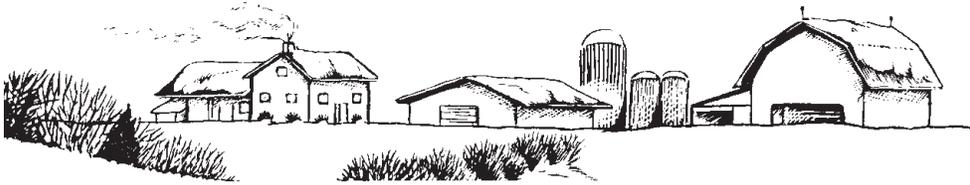
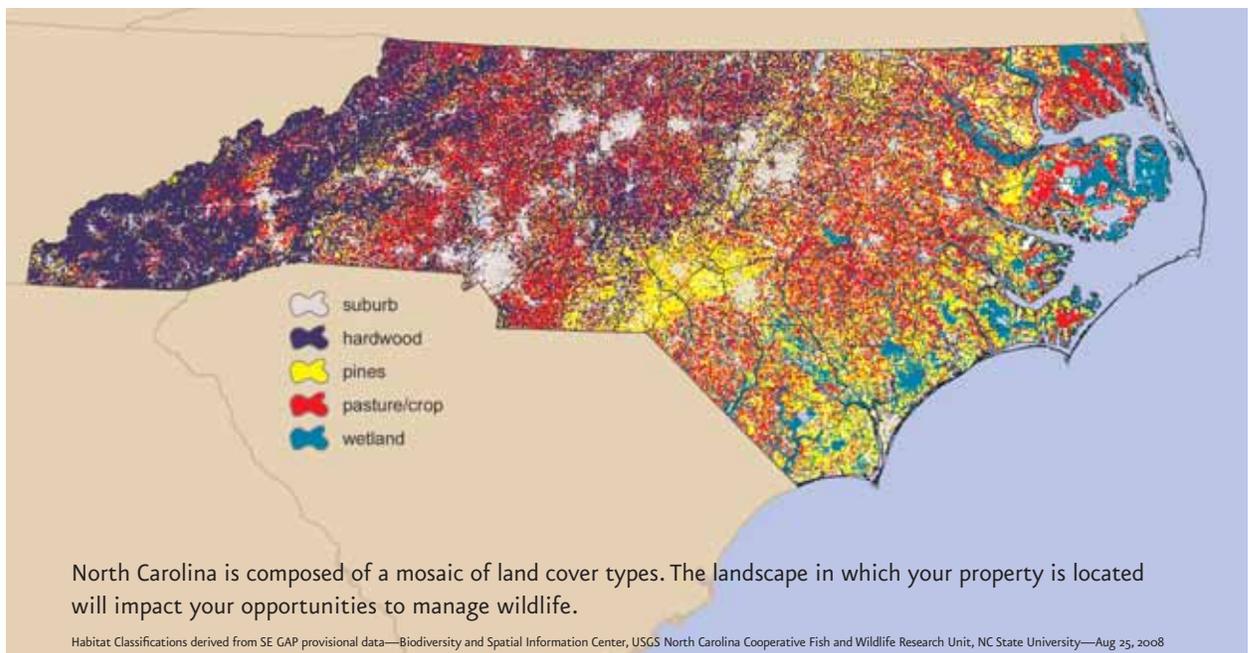


2 Land Planning For Wildlife



One of the toughest questions to answer is “Do I need to make changes to meet my wildlife objectives and, if so, how much time and effort will be required?” The answer will usually depend on how well your wildlife management goals fit with the habitat that currently exists on your property and on the land that surrounds it.



Finding the Right Fit—Ecosystem Management

Following are some common land uses that occur on private lands and a few examples of birds and animals that may benefit from your habitat-management activities. If your property has more than one land use (for instance, farmland and forest), it is important that you consider habitat-management opportunities to benefit the species or group of wildlife species you want to enhance across each habitat type.

Cropland-dominated Landscapes

Quail; mourning dove; common yellowthroat; indigo bunting; field; grasshopper; and savannah sparrows; Northern harrier; barn owl; cottontail rabbit and white-tailed deer.

Suburban Backyard Landscapes

Bluebird; robin; cardinal; American goldfinch; downy woodpecker; red-shouldered hawk; gray squirrel; fence lizard; anole; garter snake; Fowler's toad; and gray tree frog.

Pine Forest Landscapes

Brown-headed nuthatch; pine warbler; Bachman's sparrow; red-headed woodpecker; Eastern wild turkey; cottontail rabbit; white-tailed deer; pine barrens tree frog; Eastern spadefoot toad; Southern hognose snake; scarlet kingsnake; and corn snake.

Hardwood Forest Landscapes

American woodcock; ruffed grouse; downy, hairy, pileated, and red-bellied woodpeckers; northern parula warbler; woodthrush; ovenbird; hooded warbler; black-throated blue warbler; great horned owl; eastern wild turkey; white-tailed deer; gray squirrel; and slimy salamander.

