable gardens or farms



Provincial Range:

Throughout Ontario

Fun Fact

Woodchucks spend a large portion of the year underground in hibernation. During this time they breathe only once every six minutes! They also rely on a light trickle of fatty reserves in their system to keep them fed.

MAMMAL IDENTIFICATION

Mating:

- Mating occurs immediately after female emerges from hibernation
- Gestation period of 1 month
- 1 8 young are born per year in April to May
- Young open their eyes at 4 weeks and are weaned by 1.5 months
- Growth occurs very fast once they start eating vegetation
- By the time fall arrives, the young are on their own, and ready to mate by early the next spring

Similar Species:

Raccoon tracks are similar, but have 5 toed fore prints instead of 4

Tracks:

Fore Prints and Hind Prints:

- Length: 4.6 7.1 cm
- Width: 2.5 5.1 cm
- Straddle: 8.4 15 cm
- Stride:
 - Walking: 5.1 15 cm
 - Running: 15 36 cm





Sign:

Den (left)

- Often with mound in front, can be 0.5 m high
- 14cm 16cm wide

Feeding Habits

- 45 degree-angle cut left on vegetation
- Prefers succulent vegetation (e.g. gardens)
- Eat from the top down, may leave stems and bottom leaves

Scat:

- Rare to find
- Often defecate underground or in dirt mounds Size
- 1.5cm 2.5cm in diameter

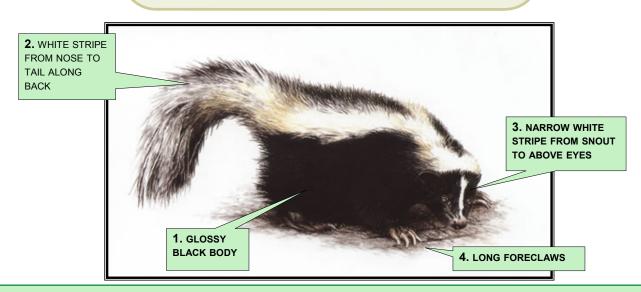


MAMMAL IDENTIFICATION

SPECIES#8

Striped Skunk

Mephitis mephitis



Total Length: 55 – 80 cm **Weight**: 1.9 – 4.2 kg

Tail Length: 20 – 35 cm

Habitat:

- Prefer wooded streams, semi-open areas and hardwood stands
- Comfortable in cultivated areas, living off garbage and gardens
- Den made of dried leaves and grasses underground or under buildings
- Winter and maternal dens are found underground only

Food:

- Omnivore
- Spring and Summer diet consists mainly of insects (e.g. Bees, grasshoppers, larvae)
- The rest of the diet consists of bird eggs, reptiles, amphibians, grains, green vegetation, and small mammals



Provincial Range:

 Found across Ontario except in the extreme North of the province

Fun Fact

A substance called 'butylmercaptan' is responsible for the strong odours of a skunk's defensive spray. It contains several sulphide compounds, and is an irritant to the eyes and skin. This musk also stimulates nausea in humans – ew!

MAMMAL IDENTIFICATION

Mating:

- Gestation period of 62 64 days
- 2 10 young are born per year in April or May
- Young are born completely helpless, with eyes and ears opening at 3 4 weeks
- Musk glands are functional at 6 weeks
- Young will usually stay with their mother to autumn, often sharing her den over the winter

Similar Species:

- Badger have a white stripe up the snout, but not down the body
- Skunk tracks are very distinctive, with no similar species in Ontario

Tracks:

Fore Prints:

- Length: 3.8 5.6 cm
 Width: 2.5 3.8 cm
 Straddle: 7.1 11 cm
 Stride: 6.4 20 cm
- Hind Prints:
- Length: 3.8 6.4 cm
 Width: 2.6 3.8 cm





Sign:

Digs (left)

- Small, round pits
- 3.75cm in diameter on average, but can be as wide as 20cm

Dens

- Often takes over abandoned dens from other species
- Rocks, caves, tree crevices, or under buildings Bird's nest predation
- · Crushed egg shells near nest site
- Sometimes tears nests apart as well

Scat:

