

2025 LANCASTER COUNTY MIDDLE SCHOOL ENVIROTHON WILDLIFE STUDY MATERIALS – FIELDS & MEADOWS

Bird Call links

1. Short-eared Owl: https://www.allaboutbirds.org/guide/Short-eared_Owl/sounds Listen to the third down “Song and wind clap”
2. Northern Bobwhite: https://www.allaboutbirds.org/guide/Northern_Bobwhite/sounds Listen to the first one “Song (Eastern)”
3. Barn Owl: https://www.allaboutbirds.org/guide/Barn_Owl/sounds Listen to the first one “Calls (American) from Florida in 2004 and the third from New York in 1960
4. Eastern Bluebird: https://www.allaboutbirds.org/guide/Eastern_Bluebird/sounds Listen to the “Sound (Eastern)”

Short-eared Owl: Also called the marsh owl, the short-eared owl visits Pennsylvania mainly in winter. It is a crow-sized owl with long wings (up to a 42” wingspan). This owl is the most *diurnal* of the owls observed in Pennsylvania. During the snow goose migration in early-March, short-eared owls can be observed hunting fields at Middle Creek Wildlife Management Area. By winter’s end, most of the



species leave the state and head north. Mice form over 75% of this owl’s diet, but it also preys on shrews, rats, and small birds. Listed as an *endangered* species by the Pennsylvania Game Commission, this owl is also considered a species of concern nationally. Short-eared owls have suffered, as have many other species associated with grasslands, from a decline in farmed land and changes in farming practices.

Ring-necked Pheasants: An introduced (*non-native*) species, ring-necked pheasants is the hunter's bird-imported, stocked, and transferred to suitable habitats throughout the nation by wildlife agencies. Today, the ring neck benefits everyone, providing opportunity for hunters, birdwatchers and nature lovers of all types. An adult male weighs 2.5 to 3.5 pounds, an adult female, 2 pounds. Males are called roosters, cocks, or cockbirds; females are hens. The rooster is brightly colored featuring scarlet cheek patches, a white neck ring usually interrupted in the front, a bright greenish-gray or bluish rump and lower back. Wildlife managers have long believed that habitat loss and land-use changes have caused a significant decline in pheasant populations. In recent years, thousands of farmland has been lost to development. Changing farming practices also include an increased use of pesticides and herbicides, which kill the insects and weedy cover vital to pheasants.



Northern Bobwhite: The northern bobwhite quail is one of the most popular game birds in North America. Since the mid-1960's, the bobwhites range and population have declined dramatically. Northern bobwhites were relatively common across southern Pennsylvania farmland and brush lands until 1945. Populations declined rapidly between 1945-1955, but made a recovery in the early 1960's. Since 1966, the range and populations of bobwhites have declined to the point that most counties in the state no longer have bobwhites as a breeding species. In response to this continued decline, in 2011 the Pennsylvania Game Commission closed the hunting of quail in 6 Wildlife Management Units, all located in southeastern and south-central Pennsylvania. Pennsylvania is on the northern fringe of the bobwhite's range. Two factors affect the state's quail population: habitat and climate. Without adequate habitat, the population will not succeed; and when winters are hard and long, bobwhite numbers plummet.



Barn Owl: The barn owl is a long-legged, light colored bird with a white, heart-shaped face. It is sometimes called the monkey-faced owl. A barn owl has neither of two characteristics often associated with owls: "horns" or hooting-type calls. Its calls include a long, drawn-out whistle, loud hisses, and snores. Barn owls nest in barns, hollow trees, old buildings, silos,



and church towers. Barn owls hunt open fields, flying low over the ground in search of prey. Biologists studied 200 disgorged pellets from a pair of barn owls that nested in a tower of the Smithsonian Institute in Washington D.C. The pellets contained 444 skulls, including those of 225 meadow mice, 179 house mice, 20 rats, and 20 shrews. The Pennsylvania Game Commission began the Barn Owl Conservation Initiative in 2005, to improve habitat conditions for this *nocturnal* predator. If one should discover barn owls nesting please contact the Regional Office of the Pennsylvania Game Commission.

