

## Chapter 11 D. Case Study: Quail and Cottontail Management on Buck Range Farm, Maryland

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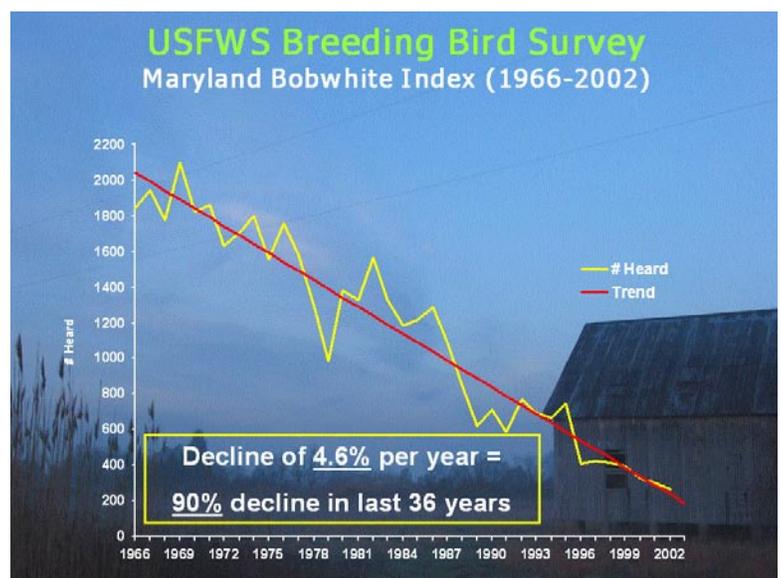
### Introduction

Most young hunters would love to see what it was like in the “good-old-days”, to experience the days afield that they hear their fathers and grandfathers telling stories about. Likewise, the older generations, the ones that tell the stories, would love to re-live the experiences that live vividly in their memories. On the Eastern Shore of Maryland, most story-telling sessions turn to the 1950s and 60s, when wildlife was plentiful. It was a time when waterfowl hunting on the Chesapeake Bay was a way of life and every respectable hunter had a good bird-dog. Unfortunately, the good-old-days are just a memory for most. Waterfowl populations have suffered with increased pollution of the bay, and bobwhite quail have declined over 90% since the 1960s due to changing land uses.



*Figure 1. A hunt at Buck Range Farm is like going back in time to the “good-old-days.” Photo by Maryland Department of Natural Resources.*

Spending a day on Buck Range Farm in Dorchester County, Maryland is like stepping back in time. On a recent hunt, the farm manager, Don Webster, invited me on a combination duck, goose, and bobwhite hunt. At dawn, the wings of mallards and pintails whistled over our heads, followed by numerous flurries of ducks and geese set to land in front of our blind. After our successful morning hunt, we followed Don’s English setter as she halted to a point several times, resulting in five quail covey flushes in two hours. It was an amazing day afield, not only because of the fantastic hunting, but also because I realized that if landowners are willing, the “good-old-days” can be found in the present. The key is found in successful early-successional habitat management.



*Figure 2. Northern bobwhite has declined over 90% since the 1960s due to changing land uses.*

## Landowner objectives

Not unlike many properties located throughout the Northeast, Buck Range Farm is managed with several landowner objectives in mind. Originally a dairy farm, most of the fields and pastures were converted to row crops before the current landowner purchased the property in 1978 for its waterfowl hunting potential. In 1987, intensive upland habitat modifications for bobwhite quail were incorporated into the management scheme. The landowner empowered the farm manager to perform any tasks necessary to accomplish the general goals of providing upland game and waterfowl habitat, creating diverse hunting opportunities, and offsetting costs through timber and cropland management when possible. These goals have been met to a large extent and habitat quality has been significantly improved for an array of early-successional wildlife species. Most habitat management practices were implemented with common farm tools and machinery, making the methods described here applicable to many similar farms in the Northeast.

## Situation

The 350-acre Buck Range Farm is located in Dorchester County on Maryland's Eastern Shore. Situated on a peninsula of land adjacent to a Chesapeake Bay tributary, it is typical of many coastal plain farms in the Mid-Atlantic region. Currently, there are approximately 150 acres of agricultural land, 120 acres of loblolly pine forest with mixed hardwoods, 70 acres of tidal wetlands, and 20 acres of managed freshwater impoundments. A variety of soil types occur on the property, most are silty-clay in nature. Due to the low elevation and level topography, the soil in many areas of the farm is saturated during periods of heavy rainfall.

At the landscape level, the diversity of habitats creates ideal conditions to manage for a variety of upland and waterfowl species. Row cropland is abundant on most farms in the area, and forestland is primarily loblolly pine plantations. Hardwoods such as oak, hickory, and black cherry are present in some areas, particularly along riparian drainages. Brushy hedgerows, although abundant on Buck Range Farm, are not common on many of the surrounding farms.