Size

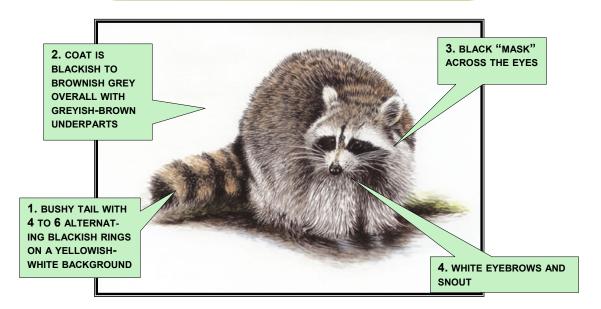
- 1cm- 2.25cm in diameter Contents
- Mostly insect parts
- Sometimes seeds and hair



MAMMAL IDENTIFICATION

SPECIES#9

Raccoon Procyon lotor



Total Length: 65 – 100 cm **Weight:** 5 – 14 kg

Tail Length: 19 – 40 cm

Habitat:

- Found near ponds, streams or lakes as their sense of touch is enhanced through water
- · Not found in open grasslands or tundra
- Den found in hollows in trees, abandoned buildings, under construction materials, or rock crevices

Food:

- Omnivore
- fruits, nuts, berries, insects, clams, frogs, fish, young birds and small rodents
- A raccoon will wash its food before eating it to locate inedible pieces to discard



Provincial Range:

 Common through most of the province

Fun Fact

Raccoons have extremely sensitive hands and feet. They contain thousands of nerve endings that help them find food. Raccoons are also known to 'wash' their food before eating it, although this is not done for cleanliness reasons. Scientists speculate that water increases the sensitivity of their hands, making it easier to decipher the good food from the bad.

MAMMAL IDENTIFICATION

Mating:

- · Gestation period of 2 months
- 2 7 young are born per year in late spring
- Young open their eyes at 3 4 weeks
- Begin feeding outside the den at 6 weeks
- Some young disperse in the fall, while others stay with their mother until spring when they are kicked out to make room for the next litter

Similar Species:

 Only the badger may be confused, but the badger is much flatter, and does not have the distinctive white mask

Tracks:

Fore Prints:

• Length: 5.1 – 7.6 cm • Straddle: 8.4 – 15 cm

Width: 4.6 – 6.4 cm • Stride: 18 – 51 cm

Hind Prints:

Length: 6.1 – 9.7 cm
 Width: 5.1 – 6.4 cm





Sign:

Dens

 Can be in abandoned birds nests, hollow trees with large cavities, rock crevices and caves, abandoned buildings, wood or brush piles

Digs

 Very similar to skunk digs Corn (left)

- Most preferred food
- Will risk harm to gain access to farmers corn fields

Scat:

- Reddish to yellow, black or many shades of brown depending on what they eat
- Have blunt ends and will break off bluntly
- Very dangerous to handle, carries a parasitic roundworm



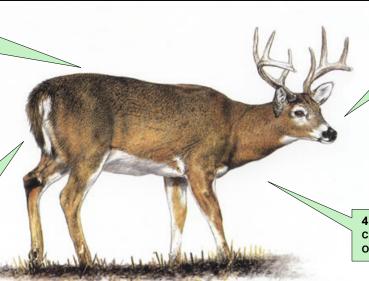
MAMMAL IDENTIFICATION

SPECIES #10

White-tailed Deer

Odocoileus virginianus

2. UPPERPARTS ARE REDDISH BROWN IN SUMMER AND GRAYISH **BROWN IN THE WINTER**



3. NARROW WHITE RING AROUND EYE AND WHITE BAND AROUND MUZZLE

4. BELLY, THROAT, CHIN AND UNDERSIDE OF TAIL ARE WHITE

1. WHEN ALARMED OR WHEN RUNNING THE TAIL IS DISPLAYED AS A WHITE **FLAG**

Total Length: 140 – 210 cm Tail Length:

21 – 36 cm

Shoulder Height: 70 – 115 cm

Weight: 30 - 115 kg

Habitat:

- Ideal cover is a mixture of open areas (e.g. valleys, stream courses) and young forest with some cover
- Den consists of an oval, body-sized depression covered with leaves or snow

Food:

- Herbivore
- In winter, leaves and twigs of evergreens, deciduous tress and shrubs
- In spring and summer, forbs, grasses and some mushrooms



Provincial Range:

Throughout Ontario except in extreme North

Fun Fact

The White-tailed Deer would not occupy the vast range it does today without the impact of human settlement in North America. While destroying the habitat of some species, activities such as agriculture and forest fragmentation have actually created more desirable habitats for this species.