Wetland Landscapes

Wood duck; spotted sandpiper; red-shouldered hawk; barred owl; great blue heron; snowy egret; marsh rabbit; raccoon; muskrat; mink; beaver; ribbon snake; green frog; bullfrog; and a variety of aquatic salamanders.

Making a Wildlife Management Plan

By applying the five-step exercise below, to your wildlife objectives and property characteristics, you can set more realistic wildlife goals, identify changes needed to accomplish these goals, and predict the time, resources, and land you will need.

Step One: First, develop clear objectives for what you want to accomplish on your land.

List what you want to accomplish for wildlife. (Examples may be to harvest larger deer, increase the quail or rabbit population, or see a greater variety of songbirds.) Also list the major economic and aesthetic goals you have for your property. Rank your objectives based on their importance to you. This list and ranking will help you decide what you can realistically accomplish. The higher ranked objectives should be ones that you would be willing to devote the most time, work, and space to accomplish.

Step Two: Study the habitat requirements of the birds or animals you want to feature.

The better you understand the types of plant communities required, home range sizes, cover requirements, and natural history of the species of interest, the better you will be able to develop a realistic management plan.

Step Three: Evaluate the current status of wildlife habitat on your property and the major land uses within a one-mile radius of your property

Draw a habitat map of your property. Designate areas of woodland, cropland, grassland, idle land and wetlands. If there are big differences, divide each of the above categories into sub-units or stands. For example, woodland stands may be composed of mature hardwoods, mature pines, or young pine plantations. (Aerial photography of your property can be obtained from the county tax office, *United States Department of Agriculture Service Center* [USDA Service Center] for your county, or online from Google Earth or the *NRCS Data Gateway* <http://datagateway.nrcs.usda.gov/>.)



Consider habitat-management opportunities in each habitat type on your property.

Because many birds and animals are area-sensitive, we must consider land uses beyond the boundary of our property when identifying factors that limit the population increase of a species. This means that the potential for a species to occupy any patch of suitable habitat or their potential to reach a greater density increases as the amount of suitable habitat in the surrounding landscape increases. Since few landowners own or control the land uses on an area large enough to support all the needs of a population of birds or animals, we must consider how our neighbors' land use contributes to or detracts from the needs of the wildlife that we want to manage. For example, developing a waterfowl impoundment that attracts large numbers of ducks is more feasible if the impoundment is located near large bodies of water that offer protected roosting sites or a wildlife refuge that provides habitat. Similarly, the potential to successfully manage for birds that require grasslands is better if your property is adjacent to other grassland or open habitats.

By remaining aware of land uses on your property and surrounding land, you can tailor your management to take advantage of opportunities. Examples include retaining mast trees in landscapes where surrounding landowners are clear-cutting, or managing hardwood forests or pine plantations to emphasize escape cover where surrounding lands are managed in row crops or pastures.

Cooperating with surrounding landowners who have common goals or interests can pay big dividends. Whether managing for quality white-tailed deer, quail, or backyard wildlife, the larger the area under similar management the better the results.

On your aerial photos, mark locations where you frequently see wildlife or signs of use by species that you want to manage. This will provide you with a baseline to help measure the results of your efforts. Though your management will be conducted on a specific plot of land, you may find monitoring data conducted on a larger scale helpful in narrowing down your focus and coming up with realistic goals. See Appendix C for the locations of monitoring data that you may find helpful.

Step Four: Identify limiting factors and address them in a management plan.

Armed with the knowledge you have gained by following the steps above, re-evaluate your original objectives in the context of what you have learned about your property and the needs of the species or group of wildlife you want to encourage. Keep in mind that there will be some give and take. Obviously, squirrels whose numbers peak in mature hardwoods can't exist on the same acre with meadowlarks, which need extensive grasslands. Refine your objectives to those that are realistic considering what you know about the wildlife species of interest, your land, and your capabilities.

Now you are ready to develop and implement a management plan to accomplish your objectives. Your plan may require great patience (waiting for a bottomland hardwood forest to mature), or you may need to implement annual management such as thinning, burning, or disking (converting a pine plantation into quail habitat).

Step Five: Evaluation

Measuring progress should be an integral part of any plan. This step can be as simple as keeping a written record of the wildlife you see on your property, maintaining a hunting diary, or taking photographs periodically to document changes in the plant community. Documenting changes should be enjoyable, and keeping good records will allow you to fine tune your management activities. See Appendix C for links to monitoring techniques that you may find helpful.

Because each situation is unique, you may have questions or encounter some twists and turns that complicate developing a plan to meet your goals. If, after studying the suggestions in this booklet, you decide you need additional advice, call the N.C. Wildlife Resources Commission, Division of Wildlife Management at (919) 707-0050 for help contacting a wildlife biologist.

Components of a Management Plan

A good management plan will communicate and help you to clarify your objectives, summarize current conditions, make management recommendations, describe how to measure progress, and provide an implementation schedule:

- The *Property Description* should include the location, topography, land uses, current management, and special or unique features. This section should also describe the landscape that surrounds your property.
- *Management Objectives* will describe your economic, aesthetic, wildlife, and recreation objectives. They should include both short- and long-term objectives and be specific about which wildlife species or group of species you want to benefit.
- The *Resource Inventory* should address the current state of each major field, stand or land use and include information on acreage, soils, vegetation, and current wildlife populations and harvest.
- *Management Recommendations* should state what will be done in each area to meet your objectives.
- The *Evaluation* section will describe how you will measure progress and maintain records to document accomplishments and responses of the plant and wildlife community to your management.
- A *Schedule of Management Activities* will list chronologically, the management and monitoring activities you plan to implement, along with who will conduct the work. The list provides a means to check off tasks as they are accomplished.
- Finally, a *Map* or maps will denote stands, fields, land uses and other important features. It should include features such as streams, fire lines, and sensitive areas. If needed, include more detailed maps to record features on a scale that will allow you to record pertinent information.

Management Examples

Here are examples from the three regions of North Carolina that illustrate how landowners work within the capability of their property and resources to accomplish wildlife objectives:

A FAMILY residing on a 5-acre parcel in the Mountain Region wants to increase the number of species and individuals of songbirds on the property so they can watch and enjoy them. The property was formerly a hay field and is currently mowed and surrounded by other small landowners with woodlots and mowed fields. Their objectives are to create an enjoyable environment to raise children, increase the diversity of songbirds, and help some wild-life species that are not doing well. They study the habitat requirements of various birds and identify the group of birds that requires early-successional habitat as the most reasonable to manage in the landscape that surrounds the property. The group of songbirds that requires grassland and brushland habitats contains prairie warblers, white-throated sparrows, juncos, common yellowthroats, catbirds, brown thrashers, and others. They develop a plan that includes hedgerows of blackberries, small trees, and fruit-producing shrubs, which can also screen the property from neighboring homes. They convert the majority of currently mowed lawn area to a wildflower meadow while retaining a small mowed area with more formal landscaping around the home.

AN AVID DEER HUNTER purchases a 100-acre forested tract in the Piedmont. The land has 60 acres of 10-year-old loblolly pine plantation in which the trees are too thick to produce forest products in a reasonable time frame. The land also includes 10 acres of 40-year-old upland hardwoods, and 30 acres of bottomland hardwood regeneration that is 10 years old. The tract is located in a landscape dominated by pine woodlands owned by forest investment companies. The goals for the tract are to have a place to hunt, increase the quality of deer harvested, and to produce periodic income through timber harvest. After studying the needs of deer, the hunter walks over his land and determines that mast has been abundant during many years in the uplands. However, browse resources are currently limited in the young closed-canopy forests of the upland pine and hardwood bottomland stands. He is able to obtain financial assistance to help with a pre-commercial thinning in the pine plantation. Plans call for 12 feet by 12 feet spacing, which will open up the canopy in the young pines. While the thinning crew is on his property, he has them cut shooting lanes for two deer stands in the pine plantation and open up fire lines on the edge of the pine plantation. He also has them open up shooting lanes for one deer stand in the bottomland hardwoods. In the future, he will contract with a bulldozer operator to clear the fire lines, maintain the shooting lanes with herbicides and cutting, and—following the first commercial thinning—clear the log-loading area to form a 1-acre site for a food plot and initiate prescribed burning. He also meets with leaders of surrounding hunt clubs to discuss opportunities to work together to better manage the deer herd.

A COASTAL PLAIN FAMILY lives on a 40-acre farm that has 30 acres of cropland and 5 acres of young mixed pine and sweetgum forest that backs up to a 5-acre wetland. The family would like the farm to continue to produce income while also providing habitat for a covey or two of quail and provide a place to hunt for deer. The owners obtain aerial photographs and learn that the surrounding land use is predominately row crop farmland. They study the habitat requirements of quail and deer. They learn that enrolling the field borders in a conservation program provided through their local USDA Service Center will allow them to provide weedy habitat that is currently in short supply for quail. They decide to install borders along an adjacent highway to provide quail habitat and a screen to reduce visibility of deer from the road. Additionally, they learn that they can use fire and herbicides to control the sweetgums that compete with more valuable pines along the wetland border. Burning and herbicides will improve the visibility in the woodlands and encourage a groundcover of grasses and forbs. They offset a portion of their expenses for installing fire lines and burning with assistance from conservation programs administered by the Natural Resources Conservation Service. By implementing the plan, they can continue to lease most of the cropland, derive annual rental payments from the field borders, and turn the overgrown woodlot into quail habitat while still growing pine saw timber. Their plan will require work annually to maintain the borders and burn.