



Wildlife Biologue

Habitat

All species of animals and plants need a proper combination of food, water, cover, and space in order to live and reproduce. Together, these elements make up their "habitat," an area meeting these needs. Habitat is the key to the survival of any species.

Why Habitat Needs Vary

The specific habitat requirements of many animals and plants differ, although a variety of species may live in the same area. White-tailed deer, ruffed grouse, and tree squirrels, for example, prefer woodlands, while cotton-tail rabbits and song sparrow favor fields. Waterfowl, fishes, mussels, and pitcher plants are at home in wetlands or rivers, while other species, such as the desert tortoise and most cacti, depend on dry habitat. The common pigeon, starlings, and roof rats can easily adapt to the urban habitats of large cities, towns, and suburbs.

Some animals may require different habitats at various stages of their lives. For example, when young wild turkeys (called *poults*) hatch, they must feed on insects for protein. To meet this dietary need of her young, the female turkey, or *hen*, selects meadows or open fields where insects are abundant. As the poults grow, the hen begins to lead them into forested habitats where they can obtain berries, seeds, and nut crops such as acorns or hazelnuts.

When wild turkeys reach their adult stage, they prefer large forested areas with mature trees and very little underbrush. This type of habitat enables them to use their extremely keen eyesight to detect predators. At the same time, they can find fruit produced by oaks, beech, dogwood, and persimmon, as well as insects, salamanders, crustaceans, slugs, and centipedes to eat. Because turkeys usually drink water at least twice a day, ideal turkey habitat also has an ample water supply.

Another example is the brook trout. These colorful freshwater fish must have cold, clean water in which to live and reproduce. Silt and water pollution can interfere with reproduction of brook trout and that of their primary food source, aquatic insects, as well

as decrease the available habitat for other aquatic wildlife. Muddy water may also favor the growth of undesirable plants and bacteria.

When trout lay their eggs, they find gravel bars in the streambed where the eggs can settle, hidden from predators such as crayfish. After the young trout hatch, they must have aquatic plants, quiet pools, and bottom rubble to provide cover to escape from larger fish as well as great blue herons, mink, and other predators. Availability of food such as aquatic insect larvae is especially important to brook trout. If the trout do not have enough to eat, they will not grow to full size.

The point is that each animal and plant species must have suitable and often quite different kinds of habitat in order to survive. And that habitat must include the four essential ingredients—food, water, cover, and space.

Managing Habitat to Benefit Wildlife

Wildlife managers try to maintain, change, or enhance habitats in order to produce certain kinds and numbers of animals and plants. A manager wishing to increase the number of wild turkeys in a particular area would first determine the deficiencies of the habitat and find ways to improve it. There might be too much ground cover or too few mature trees for production of nuts. The area may lack fruit-producing shrubs and vines, or have a shortage of the small, open areas used by poults to feed on grasshoppers and other insects. By cutting immature trees to make small forest openings and leaving mature, nut-producing trees and fruiting shrubs, the habitat can be altered so it meets the needs of wild turkeys.

Habitat can be maintained or managed for virtually all wildlife species. Ducks and other waterfowl, as another example, benefit from the management of wetlands habitat along the four major "flyways," or migration pathways, in North America. Waterfowl need wetlands habitat for nesting and feeding on their long, annual migrations. Wildlife managers use dikes, levees, pumps, and other water control devices to provide adequate wetlands habitat for these migrating waterfowl.

Habitat and Endangered Species

Conserving habitat is especially critical for the continued survival of endangered plants and animals. Habitat loss or degradation is often the key factor which has led to a species becoming endangered.

Another factor contributing to the imperiled status of many endangered species is a lack of adaptability to different environmental conditions, such as habitat. If a species can only live in a certain type of habitat, such as grassland, and much of that habitat is destroyed, the species may become endangered. Other species are more adaptable, and can live in many different habitat types.

The Kirtland's warbler—a songbird on the verge of extinction—has declined, in part, because of the loss of its habitat. These warblers need large expanses of woodlands in which to nest. Thickets of small jack pine mixed with many small openings are the ideal habitat. Forest fires play an important role in creating this kind of habitat, keeping vegetation as low ground cover which conceals the warblers' nests from snakes or competitors such as the cowbird.



