

PAST AND PRESENT BOBWHITE MANAGEMENT IN SOUTH CENTRAL FLORIDA

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Bobwhite quail have been considered the premier game bird in Florida since the latter part of the 19th Century. In north Florida, large quail plantations that still typify the area in the Red Hills Region around Tallahassee, were put together by wealthy northerners during the post Civil War period. The tenet farm system and the widespread use of fire, which at the time characterized the region, created outstanding quail habitat. Interest was very high in maintaining high quality quail hunting on plantations. And as a result, in 1924, a group of influential and wealthy men, along with cooperation of various government agencies, provided financial support for H. L. Stoddard to embark upon a 5-year investigation concerning the life history and management of bobwhites. "The Bobwhite Quail, It's Habits, Preservation and Increase", published in 1931, contained the results of this investigation. This classic study provided significant insight into quail management and since has been the beginning point of most management oriented quail studies. The eventual outcome of the Florida quail investigations was the establishment of the Tall Timbers Research Station (TTRS), which today is recognized as one of the foremost game bird research institutions in the country. However, until now, most of their work has been centered in the north Florida/south Georgia region.

It wasn't until Fry (1954) published his dissertation, "Aspects of the Ecology of Bobwhite Quail in Charlotte County," that any attention was given to quail management in south Florida. This was later followed by Loveless (1958), who published a thesis entitled "Mobility and Composition of Bobwhite Quail Populations in South Florida." Fry's study was more management oriented, while the Loveless study examined life history. Outside of the two previously mentioned studies, little has been done regarding quail management in south Florida until recently. Some investigations concerning the effects of hunting on public lands in the region were carried out in the early 1990's (Delaney 1993).

As the statewide turkey flock and deer herd began to flourish during the late 1960's and 70's, the Game and Freshwater Fish Commission (GFC) put less and less emphasis on quail management and research. The philosophy was that quail management on public lands was too expensive for the number of hunters that could be accommodated. Outside of the 65,000 acre Cecil Webb Wildlife Management Area (WMA), which has been managed for quail since its purchase, quail management has not been emphasized on most public lands over the last thirty years. Since quail populations existed in reasonable numbers on many private lands, the decision not to make quail management a priority on most GFC lands appeared to be a reasonable position. In 1993, the GFC established a new small game biologist position. By then, it was apparent that statewide quail populations were seriously declining. More importantly, it was becoming evident that we were experiencing unprecedented land

use changes throughout the state. In addition, it was apparent that landscape scale changes were necessary to reverse the trend.

Northern Bobwhite Conservation Initiative and Florida's Response

The northern bobwhite has suffered serious declines throughout much of its range for at least three decades. It is estimated they declined 65.8% between 1980 and 1999 (Dimmick et al. 2001). In response to this serious downward trend, the Directors of the member states of the Southeastern Association of Fish and Wildlife Agencies requested the Southeast Quail Study Group (SEQSG) to prepare a plan for the recovery of the northern bobwhite. As a result of this request, the SEQSG prepared the Northern Bobwhite Conservation Initiative (NBCI) (Dimmick et al. 2001). The objective of the NBCI was to restore bobwhite populations range wide to an average density equivalent to that which existed on improvable acres in the baseline year of 1980.

Based on the North American Breeding Bird Survey, quail populations in Florida declined over 70% from 1980 until 2000 (Figure 1). Harvest has declined at a similar rate (Figure 2). In response to this dramatic decline in the quail population, the Florida Fish and Wildlife Conservation Commission (FWC) has prepared a conceptual restoration plan and is in the process of expanding the conceptual plan into a comprehensive bobwhite restoration and management plan. The final plan will contain clear bobwhite habitat restoration objectives and strategies to achieve those objectives for each major land-use category in the state. Meanwhile, the FWC has implemented management and research projects which are on a parallel track to the developing management plan.

One of these is a cooperative project between the FWC and the USGS Cooperative Fish and Wildlife Research Unit at the University of Florida. It is investigating the effects of hunting on the Cecil Webb WMA. In the past, hunting season length and exposure to the gun did not appear to be an important factor in affecting quail populations. However, when intense hunting pressure is directed toward a fragmented population, scientifically based regulations may be necessary to control the harvest to prevent suppressing populations. If we are to offer quail hunting on Florida's public lands, it is necessary to understand how to provide quality hunting on a sustained basis.

In order to successfully restore bobwhites, a significant amount of private land will have to be affected to achieve the regional and statewide bobwhite population goals. Early on, it became apparent that the south Florida ranchland community offered the best chance to achieve bobwhite habitat restoration on a landscape scale. In 2001, a cooperative project between the FWC and TTRS proposed to look at economic impacts of altering a working ranch landscape to favor bobwhites. A graduate student, Mr. James Martin, began that study. During the course of the preliminary study, it became even more apparent that the widespread habitat changes necessary for bobwhite restoration might be possible in the south Florida region.

Emphasis on bobwhite restoration in this region is logical because 73% of the NBCI population goal for peninsular Florida could be met through restoration of approximately 7% of native rangelands. There is high potential of meeting these goals on ranch lands because: (1) bobwhite populations on some ranchlands remain at moderately high levels; (2) degraded native range can be restored without changing land use; (3) individual ranches are large enough to permit viable populations, and landowner commitments affect large areas; (4) prescribed fire, an essential management tool for bobwhites, remains an important land management action; and (5) interest in bobwhite hunting on ranches remains high.

A joint proposal was submitted by TTRS and FWC to the USDA Natural Resource Conservation Service (NRCS) to fund a study to test the efficacy of utilizing Environmental Quality Incentive Program (EQIP) funds to achieve bobwhite restoration on rangelands in a 5-county focal area in south central Florida. The NRCS then designated the focal area and provided additional funds to those counties. Currently, the project involves TTRS, FWC, University of Georgia, University of Florida (UF) and the NRCS. James Martin is the field supervisor and is pursuing a PhD. Adam Butler who is pursuing a MS degree is on the same project. There are plans in the near future for additional UF students to become involved in this multidisciplinary effort to restore bobwhites and associated species in this region.

Past Declines and Current Efforts

Even though there are areas in the South Florida region which still contain moderately abundant bobwhite populations, the trend throughout the area has been similar to statewide trends over the last 30 years (Figure 1). Through the 1950's, quail populations were high in the rangelands of south Florida. Similar to most situations where quail existed in good numbers in the past, quail were a by product of the prevalent land use. The widespread use of fire combined with scattered row crop agriculture created a plant community favorable to bobwhites. However, Fry (1964) pointed out that during the 1960's "we do not have the quail we once had, principally because of changing land use. The landscape has changed so radically in places, that extensive tracts of land have become completely unproductive for quail. Examples are the vast acreages of land that have been cleared for the establishment of improved pastures and citrus groves in some sections of the state". The trend described by Fry has continued and accelerated until the present. To provide some idea of the extent of the land use change, Davis (1967) and Kautz et al. (1993) estimated that in the 1950's dry prairie, an important component of quail habitat in many cases, occupied 2,051,000 acres. By the mid-1990's, they estimated 19% of the original extent.

Bobwhites may occur in improved pasture, transition areas adjacent to quality habitat, or spots where tame grasses such as bahia have not established a thick sod because of unfavorable growing conditions. But large acreages of improved pasture are virtually devoid of quail. There are other factors which have depressed quail populations, but the outright loss of native range in south Florida has accounted for a significant portion of the population decline. However, there are still about 3,000,000

acres of native range left in Florida, and much of it occurs in the south Florida region. It is on this native range that good possibilities for quail management remain.

Bobwhite Habitat

Bobwhites thrive in habitats that have been disturbed, or are in what is described as an early successional plant community. Aside from conversion of native grasses to sod forming grasses, there are four major factors which have impacted south Florida rangeland. Cattle, fire, soil disturbance, and water levels have shaped the current south Florida ranchland landscape. Even though flooding can have a dramatic impact on quail populations, it must be considered an environmental factor that is, in most cases, out of our control. However, cattle, fire, and soil disturbance are the tools which can be used to create conditions favorable to bobwhites. In general terms, proper application of these tools in a plant community will provide cover and food. But the long term use of solely winter fires, reduction in fire frequency, and intensive grazing have resulted in the proliferation of palmetto (*Sabal spp.*) at the expense of bunch grasses, forbs and shrubs (Moore et al. 1982, Tanner and Marion 1990). While palmetto is beneficial to bobwhites when occupying a small percentage of rangeland, it appears to become detrimental when coverage becomes excessive (Fry 1954). It also is probable that, on native sites which have been grazed intensively for long periods, the native legumes have been completely removed, thereby removing an important source of quail food. In general terms, the objective of current research being carried out in the region is to test the efficacy of fire, roller chopping, and eventually grazing, for increasing bobwhite populations. This includes determining the proper timing and frequency of fire, and the extent and timing of chopping necessary for habitat restoration.

