

## 2019 Lancaster County Junior Envirothon Forest Mammals



**RED BAT** The Red Bat is recognized by its bright rusty colored coat of hair. While some bats do roost in caves or buildings, the Red Bat would prefer to rest or roost in a forest of trees. The reddish color of its coat allow it to blend in or become camouflage among the leaves of trees. Even against a green leaf, the bat hanging upside down simply appears like a dead leaf or a pine cone. The Red Bat prefers to live alone except during mating season or when migrating to southern forests during the nights in September and October. Nocturnal, the Red Bat preys on moths, flies, bugs, beetles, crickets, and cicadas. They capture and eat their prey from the air while flying, by finding it on tree leaves, or by finding it on the ground. The female Red Bat could give birth to two sets twins each year, unlike most bats which have one baby bat at a time.



**FISHER** A carnivorous mammal, the Fisher is swift and graceful as it climbs trees. A Fisher is known as an arboreal mammal because it lives in trees and requires continuous forested areas to survive. Fishers choose cavities or holes in trees to make their home. They choose to live alone for the majority of the year. This allows them to be opportunistic predators. This means they select prey based on its abundance or ease in catching in. The diversity of prey includes rabbits, squirrels, porcupines, and rodents. Fishers are also known to scavenge for food or consume fruits and nuts that may be available. However, fishing is not a favorite food as its name implies. Rarely would a Fisher take a fish to eat. In fact, its name is thought to have originated with European settlers who felt it looked similar to a European skunk named 'fichet'. The Fisher is a furbearer for humans. Over harvesting for the Fisher's fur along with forest destruction caused a significant decline of its population to the point of extirpation. Today Pennsylvania the Game Commission is working to restore its habitat and have successfully reintroduced the Fisher to the state.



**PURCUPINE** A member of the rodent family, the forest is the perfect home for a Porcupine. Tree bark is a favorite food. During the summer a diet of tree bark can also include grasses, flowers, leaves, roots, and seeds of plants. Its blackish brown body is armored by quills as it moves slowly on short strong legs with hairless soles of its feet. One porcupine could carry up to 30,000 on its body. While relaxed the quills lie smoothly on its body. When feeling threatened, its

muscles contract making the quills rise. Any quill that is lost is replaced. The Porcupine can't actually throw its quills like cartoons might illustrate. Instead the quills are loosely attached to the skin and dislodge easily on contact which makes them stick in the victim's flesh. Its eyesight isn't very good however; its sense of smell is quite good. A porcupine can swim; its quills are filled with air and help it to float. The Porcupine is a vegetarian but does crave salt. Sadly many are hit along roadway where salt has been used to melt ice. While hiking in the woods a human may hear the sounds of a Porcupine hidden high above in a tree. Their calls can carry up to a quarter of a mile. Calls include groans, shrieks, barks, and whining. In winter, Porcupines seek dens to protect them from winter weather and predators. They've been known to live 10-12 years in the wild.



**BOBCAT** The Bobcat is our state's only feline predator. A good predator with sharp senses of sight, smell, and hearing, the Bobcat has four large canine teeth and five retractable, hooked claws on each front foot. A short bobbed tail is just one characteristic of a Bobcat. It also has black tipped ears with a ruff of fur that extends out and downward from its ears. A female Bobcat has 1-4 kittens in spring. She guards the litter from predators in dens, caves, and hollow logs. Forests with some open canopy space that allow for diverse prey

are favorite habitats in the mountainous part of Pennsylvania. Bobcats are nocturnal and prey on small animals like mice, and squirrels along with porcupines, mink, muskrat, skunk, fish, and fox. Their back legs are longer than their front legs. The Bobcat is good swimmer, an excellent climber, and can jump a creek or fallen log with strong hind legs.



**GRAY FOX** A carnivore, the Gray Fox is a part of the same family as dogs, coyotes, and wolves. The Gray Fox's extremely sharp senses of sight, smell and hearing enable it to be a smart nocturnal predator. In Pennsylvania the Red Fox is often found in fields and meadows while the Gray Fox enjoys forests. The hair coat of the Gray Fox is suited for tree like camouflage. Its coat is a gray grizzled or wiry textured hair with tan undercoat. Its tail is long

and bushy with a black streak that runs to its black tip of the tail. The Gray Fox's legs are a bit longer than the Red Fox. The Gray Fox can climb trees. It is the only member of canine or dog family with this ability. The Gray Fox is an 'opportunity' hunter. This means they'll eat whatever is easy to obtain. They will also scavenge for food, especially in winter. It will cache (meaning hide and store) uneaten food by burying it. Scientists estimate that a fox can travel about 5 miles in search of food during the winter. The Gray Fox will den underground. A lifespan of 10-12 years is possible if food, water, and shelter are available.



**PINE MARTEN** The Pine Marten is a member of the weasel family. Its body is long and lean which is designed to leap through trees in an older or mature forest. It has sharp claws that help it to grip and hang on to branches or climb up a tree trunk. A Pine Marten is a nocturnal predator and using its sharp teeth and keen hearing to hunt prey. While Pine Martens can be found hunting in trees, they also climb about piles of rocks and tree stumps making a den in rock formations. Like some other mammals on the study list, the Pine Marten is an ‘opportunity’ hunter taking time to eat whatever it can

catch including birds, squirrels, sometimes rabbit, along with berries, and bird eggs. Pine Marten populations are challenged by habitat deforestation. Communities that want to help Pine Martens protect forest areas and make sure wood harvested from a boreal forest isn’t taking critical habitat.



**COYOTE** The Coyote of Pennsylvania is the largest canine found in the state. Coyotes are found throughout the United States. Those living in the eastern United States are larger than coyotes living in western states. The hair coat of a Coyote is a blend of blond, brown, gray, and black colors. Its ears are always standing up listening and its bottle brush tail is usually in a downward position. It normally has yellow eyes, while every now and then some coyotes are born with brown eyes. A Coyote will mate with one coyote

for life. A female coyote will design a den beneath an overturned tree, a rock pile, or an old fox den. She has 5-7 pups each year. Coyotes use a variety of yips, barks, and howls to communicate with one another. Sometimes they use their voices to gather as a larger pack to hunt. Once Coyotes mainly used forests for shelter, however, today coyotes are found in forests, fields, and even cities. Food habits include deer, rabbits, woodchucks, and smaller mammals. In addition to mammals, Coyotes also eat plant matter such as fruits. A Coyote’s favorite habitat is at the edge of a forest with brushy cover where it can hunt for food easily.





## **SNOWSHOE HARE**

The Snowshoe Hare is also called the Varying Hare because twice a year it changes its pelt coloration. The name Snowshoe refers to its large furry hind feet that let it move through snow easily. It is the big hare of Pennsylvania's north woods. The Snowshoe Hare is not a true rabbit. The way the Snowshoe Hare digests food is structurally very different from a rabbit. The hare has a brown phase, where its fur coat is gray brown throughout late spring and summer. Molting begins in fall. As the hare molts, the brown hair slowly falls out and is replaced with white hair. Then in spring the molt begins again as it switches to brown hair

again. The molt or switch in color phases is completely connected to the length of light during the daytime. In fall as daylight become shorter, the hare's eyes receive light for shorter and shorter time periods. This tells its brain to turn off pigment or color in the new fur growing in. In spring when daylight lengthens, it reserves the process with new brown hair coat. The hare's hearing is excellent with extra-large ears to catch sounds. Eyes can see a wide view as they as set on the sides of the head. To see and hear even better, the hare can stand and balance on its hind legs. Plants and woody vegetation make up its diet, as the hare is nocturnal.



**ELK** Before white settlers arrived in Pennsylvania, Elk lived everywhere in the state. Elk became extirpated from the state after development and people populations grew. Today the state's Elk population is from our western states and was reintroduced in the early 1900's. In North America the moose is the largest member of the deer family and the Elk is the second largest. Elk grow a different hair coat for summer than their winter coat. Both the male, called bulls, and the females, called cows, have the same color coat with

bulls growing antlers each year. Cow Elk bark to communicate with their young called calves. Bull Elk are known for their call known as bulging. Bulging starts with a low bellow that goes up on a scale to a high note, which is held until it runs out of breath. Cows will also bugle at times. Elk are grazers. They eat a variety of grasses. In winter, they'll paw into snow to find grass or they will nibble on twigs, and the bark of trees. While they enjoy feeding in meadows and fields, they will seek shelter and cover in amongst trees and forests. Bull Elk will challenge other bulls to a pushing match with using their antlers. Rarely is anyone injured, the weaker bull will usually back up and trot away. Elk have been known to live for 20 years in the wild; good habitat that includes plenty of food and cover is important. The PA Game Commission continues work to improve their habitat choices.