MAMMAL IDENTIFICATION

Mating:

- Gestation period of 6.5 7 months
- 1 2 fawns born per year in May or June
- Fawns are able to stand within hours of birth, but spends most of the first month covered
- Can be independent by 4 months
- Some females are capable of mating in the fall of their first year, but most start at age 2

Similar Species:

- Caribou are larger and more brown than red
- Elk are larger but occur in limited areas
- Young Moose prints are similar in size, but occur in different areas

Tracks:

Fore Prints & Hind Prints

 Length: 5.1 – 8.9 cm Straddle: 13 - 25 cm Width: 4.1 – 6.4 cm

Stride: 25 - 51 cm







Sign:

Browse

- Rough, torn, or squared off cuts on twigs or leaves **Incisor Scrapes**
- Deer will eat the bark of certain tree species which leaves a distinct scraping pattern

Antler Rubs (left)

 Very smooth marks made on tree bark during scenting and removal of antler velvet

Scat:

Pellet size

Diameter: 0.75cm - 1cm Length: 1cm - 4.5cm

Piles about 10cm – 15cm in diameter

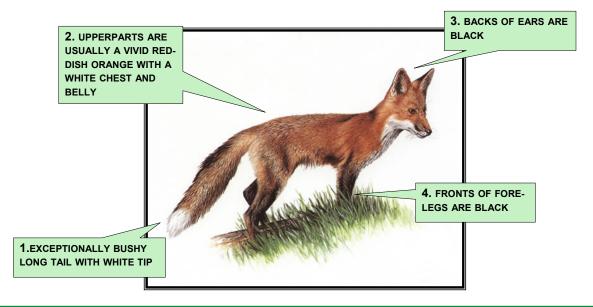
Consistency

Variable, dependant on season



MAMMAL IDENTIFICATION

Red Fox Vulpes vulpes



Total Length: 90 – 110 cm

Weight: 3.6 – 6.8 kg

Shoulder Height: 38 – 41 cm

Habitat:

- Prefer open habitats with sparse brush cover
- Avoids heavily forested and snow areas
- Den usually a burrow often an expanded woodchuck den
- Sometimes may use dense brush pile, hollow tree, or unoccupied building

Food:

- Carnivore
- Small rodents, mammals and birds, with some dried berries in winter
- In summer they will also eat invertebrates, eggs, fruits and berries



Provincial Range:

Throughout Ontario

Fun Fact

The red fox is known for its bushy, white-tipped tail. The tail acts as a balancing mechanism for the fox, allowing it to run and jump with agility.

MAMMAL IDENTIFICATION

Mating:

- Gestation period of 7.5 weeks
- 1 10 kits are born per year in April or May
- Parents bring crippled animals to the den to teach hunting skills
- Will leave the den to go hunting with their parents once they learn to kill
- Kits disperse at 3 4 months, and are sexually mature well before they are a year old

Similar Species:

- Grey wolf is larger and darker in colour
- Domestic dog prints are similar in size but have a shorter stride and trail is more erratic

Tracks:

Fore Prints:

- Width: 4.1 5.8 cm

Hind Prints:

- Slightly smaller than fore prints
- Length: 5.3 7.6 cm
 Straddle: 5.1 8.9 cm
 - Stride:
 - Walking: 31 46 cm
 - Running: 36 53 cm



Sign:

Den (left)

- Entrance between 18cm and 23cm in diameter
- A den in use will likely have dirt or food scraps at the entrance
- Often found on south-facing slopes with good drainage Scent posts
- Markings usually occur along trails or on prominent objects
- Milder skunk-like odour

Scat:

Size

- 0.75cm-2cm in diameter Consistency
- Winter and spring: mostly hair
- Summer: mostly berries and fruit

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OFFENDING COMMAND: ~

STACK: