

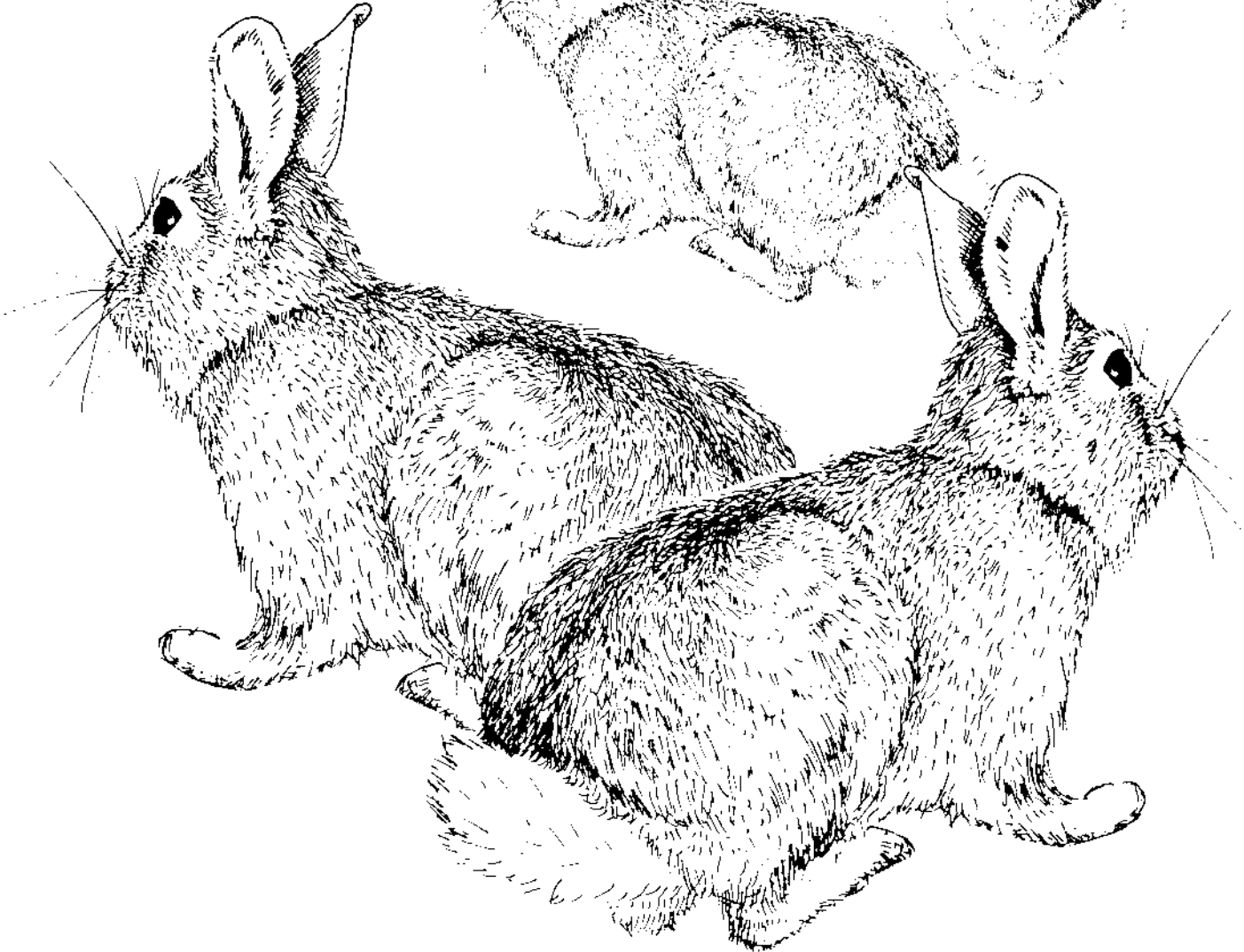
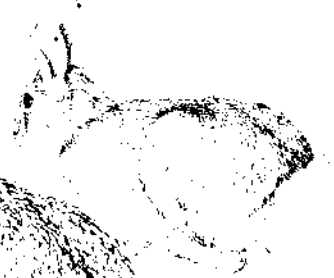
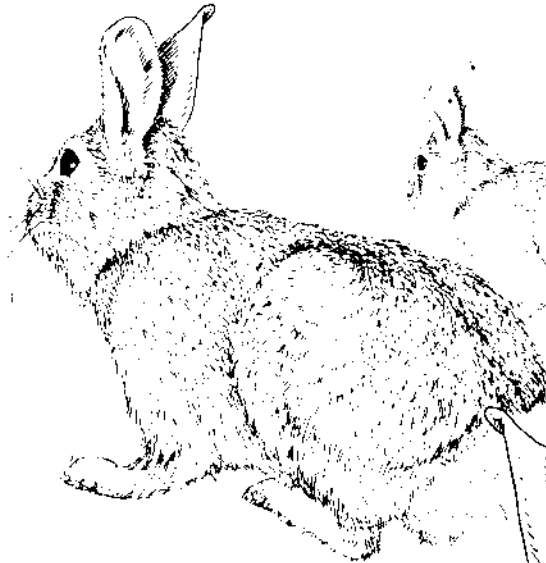


Member's Guide

4-H Wildlife Conservation Program, Unit 1

Wildlife Is All Around Us

BOOK 1. The Wildlife Detective



Wildlife Is All Around Us is Unit 1 of the Pennsylvania 4-H Wildlife Conservation Program. This unit will introduce you to the major groups of wildlife, the animals' basic needs, and where the animals can be found. By working through the projects in this unit, you will become more aware of the animals around you and the signs and clues they leave behind.

Unit 1 is divided into five books: *The Wildlife Detective* (an introduction), *Spring*, *Summer*, *Fall*, and *Winter*. Each book contains projects and activities for you to complete. Before beginning any of the seasons, you must complete *The Wildlife Detective*. Then, as a group or individually, you may work on one season only or on all the seasons. For each season you should complete at least two of the suggested projects, keep a notebook of all activities, and give a presentation on your wildlife project to your 4-H club.

Contents

The Wildlife Detective	1
Learning Your Animal Groups	1
Questions About Animal Groups	3
Habitat: What Animals Need to Live	5
Questions About Habitat	6
Following Wildlife Through the Year	8
Words to Know	8

The Wildlife Detective

No matter where we live, wildlife is all around us! You may have seen a robin hunting worms in your own backyard, or a deer grazing at the edge of a farmer's field. Perhaps you have been scolded by the loud chatter of a squirrel sitting upon a park bench.

But have you ever seen a red fox, a muskrat, or an owl? These animals, like most, are very secretive. The fox has keen senses and will usually hear, see, or smell you first. Muskrats live in burrows dug into stream banks, a place you might not think to look for wildlife. Owls are active at night and find hiding places in trees during the day. Finding secretive animals like these requires some investigation.

By keeping your eyes and ears open, you can learn to detect wildlife living near you without actually seeing them! Wild birds and animals each leave special clues that tell you they are nearby. A wildlife detective can tell what kinds of animals have traveled through an area, by finding and identifying tracks in the snow and mud. Wildlife homes such as dens, nests, and burrows are other signs of animals living nearby.

Many birds and animals leave clues behind when they eat. Squirrels and chipmunks crack open nuts and store them away. Rabbits and deer bite twigs off trees, while woodpeckers peck holes in trees in search of insects. Finally, birds and animals can be identified by their droppings, called *scat*, and by other clues they leave behind, such as feathers or hair.



MUSKRAT



SAW-WHET OWL



DOWNY WOODPECKER

Learning Your Animal Groups

Now that you know how to detect wildlife signs, you will want to know about the different groups of wildlife that exist. Most of the animals alive today are *invertebrates*, or animals without backbones. Worms, snails, clams, spiders, lobsters, and insects are all invertebrates. The largest group of invertebrates is the insects. There are more kinds of insects than all other animals combined. Can you think of any insects?



SNAIL



MILLIPEDE

LUNA MOTH

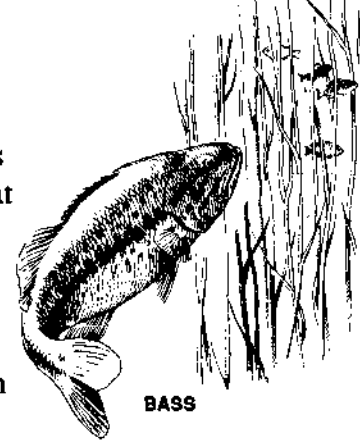


YELLOW JACKET

The animals most familiar to us are the *vertebrates*, or animals with backbones. There are five different groups of vertebrates—fish, amphibians, reptiles, birds, and mammals.

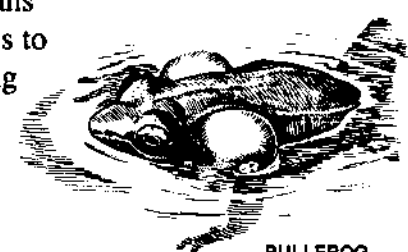


1. *Fish* spend their whole lives under water. Their breathing organs, called gills, allow them to breathe under water. Most fish have a body covered with scales and swim by moving their fins. Some fish lay eggs and others give birth to live young. Fish are *cold-blooded*, meaning that their body temperature stays about the same as the water they live in.



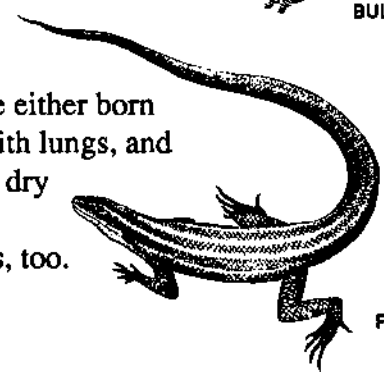
BASS

2. *Amphibians* are also cold-blooded. The word amphibian comes from a Greek word meaning "beings with a double life." Adult amphibians lay jellylike egg masses underwater. From these, young amphibians or tadpoles hatch and live in water for quite some time, using gills to breathe. As the young grow into adults, they develop air-breathing lungs and move to land. Adult amphibians have legs for hopping or walking. Frogs, toads, and salamanders are amphibians.



BULLFROG

3. Like amphibians, *reptiles* are cold-blooded. Reptiles are either born alive or hatched from thick-shelled eggs. They are born with lungs, and their skin is covered with scales. Many reptiles can live in dry areas far away from water. Turtles, crocodiles, alligators, lizards, and snakes are all reptiles. Dinosaurs were reptiles, too.



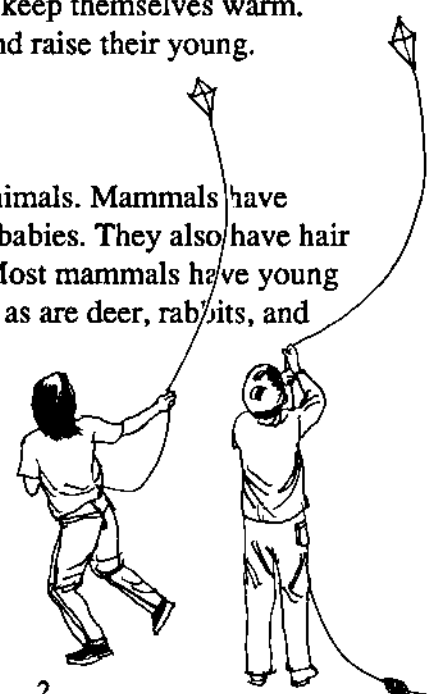
FIVE-LINED SKINK

4. *Birds*, unlike fish, amphibians, and reptiles, are warm-blooded animals. A bird's body temperature stays about the same (near 100° F) at all times no matter what the temperature is outside. Birds are feather-covered animals. They use their feathers to fly and to keep themselves warm. Most birds build nests where they lay eggs and raise their young.



COMMON GRACKLE

5. *Mammals*, like birds, are warm-blooded animals. Mammals have mammary glands that produce milk for their babies. They also have hair on their bodies that helps keep them warm. Most mammals have young born live (not in eggs). People are mammals, as are deer, rabbits, and squirrels.



RED SQUIRREL

Questions About Animal Groups

1. What is the largest group of invertebrates? _____

2. Which three groups of vertebrates are cold-blooded? _____

3. What does it mean to be cold-blooded? _____

4. What group of vertebrates breathe through gills for their entire lives? _____

5. "Beings with a double life" refers to which group of animals? _____

6. What is meant by "beings with a double life"? _____

7. Name two distinguishing characteristics of mammals.

a. _____

b. _____

8. What does it mean to be warm-blooded? _____

9. What are the two groups of warm-blooded animals?

a. _____

b. _____

10. What characteristic is unique to birds? _____

11. Name two characteristics of reptiles.

a. _____

b. _____

Habitat: What Animals Need to Live

To survive, animals need food, water, and a safe home. Knowing what animals need to live will help you search for wildlife clues.

Food is essential for all wildlife. Some animals eat parts of plants such as nuts, berries, leaves, and twigs. These animals, called *herbivores*, can live only where their food plants grow. Deer and rabbits are examples of herbivores.

Other animals eat insects, mice, rabbits, and other animals. Animals that eat other animals are called *carnivores*; they are able to live only where they can catch their food. Bobcats are carnivores, as are hawks and owls.

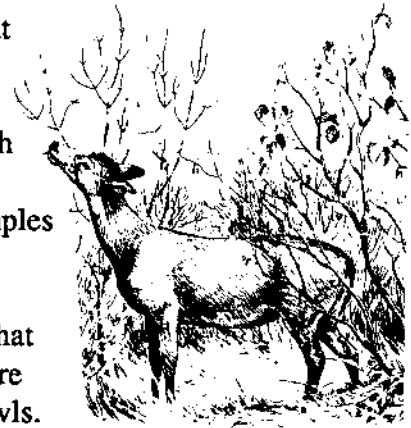
Animals that eat both plants and animals are called *omnivores*. These animals, such as raccoons and opossums, can live in many places. People are omnivores, too!

In addition to food, animals need *water*. Puddles, springs, streams, and ponds provide drinking water for all animals. Some animals can get all the water they need from their food and from dew.

Cover is anything that provides an animal and its young with protection from weather and enemies. A rabbit, for example, hides under bushes when a fox or hawk is nearby. Woodchucks take cover in underground burrows. Your cover is the building you live in.

Along with cover, animals need a certain amount of *space*. Large animals, like the black bear, may wander several miles in search of food. On the other hand, some small animals may never travel more than a few hundred feet from their home. Each animal must be able to find all the food, water, and cover it needs within the space it travels.

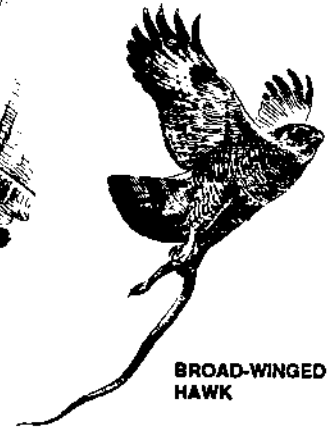
Habitat is the physical area where an animal lives. You can think of it as the animal's home address. An animal's habitat has everything it needs to live. The forest is the habitat of the gray squirrel. Within the forest the squirrel builds nests in hollow trees and eats nuts, tree flowers, and buds. A marsh is the habitat of muskrats and many kinds of ducks. Other habitats in Pennsylvania include fields and meadows, lakes and ponds, streams and rivers, and brushy openings.



WHITETAIL DEER



RACCOON



BROAD-WINGED
HAWK



BLACK BEAR

AMERICAN
WIDGEON



Questions About Habitat

An animal's habitat is the place where it lives. The habitat contains all the food, water, and cover the animal needs to survive.

1. What is a herbivore? _____

2. Give three examples of herbivores.

a. _____

b. _____

c. _____

3. What is a carnivore? _____

4. Give three examples of carnivores.

a. _____

b. _____

c. _____

5. What is an omnivore? _____

6. Give three examples of omnivores.

a. _____

b. _____

c. _____

7. Name three different types of habitat.

a. _____

b. _____

c. _____

8. Visit one of the three habitats you named in question (7). Describe the habitat. What did it look like? List the kinds of animals you saw and tell what they were doing. List any signs of animals you discovered.

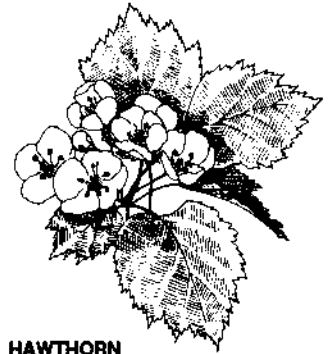
9. For each of the animals you listed in question (8), describe the type of food and cover that animal needs.

Now that you have finished this section and are familiar with the different animal groups and the signs they leave behind, you are ready to follow wildlife through the year.

Following Wildlife Through the Year

What an animal does, where it can be found, and what types of food and shelter it requires depends on time of year. This is also true for people. In summer you probably spend a lot of time playing outdoors, but when fall arrives you return indoors to study at school. In winter, you need to wear a lot of clothes to keep warm, but in summer you wear a lot less. In the summer you may eat fresh fruit and vegetables from your family's garden, but in the winter you must eat what you have stored from your summer garden or what you can buy in a grocery store.

In the four season books, we will be following wildlife through the year. As you read each season book and complete the projects, consider what it would be like to be a wild animal. Also, think about the similarities between the needs of people and the needs of wildlife.



HAWTHORN

Words to Know

Carnivore—an animal that feeds almost entirely on the flesh of other animals

Cold-blooded—a word used to describe an animal whose body temperature is the same as that of its surroundings

Cover—any material (trees, shrubs, and brush piles, for example) that provides protection to animals

Habitat—the physical area where an animal lives

Herbivore—an animal that feeds almost entirely on plant life

Invertebrate—an animal without a backbone (for example, insects and lobsters)

Omnivore—an animal that feeds on both plant life and the flesh of other animals

Species—a kind of plant or animal

Vertebrate—an animal with a backbone (for example, a fish, amphibian, reptile, bird, or mammal)

Name _____

Address _____

Name of Club _____

Leader's Name _____

Name of Project _____

4-H Club Motto

"To make the best better"

4-H Club Pledge

I pledge
my head to clearer thinking,
my heart to greater loyalty,
my hands to larger service, and
my health to better living, for
my club,
my community,
my country, and
my world.

4-H Club Colors

Green and White

PENNSTATE



College of Agricultural
Sciences
Cooperative Extension

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