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## Wildlife and Wildlife Management

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# Wildlife and Wildlife Management

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Fact Sheet 36

Forestry and Natural Resources

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The term wildlife means different things to different people. To a backyard wildlife enthusiast, it may mean chickadees, nuthatches, and cardinals. To a hunter, it may mean white-tailed deer, bobwhite quail, and gray squirrels. To a sheep producer, it may mean coyotes. To a poultry producer, it may mean mink, weasels, skunks, and raccoons. To a gardener, it may mean hummingbirds and butterflies.

## What is Wildlife?

It is important to identify and define what we mean by the term "wildlife" before we can answer the question, "What is wildlife management and conservation?" Early definitions of wildlife focused on wild animals (undomesticated free-ranging animals) that could be hunted for sport or food (a partial list of SC wildlife is listed in Table 1); therefore, the early definitions restricted the term wildlife to **vertebrates** (animals with a backbone). From that time forward, the message has been clear: there is a separation of those organisms termed wildlife, not only from other vertebrates, but most certainly from other groups of lower animals and plants.

If you were to ask a professional biologist to define wildlife, he or she would probably identify two distinct vertebrate groups: birds and mammals. Even state and federal organizations, in their names, make a distinction between fish and wildlife: the South Carolina Department of Natural Resources and the U.S. Fish and Wildlife Service.

Much has happened in the field of wildlife management since early times, and this is reflected in new definitions of wildlife based on a more holistic viewpoint. The beginnings of this new viewpoint of wildlife began in the 1960s. Wording in the Endangered Species Act of 1973 recognized fish and wildlife as any member of the animal kingdom, including without limitation any mammal, bird, fish, amphibian, reptile, mollusk, crustacean, arthropod, or other **invertebrates** (animals without a backbone).

About the same time, many states began adopting nongame wildlife programs. These programs were aimed at managing protected, endangered or threatened, and nonhunted wildlife with respect to the definition of fish and wildlife provided in the Endangered Species Act.

From a purely objective standpoint, wildlife should include all animals and their associated habitats. If we are to look at the big picture, it seems unnecessary to define the term wildlife along the usually rigid and nonfunctional lines of a **taxonomist** (a person who identifies and classifies living organisms).

How can we understand the ecology of a great blue heron without a thorough knowledge of the heron's food source (small minnows, amphibians, etc.)? Likewise, a picture of coyote ecology would be incomplete without an understanding of how that animal's diet shifts from small mammals and carrion in the winter to insects and fruits during the summer. Further, the relationship of an animal to its habitat (including competitors, predators, prey items, vegetation, and soil) is so interconnected as to add confusion in attempts to restrict the term wildlife.

A definition of wildlife should include all living organisms out of the direct control of man, including undomesticated or cultivated plants and animals.

Although it may be inappropriate to restrict wildlife to a few kinds of organisms, common usage, public perceptions, funding allocations, and history have resulted in a practical definition of wildlife as undomesticated free-ranging vertebrates. Furthermore, because of professional distinctions, fish are generally excluded from the definition of wildlife. The definition of **wildlife** is left as essentially undomesticated, free-ranging terrestrial vertebrates (reptiles, amphibians, birds, and mammals).

The overwhelming preponderance of research and management efforts, as well as public attention, has caused the definition of wildlife to focus on birds and mammals.

There is yet another dilemma for resource managers in defining wildlife today: introduced, non-native wildlife or exotics, such as the European starling, house sparrow, wild boar, and fallow deer. Hundreds of plants, fish, and terrestrial animals have been introduced into this country, some by accident and others on purpose. To the wildlife biologist, exotics may have severe consequences for native wildlife (starlings and house sparrows competing for native eastern bluebird nesting sites).

Professional biologists will debate the pros and cons of exotic introductions for years to come. Regardless of an individual's views on the subject, certain exotics will continue to be a permanent addition to our natural communities. Professional biologists must continue to evaluate the ecological role of exotics in biological communities. Hence, if exotics are free-ranging, little is gained from excluding them from a definition of wildlife.

## What is Wildlife Management?

Now on to the question, "What is wildlife management?" The definitions of wildlife management are about as numerous as authors and professional biologists. There are some differences, to be sure, but three common ideas are present in every definition of **wildlife management**, including:

- 1) efforts directed toward wild animal populations,
- 2) relationship of habitat to those wild animal populations, and
- 3) manipulations of habitats or populations that are done to meet some specified human goal.

Early wildlife biologists viewed wildlife management as the art of making land produce adequate game for recreational use (hunting, fishing, or trapping). Later definitions emphasized wildlife management as the science of manipulating wild animal populations and their habitats for specific human goals. Current definitions stress wildlife management as applied animal ecology that benefits the habitat and both wildlife and human populations.

Wildlife management can be a complex process (Figure 1) whereby a landowner or biologist:

- conducts habitat and wildlife population inventories and evaluations; and
- determines what people desire from the wildlife resource and directs management efforts to meet this goal.

The eventual outcome in meeting desired management goals is accomplished by:

- 1) manipulating the habitat,
- 2) manipulating the wildlife population, or
- 3) managing people.

Wildlife management on private lands is largely habitat management for two reasons:

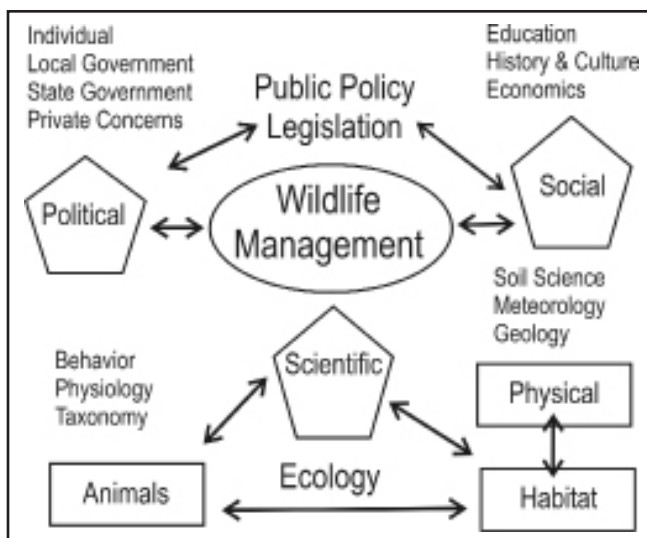


Figure 1. The process of wildlife management

- most private landowners do not control the kind of acreage (average farm size in South Carolina is less than 100 acres) necessary to totally sustain some wildlife populations, and
- although small in individual acreages, private landowners make up most of the land in the state.

## Preservation, Conservation, and Management: What is the Difference?

Let's now examine the differences between management, conservation, and preservation, because many people mistakenly confuse wildlife management with wildlife preservation.

**Conservation** is an effort to maintain and use natural resources wisely in an attempt to ensure that those resources will be available for future generations. Wise use of resources could vary from actively managing white-tailed deer populations by hunting to protecting and preserving spotted owl populations and habitat.

**Preservation** is a component or part of conservation in which natural systems are left alone without human disturbance or manipulation. Preservationists (people who believe in preservation) feel natural resources should be protected, unspoiled, and untouched by humans. The goal of preservation is often maintaining the integrity of the ecosystem as exemplified by nature preserves or wilderness areas.

**Passive management strategy** is sometimes used in wildlife management when wildlife populations dwindle to the point they are in danger of extinction. The passive management strategy for red-cockaded woodpeckers (an endangered species) in South Carolina is to alter traditional timber management to ensure breeding and foraging habitat.

It is important to note, however, that an undisturbed ecosystem is not necessarily a stable one. Natural changes in the plant community constantly create different habitats for different species of wildlife. As the system changes over time, conditions may not remain suitable for the continued existence of some wildlife species in that community.

As a regenerated forest is allowed to mature, for instance, the presence and abundance of bobwhite quail will decline because the habitat is no longer suitable for them.

**Management** is also a component of conservation that usually means controlling, directing, or manipulating wildlife populations and/or their habitats (active management strategy). Wildlife managers usually seek to:

- 1) increase a population (by providing key habitat components such as food, shelter and water);
- 2) decrease a population (by harvesting deer when they are damaging orchard trees or soybean crops); or
- 3) stabilize a population so that individuals can be removed on a continuing basis, making sure that enough individuals remain in the population to replace those that are removed (**sustained yield**).

There are two different approaches to managing wildlife on private lands. The first approach is to provide as varied a habitat as possible in an attempt to support as many different wildlife populations as possible. This is called the **species richness approach** to managing wildlife. Under this system, landowners would try to manage their property to provide a mixture of areas in different plant stages, areas with large amounts of edge (area where 2 habitats meet) interspersed with some unbroken tracts of forest, and forested areas with vertical layering of trees, shrubs, and broadleaf weeds.

The second approach to managing wildlife is called the **featured species approach**. The goal of this approach is to provide habitat for one selected (featured) species. A landowner might choose to manage for white-tailed deer or bobwhite quail exclusively. The key to featured species wildlife management is to identify the precise habitat requirements of the featured species and select management practices that provide the requirements that are in the shortest supply.

## Why Manage for Wildlife?

Landowners can obtain both tangible and intangible benefits from managing wildlife. Tangible benefits primarily accrue from leasing rights for hunting and other forms of outdoor recreation involving wildlife. Fees collected from these activities can provide income to pay property taxes and other management costs. The provision of various services (e.g. guides, dogs, lodging, meals, etc.) associated with hunting can also provide another source of income. Although public demand for wildlife-related outdoor recreation (e.g., hiking, camping, birdwatching, canoeing, etc.) has not yet reached the point of providing significant income for private landowners in South Carolina, the potential exists and will increase in the future.

Intangible benefits from wildlife management can include the excitement derived from observing wildlife, the satisfaction of providing desirable habitat for these species and the pride from receiving recognition for conservation efforts.

## Options for Wildlife Management

Any discussion of wildlife resources must begin by recognizing the potential for managing for a variety of wildlife species. These include game and nongame species, threatened and endangered species, and even nuisance species. Managing the wildlife resource as the primary objective requires, in some instances, that other resources be managed differently. For example, timber harvests would be designed primarily to improve wildlife habitat, with maximum wood production being a secondary benefit. In this case management strategies could include or accomplish the following:

- create, enhance or improve sufficient habitat to support suitable populations of desired wildlife species;
- maintain healthy game populations in a manner consistent with habitat carrying capacity;

**Table 1. Partial Listing of Wildlife in the South**

Upland Game Animals		
Wild Turkey	Ruffed Grouse	Bobwhite Quail
Mourning Dove	American Woodcock	Common Snipe
Cottontail Rabbit	Swamp Rabbit	Marsh Rabbit
Woodchuck	Eastern Gray Squirrel	Fox Squirrel
Waterfowl		
Snow Goose	Greater White-fronted Goose	Canada Goose
Mallard	Black Duck	Gadwall
American Widgeon	Green-winged Teal	Blue-winged Teal
Northern Pintail	Northern Shoveler	Canvasback
Wood Duck	Redhead	Ring-necked Duck
Lesser Scaup	Common Goldeneye	Bufflehead
Hooded Merganser	Common Merganser	American Coot
Furbearing Mammals		
Coyote	Red Fox	Gray Fox
Raccoon	Bobcat	Beaver
Spotted Skunk	Striped Skunk	Opossum
Mink	Muskrat	Nutria (I)
Big Game Mammals		
White-tailed Deer	Wild Hog (I)	
(I) indicates the species was introduced into this country. (e) indicates the species is endangered.		

- provide diverse and abundant populations of desired nongame wildlife species, particularly those that are dependent on mature timber; and
- manage habitat and populations to protect flora and fauna listed as threatened or endangered.

The key is that all resource management decisions are based on creating and maintaining sufficient habitat.

Where wildlife management is a secondary objective to other resources, the compatibility of various management options becomes important. Wildlife species whose habitat requirements are compatible with practices designed to enhance the landowner's primary management objective will thrive. All plans should include ways to accomplish the following:

- enhance, maintain or create habitat for desired species in a manner that is consistent with the primary objective for the land;
- achieve and maintain a natural diversity and abundance of game and nongame wildlife species including those dependent on mature timber (special consideration and/or protection should be afforded resident threatened and endangered species);

- manage other resources in ways that provide habitat needs of desired wildlife species, considering the species and the entire property.

Regardless of the landowner's goals, providing suitable wildlife habitat should be considered when performing any management activity.