Eastern Bluebird: This songbird species nests across much of the East and winters south to Nicaragua. The male features a vivid blue back and wings and a ruddy breast. They favor semi-open habitats: orchards, pastures, hayfields, fence rows, open woodlots, and suburban gardens and parks. Bluebirds eat crickets, grasshoppers, beetles, caterpillars, and many other insects,



and they take spiders, centipedes, earthworms, and snails. In fall and winter they turn to fruits like the berries of sumac. The population of bluebirds in Pennsylvania probably peaked around 1900, when farmland covered two-thirds of the state; the number of bluebirds declined for many years as unproductive farmland was abandoned and grew back to forest. *Non-native* species like the European starling and the English house sparrows have also had a negative impact on bluebird populations. Fortunately, bluebird numbers have risen over the last several decades, thanks to thousands of bluebird boxes put up and maintained by people.

Eastern Meadowlark: Both males and females have a brown-streaked back and a bright yellow breast with a prominent black V; the outer tail-feathers are white. Meadowlarks are actually a member of the blackbird family. They live in pastures, hayfields, and strip mines that have been replanted in grass. Each spring, the eastern meadowlark can be observed in the fields at Middle Creek Wildlife Management Area. In summer they eat grasshoppers, crickets, beetles, ants, caterpillars, and many other insects; they also feed on seeds and waste grains. Males arrive 2 to 4 weeks before the females and stake out territories, which average 7 acres. The males perch on telephone poles, trees, and fence-posts, singing their sweet, slurred, whistling song. 60 to 80% of the males have two or three mates. The population has declined in the Northeast over the past 40 years as development has wiped out agricultural land and formerly farmed areas have grown up into brush and woods.



American Kestrel: Kestrels, also known as sparrow hawks, have rusty red caps, backs and tails, and a black and white face pattern. Males have blue-gray wings, females brown wings. The kestrel is the smallest falcon that nests in Pennsylvania. Its flight is uneven and it will often perch on telephone lines or hovers in one spot with rapidly beating wings. Voice is a shrill *killy, killy, killy*. In summer, kestrels take insects and occasionally birds; in winter, they prey mainly on mice. The American kestrel prefers open woods, orchards, and fields, and breed throughout the eastern United States. They nest in old tree cavities, abandoned woodpecker holes, old buildings, and in nest boxes.

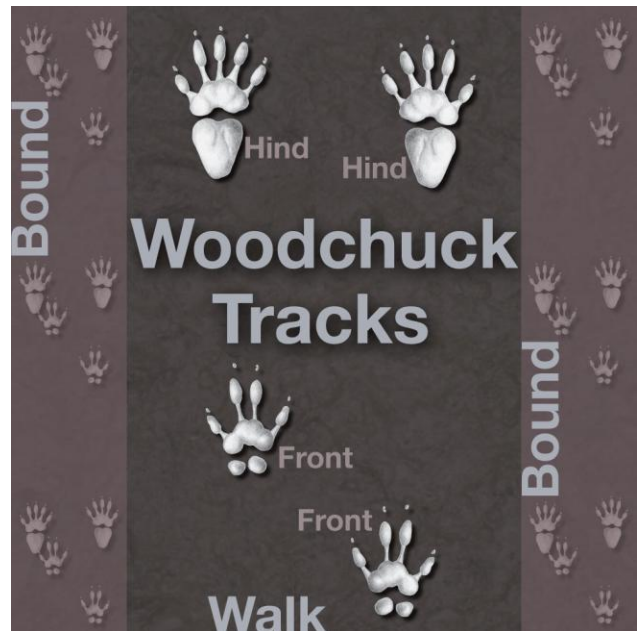


GROUNDHOG: A member of the *rodent* & squirrel family, the ground hog, is also known as the woodchuck, or whistle pig. Strictly an *herbivore*, the groundhog has adapted to small winter food supplies by hibernating. It is rare for a groundhog to emerge from its den in early February contrary to popular belief. The woodchuck measures approximately 2 feet long & weighs between 6 to 14 lbs. The groundhog is an exception within the rodent family since their teeth are white as opposed to orange or red.