## Early-successional habitat management prescriptions

Initially, the farm manager identified a need to alter the management of woodlands and cropland to provide for the needs of bobwhite quail. This involved intensive land-use changes as well as an increase in frequency of maintenance practices that keep the habitat in early-successional stages. Below is a more detailed description of the common practices utilized on the farm in various situations to enhance wildlife habitat.

Buck Range Farm Cover Type Map

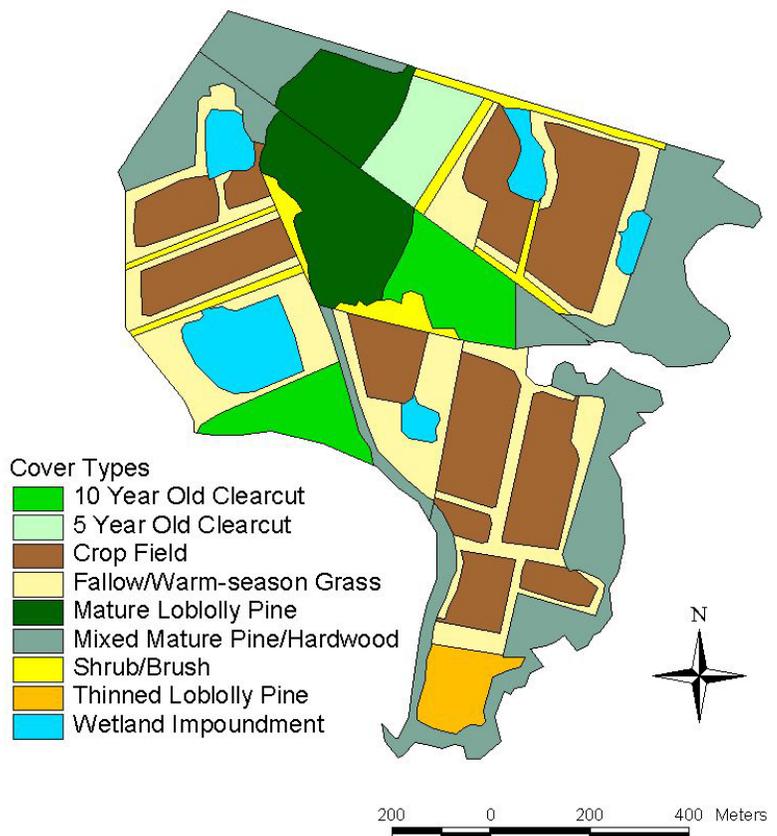


Figure 3. A cover type map provides a good view of the lay of the land at Buck Range Farm.

## Forestland management

A large portion of the pine forests on Buck Range Farm have been either commercially harvested using clearcuts or non-commercially thinned. Both practices have been successful in increasing habitat quality for early-successional species. Two recent clearcuts totaling about 40 acres produced high-quality habitat for quail for five to eight years while providing additional income from timber sales (see cover type map). Perhaps more beneficial and visually attractive was the thinning of about ten acres of loblolly pines. Approximately 70% of the pines were cut and piled in windrows. The additional sunlight encouraged an understory of native grasses and forbs to revegetate, creating ideal food and cover for bobwhites while the windrows provided the benefit of additional escape cover for quail and cottontails. Korean lespedeza is often sown where tree thinnings have occurred to offer winter food and spring nesting areas for quail. Prescribed fires are used every three to five years in February or March to control common volunteer species such as sweetgum and oak, while the overstory pines are left alive. The burning rejuvenates the site, producing lush herbaceous growth at ground level. Refer to the prescribed burning section of chapter 10 for more details on the use of fire to enhance habitat.



*Figure 4. This previously loblolly pine forest of Buck Range Farm was thinned heavily one year before the photo was taken. A lush understory of native plants has been established, providing ideal habitat for a variety of early-successional species. Photo by Bob Long.*

## Shrubs and hedgerows

Central to the management of Buck Range Farm is the development of permanent shrubby cover for quail and cottontails. It is the farm manager's belief, one that comes from 30 years of experience, that quail have vanished from most farms due to the lack of thick escape cover. As farming practices became more efficient, hedgerows were removed and "odd areas" around fields were cleared of brushy vegetation. Shrub establishment on Buck Range Farm was a simple process. Certain areas in and around the field borders and hedgerow corridors were simply left to grow up, producing a diversity of shrub species such as red cedar, wax-myrtle, and others. However, some of the best hedgerows were "grown" with the aid of a single strand of barbed wire and fence-posts. These fence lines offer perching sites for songbirds, whose droppings often include fruit-producing shrub seeds. The result is the creation of a high-quality hedgerow in five to ten years. Shrub areas and hedgerows are periodically disturbed with a disk or bulldozer when the shrub cover becomes too mature or hardwoods invade the site. The rule-of-thumb followed is "if it looks too big to run over with a tractor, knock it down anyway."

## Field borders

Herbaceous field borders surround virtually all crop fields. Most of the borders are situated between forest and cropland and are approximately 50 to 75 feet in width. These borders are maintained through the use of strip disking. About 15 feet of the border is disked annually in the spring to control woody growth and maintain the border in an early-successional stage. On Buck Range Farm, spring disking has been found to encourage beneficial annual seed-producing grasses and forbs such as foxtail, fall panicum, partridge-pea, and native lespedezas. Disking also develops a favorable vegetation structure, allowing quail to move about freely under the overhead cover. In 1996, about 50 acres of the existing field borders adjacent to ditches and “wet woods” were enrolled in the Conservation Reserve Enhancement Program (CREP: refer to CREP case study in this chapter for more information). An attempt to plant native warm-season grasses was made in the CREP buffers. Although big bluestem, little bluestem, and indianguass were planted, the wet conditions during the first growing season hindered growth. Fortunately, native broomsedge and switchgrass invaded the area within a year and the resulting diverse mixture of grasses, forbs, and legumes produced high-quality nesting and brood habitat for quail. Cottontails benefit greatly from the native grasses and forbs, which provide food and cover year-round. The proximity of field borders to shrub and cropland habitats provides important edge habitat used by a variety of species.

## Cropland

Cropping is an important component of the Buck Range Farm management regime, both to provide food and cover for wildlife as well as farm income. Corn, soybeans, or sorghum is planted annually on the 85 acres of existing cropland, with minimal use of pesticides and herbicides. Cropland is only tilled one out of four years, with no-till planting methods used the remainder of the time. Although cropland is primarily managed as a wintering waterfowl food source, the proximity and arrangement of crop fields to other habitat types, such as field borders and hedgerows, create favorable conditions for bobwhite quail.



*Figure 5. The proximity and arrangement of crop fields to other habitat types, such as field borders and hedgerows, creates favorable conditions for bobwhite quail. Photo by Bob Long.*

## Moist-soil managed impoundments

Two ten-acre impoundments were constructed in the 1990s to provide wintering waterfowl habitat. Interestingly, these areas have also been beneficial to bobwhite quail. The impoundments are drawn down in early spring to encourage annual seed-producing plants. Because the areas are essentially dry and fallow in the summer months, first year vegetation and bare ground are abundant, creating preferred bugging areas for bobwhite broods. In autumn, the impoundments are filled by natural rainfall during autumn, producing high-quality waterfowl and wading-bird habitat.

*Figure 6. Waterfowl and upland habitat management can work together. Disking is used to improve habitat for thousands of ducks, geese, and wading birds, but the disk is an equally important tool for maintaining bobwhite quail habitat on Buck Range Farm. Photo by Donald Webster.*



## Results and wildlife response

The benefits of the intensive habitat work on Buck Range Farm are evident simply by walking around the property. In the spring, whistling bobwhites, gobbling turkeys, and an array of songbirds such as eastern meadowlarks and field sparrows can be heard everywhere. Autumn and winter are the times when the landowner's attention turns to hunting, a favorite pastime. Prior to the intensive upland habitat management, there were fewer than five bobwhite coveys on the entire farm. Covey numbers have increased over 300%; the farm now holds 15 to 20 coveys of wild bobwhites. Prolonged snow cover in the winter of 1996 temporarily reduced the number of breeding pairs, but with suitable habitat the population quickly rebounded within two years. Since that time, a typical afternoon hunt results in five to ten covey flushes. Habitat management of the wetlands also has produced desired results; harboring 500 to 1,000 puddle ducks annually, including mallards, widgeons, and pintails.



*Figure 7. Bobwhite quail have disappeared from most farmed landscapes, but Buck Range Farm still harbors 15 to 20 coveys of wild quail each year. Photo by Maryland Department of Natural Resources.*

Habitat management on Buck Range Farm can be considered an amazing success. Few properties in the eastern U.S. have the abundance and diversity of wildlife present on the farm. With the landowner's goals in mind, the farm manager has been instrumental in improving habitat conditions for upland game birds, grassland and forest songbirds, waterfowl, wading birds, wild turkeys and trophy white-tailed deer. Realizing the needs of the targeted species and then carefully planning the steps required to put that habitat on the ground has been vital to successful early-successional habitat management on the farm. According to the farm manager, those interested in early-successional wildlife must become "practitioners of disturbance", keeping the land in

an early stage of development that benefits many types of wildlife. Although it may be a unique situation to have the potential to manage for such a variety of species, any one of the habitat prescriptions discussed here can be successfully used on a property to improve the quality of the land for early-successional species.

## **Biography**

Bob Long is the wild turkey and upland game bird project manager for the Maryland Department of Natural Resources. He received his B.S. in Wildlife Science at Virginia Tech in 1998. He is also working towards his M.S. in Wildlife Management from West Virginia University, conducting research with the Appalachian Cooperative Grouse Research Project.

Donald Webster is the waterfowl habitat manager for the Maryland Department of Natural Resources. He has over 30 years of experience managing upland and wetland habitats for wildlife. In his spare time, Donald manages several farms totaling about 800 acres near his home on the Eastern Shore of Maryland.