

2026 LANCASTER COUNTY JUNIOR ENVIROTHON

BACKYARD MAMMALS

GRAY SQUIRREL: Pennsylvania's most common squirrel, adults weigh 1 to 1.5 lbs. and are 18 to 20" long; about half this length is a broad, bushy tail. Albinism (white coloration) is rare, but melanism (black coloration) is fairly common. Once, black phase gray squirrels were found statewide; today, they occur most often in the northcentral counties. These *herbivores* feed mostly on *mast*; acorns, hickory nuts, walnuts, and beechnuts. Other foods include berries, mushrooms, pine seeds, dogwood, wild cherry, and black gum fruits, and corn. Gray squirrels are *diurnal*. Hawks, owls, foxes, and tree-climbing snakes kill young squirrels, but adults are not easily taken. Predator's effect on the population is low. The squirrel's food source is the key to population numbers. The maximum life span can reach 10 years, but few live more than three years. Gray squirrels breed in late winter or early spring and may produce a second *litter* in July or August.



OPOSSUM: The opossum is one of the world's oldest species of mammal, and the only *marsupial* on the North American continent. At birth, the opossum is about the size of a honeybee and continues their growth in the pouch of the mother's abdomen. Most members of the marsupial family come from South America and Australia. The opossum's relatives date back 90 million years. The opossum didn't appear in North America until less than a million years ago. The name comes from the Algonquin Native American word *apasum*, meaning "white animal". An opossum has a long-pointed snout nose with 50 teeth-more than any North



American mammal, and has small dark eyes and rounded, bare, hairless ears. Their feet have five toes, each with a claw, except the first toe of each hind foot, which is long and works like a thumb. Hence, they are a mammal with an opposable thumb similar to humans. They will, when threatened, play dead for a few minutes to a few hours. An *omnivore* and *scavenger* without food preferences, the opossum can be found in different habitats, including cities, towns, and neighborhoods. In Pennsylvania, it is classified as a *furbearer*.

SKULL: image credit - <https://www.nature-watch.com/opossum-skull-replica>

Studying the skull of the opossum, notice the number of teeth (50), the long, narrow snout, very visible sagittal crest, which is a ridge on top that supports its powerful jaw muscles. The teeth that are sharp incisors and canines help it stand out as the only marsupial in North America.



WHITE-FOOTED MOUSE: image -

<https://ymcagbw.org/blog/white-footed-mouse> This *nocturnal* mouse may be the most abundant *rodent* in Pennsylvania. The coat is reddish brown above, white on the belly and feet. The white-footed mouse nests in stone walls, rock crevices, under old boards, and in woodchuck burrows, beehives, tree cavities, and the abandoned nests of squirrels and birds. They do not dig burrows but use the runways of other small mammals. This mouse is very agile and can climb trees. White-footed mice consume about a third of their body weight daily. Primarily *herbivores*, this mouse eats seeds, nuts, berries, fungi, plant matter, insects (namely caterpillars and ground beetles), centipedes, snails, and small birds and mice. They *cache* food in autumn, carrying seeds in their cheek pouches to chambers beneath logs and stumps. This species averages three to four litters per year, with each litter consisting of 3-7 young apiece. Females can reproduce at 2 months old.



NORWAY RAT: The Norway rat is 12-18” in length, including a naked, scaly 6 to 9” tail. This Old-World rodent’s fur is thin, coarse, reddish to grayish brown above and paler below. This *non-native* species arrived from Europe aboard ships around 1775. Today it is found statewide, and ranges across North and Central America. Extremely adaptable, they live in and under barns and farm buildings, in city sewers and dumps, along streams and rivers, marshes, and open fields. Although mainly *nocturnal*, rats also move about and feed during the day. *Omnivorous*, they eat anything they can find or subdue, including fish, eggs, vegetables, grain, fruit, nuts, garden crops, *carriion*, and garbage. They kill poultry, snakes, and wild birds; in local areas, rats may wipe out *native* birds and mammals, especially ground-nesting birds. Rats carry many diseases, including rabies, typhus, and bubonic plague.



SOUTHERN FLYING SQUIRREL: The southern flying squirrel is found throughout Pennsylvania and is slightly smaller than the closely related Northern Flying Squirrel. Adults are 8 to 10 inches long, including a 3 to 5” tail. Weights range from 1.5 to 3 ounces. Their soft fur is grayish brown on the back and pearly white on the belly. The large, dark eyes are adapted for *nocturnal* activity. Flying squirrels are *arboreal* although they will still feed on the ground. They feature a loose fold of skin along their belly that when stretched forms an airfoil they can glide with up to 40 yards. Flying squirrels eat nuts; seeds; winter buds from Hemlock trees, fruits berries and fungi. As *omnivores*, they also feed on moths, beetles, spiders, birds and their eggs, small mice, and shrews. Owls and house cats are major predators and foxes, coyotes, weasels, skunks, raccoons, and black rat snakes also take them. Their life span is estimated at 5 years.



FERAL HOUSE CAT: Domestic cats originated from the European and African Wild Cat. The domestic cat is now considered a separate *species*. These *non-native* cats were introduced worldwide mainly by colonists from Europe. It has been estimated that between 2 to 4 million rural free ranging cats are in Pennsylvania. There is no doubt that these free ranging cats kill wildlife and a lot of it. Nationwide, rural cats probably kill over a billion small mammals and hundreds of millions of birds each year. These *feral* cats outnumber *native* predators and when present in large numbers, cats can reduce the amount of prey for wild predators like hawks, owls, and weasels. An example of how cat populations affect wildlife, consider that in 1989 a cat discovered and killed the last king rail (a Pennsylvania *endangered* bird) known to be born in Pennsylvania. Worldwide, cats may have been involved in the *extinction* of more bird species than any other cause except *habitat* destruction.