Like all rodents their teeth never finish growing & are worn down by gnawing. When the teeth aren't worn they can suffer from a malocclusion that's when their teeth don't meet properly & the front incisors cannot be worn down. Breeding occurs in February with the young (normally a litter has 3 to 4 chucks) being born in April or May. At birth the young weigh about an ounce, are blind & naked, & utterly defenseless. It is estimated a groundhog will live 8 to 9 yrs. There are various predators of groundhogs including fox, coyotes, dogs, and man. Owls & hawks aren't strong enough to prey upon groundhogs except for the young.

Skull/Track

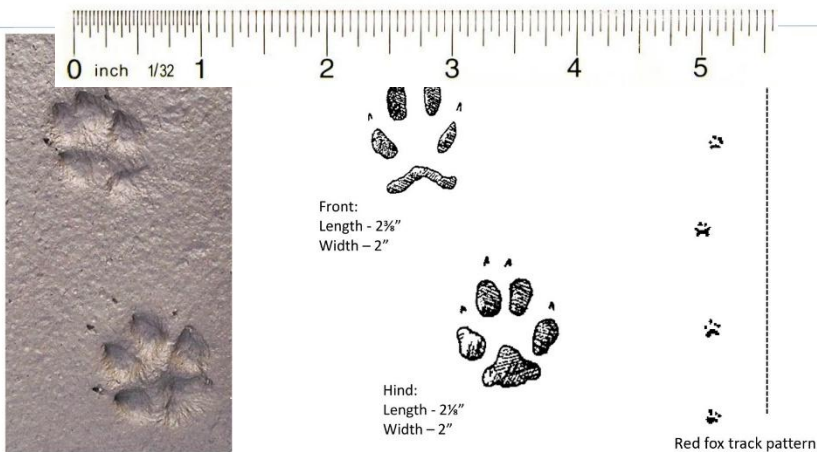


RED FOX: A common *carnivore* in Pennsylvania, the red fox measures 36 to 40” in length, weighs between 8 to 10 lbs., and is easily identified by its red fur, with a bushy tail tipped in white. Red fox are *opportunists* & feed primarily on rodents, other small mammals, carrion, poultry, & occasionally fruit & berries. Most biologists believe the red fox is a native species though fox was introduced into the South for fox hunting. Prior to the arrival of European settlers, the deep woods habitat wasn’t suitable for red fox but with the clearing of the land for farming the habitat



became suitable for this member of the canine family. In winter, the red fox is a solitary *predator* but by January & February they begin to seek a mate. A red fox can live as long as 10 years. There are few predators of fox, beside man. Bald eagles, coyotes, bobcats, & dogs take their share but man is the primary predator. The only areas of the United States that do not have red fox are southern California, parts of Nevada, & most of Arizona.

Skull/Track



EASTERN MOLE: This mole makes the mounds one finds in their yard. Moles dig 2 types of tunnels: deep tunnels (up to 2') where they nest & spend the winter & shallow tunnels along which they find insects & earthworms. They are classified as *insectivores*. Small, plump, underground creatures, moles feature velvety fur, no visible ears, & small eyes. They have powerful shoulders, a short neck, muscular front legs with shovel-like feet, & heavy claws—all features useful in digging. Measuring around 7" in length & weighing 1.5 ounces, the eastern mole is found throughout the United States except in mountainous areas. Weasels & snakes are potential *predators*, but within their tunnels moles have little to fear except floods & drought. Born pink & helpless they reach adult size & begin rooting for their own worms in only one month's time.



MEADOW VOLE: Most common & prolific of the *rodents*. One female in captivity had 17 litters in one year. Litters range from 3 to 10 young. Young voles can care for themselves in 12 days & can reproduce within a month. They are one of the most important steps in the food chain of field habitats. The meadow vole resembles a shaggy, brown mouse, about 6" long with tiny black eyes & short ears almost hidden by fur. The tail is about 1 3/4" long or twice the length of the rear foot. Most mice species have long tails but the bog lemming & pine vole, feature tails about the same length as their rear foot. An *herbivore*, meadow voles feed on grasses, roots, grains & the inner bark of shrubs or trees. They don't hibernate, spending the winter under the snow or in nests they construct which are softball-sized. Numerous predators depend on the meadow vole including weasels, crows, hawks, owls, skunks, opossums, bears, & snakes. A meadow vole may live for 3 years in captivity but in the wild, most are lucky to reach 3 months.