Forest fires can be dangerous if they burn out of control, so until recently land managers practiced strict fire prevention and fought any wildfires that occurred. Today, however, biologists and forest managers are realizing fire has an important role in creating and maintaining nesting habitat for warblers and other wildlife. Fire also maintains the sunny, open habitat needed by many endangered plants that cannot grow in shady areas or compete with more aggressive vegetation.

One example is the prairie fringed orchid, a rare wildflower, which is threatened by the invasion of trees and shrubs into its grassland habitat. Wildfires may have helped in the past to keep its habitat open, and it is possible that careful use of burning or mowing by habitat managers can help bring about the orchid's recovery. When using fire as a management tool, many special precautions are taken to ensure that these fires do not burn out of control.

The Importance of Wetlands Habitat

Perhaps the most important type of wildlife habitat is wetlands. These areas are often called marshes, bogs, swamps, ponds,

potholes, and bayous. Historically, wetlands were often regarded as wastelands, breeding areas for mosquitoes, and suitable only for draining. In fact, more than half of this country's original wetlands have been drained and filled in since Colonial times. More recently, however, wetlands have become recognized as vital to the survival of hundreds of animals and plants, including nearly half the nation's endangered species.

Wetlands are also important to people because they filter pollutants and sediments from water, provide dependable water supplies, and serve as a natural means of flood and erosion control.

Some of the numerous animals that depend on wetlands are ducks, geese, beaver, frogs, turtles, and muskrats. Typical wetland plants include cattails, cordgrass, and trees such as willows and cypress.

The U.S. Fish & Wildlife Service manages millions of acres of wetlands as part of the National Wildlife Refuge System. To date, more than 500 national wildlife refuges have been established nationwide, many along the four flyways to protect wetlands habitat for

migratory waterfowl. Many other important habitats are also included in the refuge system.

Protecting Habitat Helps People, Too

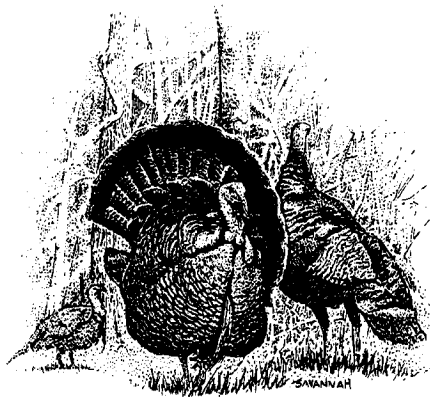
Wildlife and plants, especially those species which are endangered, are often viewed as the "canary in the coal mine," serving as a warning signal that the environment is about to become unhealthy for people, too. For example, many mussel species are endangered because of pollutants in the water supply—the same water supply people often depend on for their drinking water.

Creating, restoring, enhancing, and protecting areas of habitat can prevent the loss of wildlife and stem the resulting decline in the quality of the environment for people, too.

Conserving remaining areas of wildlife habitat is a large but very important task. Every concerned citizen can become involved. To learn more about wildlife and its habitat in your area, contact the state or local natural resources agency, local chapters of conservation organizations, or the U.S. Fish & Wildlife Service.

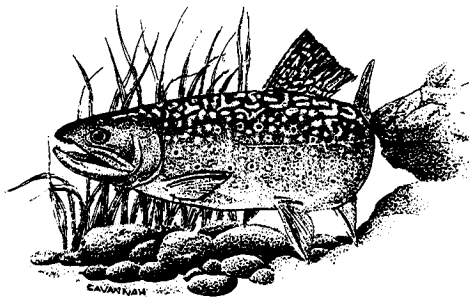
Wild turkeys

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Trout

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Trumpeter swan

Wetlands are the most biologically diverse habitats, meaning they support hundreds of different kinds of plants and animals. Waterfowl species, such as the trumpeter swan, are particularly dependent on wetland areas for their survival.



Florida panther

Conserving habitat is especially critical for the continued survival of endangered plants and animals, such as the Florida panther, perhaps the most endangered mammal in the U.S.



Kirtland's warbler

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