### **NORTHERN FLYING SQUIRREL**

Northern Flying Squirrels are mainly arboreal meaning they live in trees. Finding food sometimes brings them to the forest floor. It's hard to spot a Northern Flying Squirrel; they are nocturnal. They nest in hollow tree limbs, tree cavities, or large bird nests. Northern Flying Squirrels eat nuts, seeds, tree blossoms, fruits, berries, ferns, and fungi. They will store nuts in their nest or den or bury them in the ground. Predators of this type of squirrel include owls, feral house cats, foxes, coyotes, skunks, raccoons, and the black rat snake. The loss and fragmentation of old growth forests

may be causing a decline in the population of the Northern Flying Squirrel in Pennsylvania. It is considered a threatened species in our state. Although they have flying in their name, Northern Flying Squirrels do not truly fly. A furred fleshy membrane that is attached from wrist of the foreleg to the ankles of the hind leg allows the squirrel to glide from tree to tree. Their fur about their back is silky grey with cinnamon brown colors added in. Their belly is light grey and white. Large black eyes help them to see well at night.



### **SHORT TAILED WEASEL**

The Short Tailed Weasel is also known as the ermine or Bonaparte's weasel (named for Napoleon Bonaparte who was shorter in stature). Small at only 9-15 inches in length, its short tail sets it apart along with soft fur that is made up of underfur that is short and guard hairs that are



longer. The Short Tailed Weasel molts similarly to the Snowshoe Hare. In spring, a dark brown hair coat grows in, while in autumn as daylight becomes shorter, the hair coat drops out and a white coat grows in for winter. It is alert at all times as well as being curious and bold. They make many different vocal sounds that include hisses, purring, chatter, and screeches. When annoyed they might stamped their feet or give off a musk odor. The Short Tailed Weasel can swim to pursue prey in water as well as climb trees. They have

a loping gait that causes their back to arch as they move. In forests, they prey on mice, rats, cottontail rabbits, frogs, small snakes, birds, insects, and even earthworms. Though they are predators, they themselves can be preyed on by other predators such as fox, coyote, bobcats, and owls. The Short Tailed Weasel will den beneath a stone wall, rock pile, fallen tree, or in an abandoned building. Their short legs have five small clawed toes on each foot. Senses of sight, smell, and hearing are very strong which makes their instinct keen. They are active, aggressive to hunt and quick. They are mainly nocturnal hunters however, based on food availability they may be seen hunting during the day too.



### **ALLEGHENY WOOD RAT**

The Allegheny Wood Rat lives in remote rocky habitats of old forests in the state. The Allegheny Wood Rat has little in common with the invasive Norway rat that enjoys living right alongside humans. The Allegheny Wood Rat enjoys wilderness spaces. Caves, rocky cliffs, boulder fields with deep crevices and underground chambers are the favorites of the Allegheny Wood Rat. They eat leaves, berries, nuts, ferns, and fungi. They are nocturnal and feed in a range of about an acre of land. They will hoard food near their nests, meaning they stock pile food. Their nest is built from parts of the forest including bark scraps, twigs, leaves, and moss. Often they will have two living area nests, each about 5 inches across and lined with shredded grasses. The nest is used year round and for the animal's entire life. Since they hoard food, they tend to also collect treasures like old mammal skulls, feathers, bottle caps, coins, rags, pieces of broken

china. These objects are hidden in the nest heaped up outside. This is how the Allegheny Wood Rat gets its nickname "pack rat" from its habit of packing off items to its nest. It's also known as a "trade rat" as it sometimes gets distracted while collecting food. If it comes upon an interesting object while carrying a twig, or berry, it may leave it behind to pick up the new item, like a camper's spoon, or even car keys. They ward off other rats from using their nest sites by thumping their tails on the ground, chattering their teeth, or stumping their hind feet. Due to habitat loss, the Allegheny Wood Rat is a threatened species and has been proposed as a candidate for the federal endangered species list.