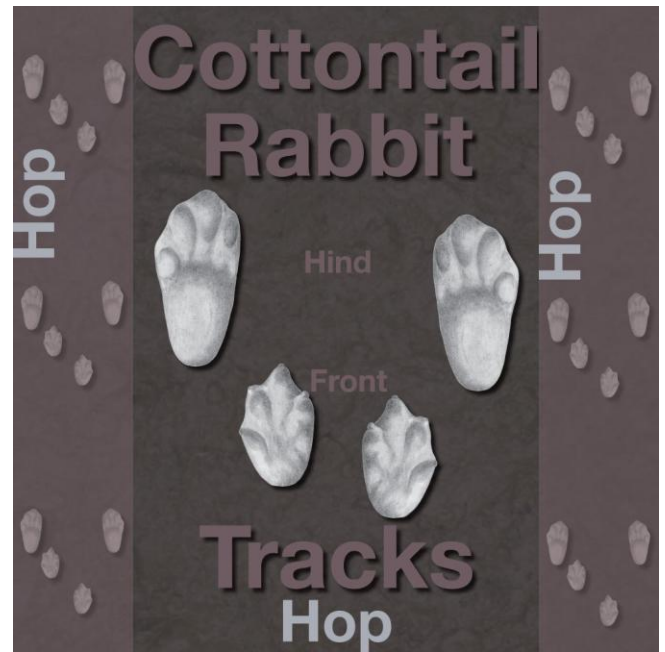
FOX SQUIRREL: This *rodent* is found mainly in western & northern counties. Their preferred habitat includes pastured woodlots, with a few big trees or the forest edge with open fields beyond. Much larger than its gray cousin, fox squirrels are 21” long (with a 10” tale) & weigh nearly 2 pounds. Fox squirrels have gray to reddish-gray upper parts & buff to pale-orange brown undersides. As an *herbivore*, fox squirrels feed on the nuts & seeds of black cherry, hickory, oak, walnut, beech, elm, maple, ash, & conifers. Occasionally, fox squirrels will feed on meat including songbirds & their eggs. Like other tree squirrels, fox squirrels do not hibernate in winter but will hole up & sleep through days of heavy snow or extreme cold. Like the gray squirrel, this squirrel is classified as small game.



COTTONTAIL RABBIT: True rabbits found nearly anywhere within Pennsylvania including neighborhood yards & fields. Measuring 11 to 17” & weighing 2 to 4 lbs this rabbit features a white tail hence its name. Litters average 4 or 5 naked, blind, babies that are big enough to leave the nest in 2 weeks & leave their mother in less than 2 months. Several litters a year are common. Due to predation very few survive for more than a year but a lifespan of up to 3 years is possible. Young normally make up 80% of the rabbit population. Rabbits are also prolific breeders due to the high amount of predation that occurs. Hawks, owls, fox, coyotes, weasels, and humans prey upon cottontail rabbits. In early spring many people find rabbit nests & not seeing the mother around bring the nest of bunnies inside. This should never be done since the mother is usually hiding within the area.



Skull/Track



BIG BROWN BAT: A large bat 4.5” long with a 12” wingspan, the common big brown bat is often seen around houses. Young are born in late spring. They grow rapidly, & in 2 months reach adult size. An *insectivore*, the big brown bat normally feeds at dusk & dawn. They locate their food by *echolocation*. In Pennsylvania, the big brown bat *hibernates* with bats arriving in caves as early as October & into late December. It elects to *hibernate* close to the mouth of the cave. Long-lived, a big, brown bat may reach the age of 9.



Born weighing only 2.5 grams, hairless & wrinkled, but in 6 weeks time will look the same as the adult. Big brown bat populations are suffering due to White-nose Syndrome (WNS) but are doing much better than the little brown bat. Named for the white fungus that appears on the muzzle and other body parts of hibernating bats, WNS is associated with the death of large numbers of bats. First found in New York state in 2006-2007, WNS has spread rapidly across Pennsylvania and the eastern United States and Canada, and the fungus has been detected as far west as Oklahoma.