LITTLE BROWN BAT: Bats are the only mammals that fly. Their wings are thin membranes of skin stretched from fore to hind leg, and from hind legs to tail. Their long slender finger bones act as supports, stretching the skin tight for flying and fold the wings alongside the body. All Pennsylvania bats are *insectivores* and belong to the common or evening bat family. The little brown bat is Pennsylvania's most common bat and is found statewide. The little brown bat makes several feeding flights each night, and is capable of eating 1,200 insects a night. After *hibernation*, females gather in summer roosting colonies of just a few to 100 or more in attics, barns, sheds, and other dark, hot areas. Males are solitary, roosting in hollow trees, under loose bark, behind loose shingles, and in rocks. This species has been hit hard with White Nose Syndrome (WNS), a fungus that wakes bats in hibernations and leads to loss of life through starvation or freezing temperatures. WNS has affected a significant part of the population. WNS is believed to have come to New York State from Europe; disturbing hibernation it causes them to burn up their fat reserves and prevents them from returning to hibernation.



STRIPED SKUNK: The striped skunk belongs to the *mustelid* family, which includes weasels, minks, and otters. Widespread, the striped skunk is found in all of the lower 48 states. Striped skunks are *omnivores*. What they eat depends on where they live. In summer they feed heavily on insects even digging out bee nests and hives eating the bees as they fly out. Small-coned shaped holes in the yard often show where skunks were digging for grubs. In fall and winter, they eat fruit like wild grapes and cherries, but also small mammals, *mast*, and *carrion*. Musk, an oily, yellowish liquid can be released by a skunk and travel up to twelve feet. This is designed to keep *predators* at a distance. Skunks do not *hibernate*. Along with groundhogs, raccoons, squirrels and other wildlife the skunk does well where humans have cleared land or driven out large predators. Skunks can live in a neighborhood for years unseen because they are *nocturnal* but perhaps not “unsmelled”. The great-horned owl is a common predator of skunk in Pennsylvania.



SHORT-TAILED SHREW: One of the most common shrews and most abundant mammals within its *range*. Active day or night, this *insectivore* eats insects, worms, snails, salamanders, small snakes, mice, songbirds, other shrews, *carrion*, and vegetable matter. This shrew has poor eyesight, a fair sense of smell, and good hearing and touch. It has slightly *venomous* saliva but lacks a good way to inject it. The venom must get into prey through cuts caused by the shrew's sharp teeth. The venom slows down or kills warm-blooded prey. Shrews are short lived, most short-tailed shrew live for twenty months or less. Foxes, dogs, bobcats, skunk, weasels, hawks, owls, and snakes *prey* upon the short-tailed shrew.



WHITE-TAILED DEER: The state mammal, the white-tailed deer is an herbivore. Yet deer don't eat like cows (*grazers*) instead deer are *browsers*. That means they eat a wide variety of plants. In one Pennsylvania study, biologists checked the stomach contents of road-killed deer and discovered over 100 different plants deer had eaten. That means when too many deer are present they can destroy their *habitat*. This is called exceeding the habitat's *carrying capacity*. In neighborhoods, deer can destroy lawns, shrubs, and gardens. In 2012, Chronic Wasting Disease (CWD) was discovered in a captive deer on a farm in Adams County. CWD is a brain and nervous system disease found in deer and elk in certain geographic areas of North America. This disease attacks the brains of infected deer and elk and results in death of the animal. The Game Commission has responded by declaring parts of counties with affected deer as a Disease Management Area (DMA). This will require all successful hunters in this DMA to have their deer checked for CWD. This will allow the Game Commission to monitor and determine if CWD has spread to the wild deer population.



EASTERN CHIPMUNK: A small *rodent* found throughout Pennsylvania, the eastern chipmunk is a member of the squirrel family. Chipmunks are *omnivorous*, feeding on nuts, seeds, mushrooms, berries, bird eggs, insects, snails, earthworms, millipedes, salamanders, and more! In the fall, chipmunks *cache* winter food, storing it in their burrows. Unlike true hibernators, chipmunks do not enter winter with a thick layer of fat. Instead they survive winter by going underground to live on stored food until spring. Perfect chipmunk *habitat* is open woods with plenty of stumps and logs. Overall, habitat is shrinking as shopping centers, housing developments, and highways cover once open land. Chipmunks can adapt to some change. Unfortunately, many other wildlife species cannot.



SKULL: image credit -

<https://www.skullsunlimited.com/products/>

A PGC (Pennsylvania Game Commission) chipmunk skull has characteristics common to rodents, such as large, chisel-shaped incisors, no canines, and a large gap (diastema)



between the incisors and molars for grinding food. Its eye sockets are large, which is common for prey animals to provide a wider field of vision.

RACCOON: A medium-sized mammal, the raccoon is a New World animal, found only in Central and North America. Raccoons range in size from 28 to 38 inches, which includes a 10-inch tail, and weigh 10 to 30 pounds. As an *omnivore*, they adapt well to people and some raccoons live in cities and neighborhoods where they den in storm drains and attics and raid garbage cans and pet food. The problem can be that raccoon is the most common carrier of *rabies*. Agencies including the Game Commission, the Department of Health, and the Department of Agriculture combined on the Oral Raccoon Rabies Vaccination (ORV) Program. This program places bait that contains a vaccine that prevents raccoons from getting rabies. Laboratories tested more than 5,500 specimens last year, and of those, 428 tested positive. In Pennsylvania the number of rabies cases dropped 13% in 2003.

TRACK: image credit: <https://pawilds.com/traces-of-wildlife/>
The track of a raccoon's paw looks similar to a human hand with fingers.