Future

The current emphasis in this region will almost surely improve bobwhite habitat, and may very well achieve the NBCI and FWC management goals for this area. However, the long term future for maintaining the land in a condition that will be productive for quail and other associated species remains problematic. I am confident that we can restore and manage quail in this habitat type, but the factors which threaten the native habitats of the region are forces far beyond knowing when to burn, and when to graze. Development pressure, high land prices, and high taxes all contribute to the price squeeze that ranchers feel. These pressures threaten the integrity of the area from a wildlife and ecological prescriptive. If we have no land to manage, knowledge on how to manage it is a mute point. The answers to the current land conservation dilemma in this region are difficult to obtain. However, there are some things which appear to be fairly certain. The state cannot afford to step in and conserve much more land. Secondly, it appears certain that landowners must receive compensation for their efforts to manage for wildlife. This may come as direct payments from wildlife users to the landowner, or it may come as compensation from public funds. It is likely that both methods will be necessary. Then, innovative means, such as tax incentives and easements for those wanting to conserve land need to come into play. Finally, as a

society, we must recognize that there are long term values associated with the land which supersede the highest monetary bid.

Figure 1. Decline in counts of northern bobwhite quail in Florida as recorded by the North American Breeding Bird Survey between 1966-2004.

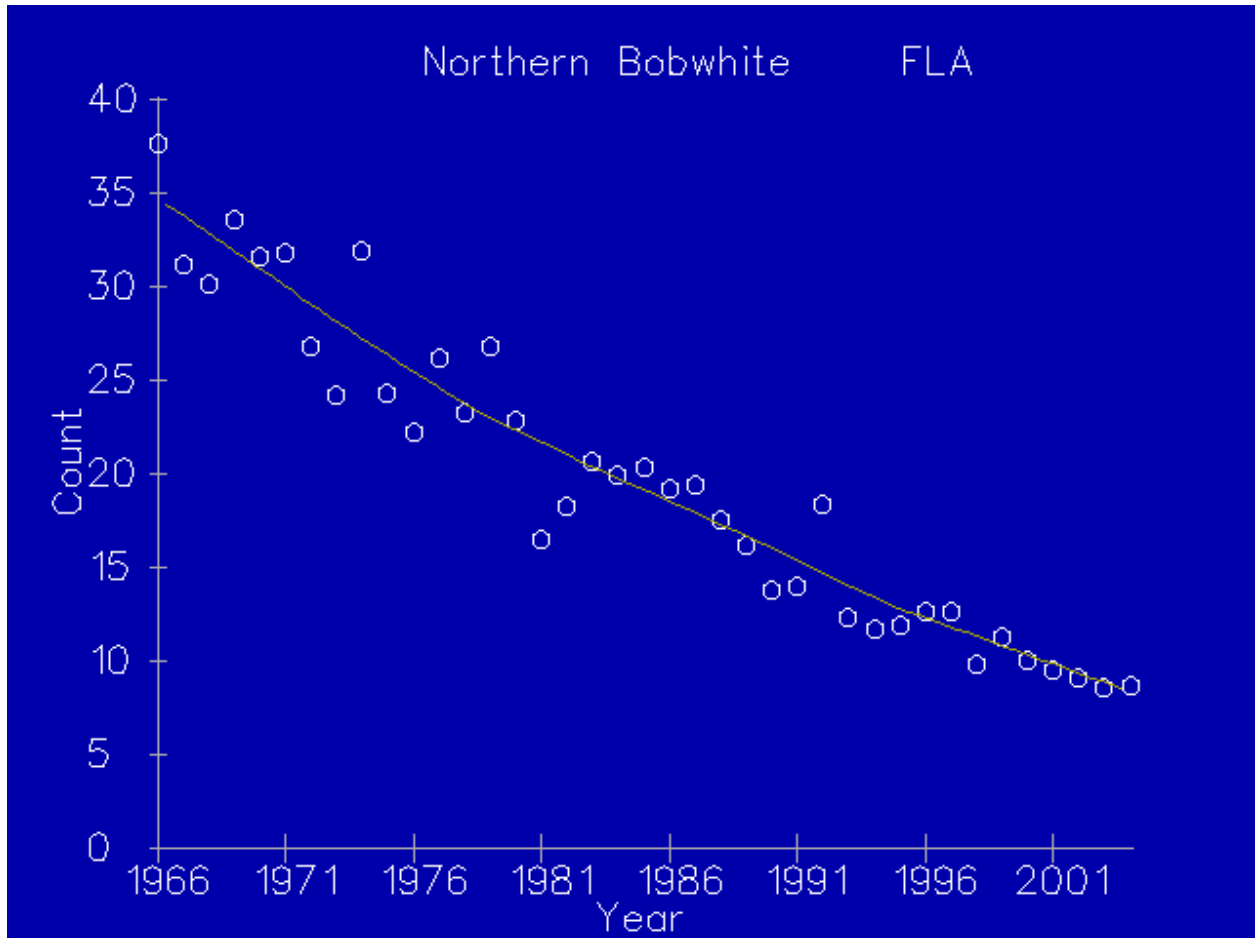
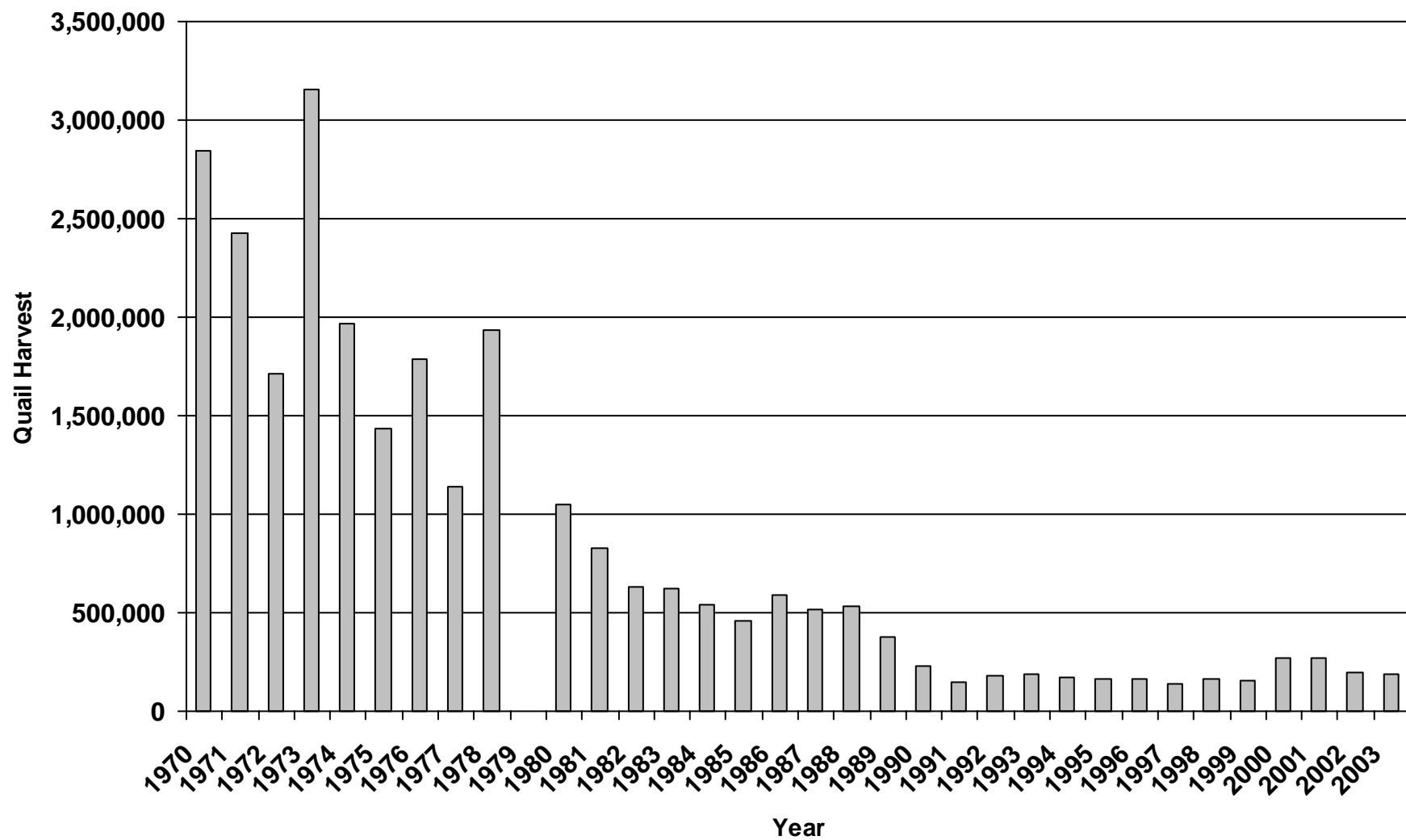


Figure 2. Decline in harvest of northern bobwhite quail in Florida as recorded by hunter surveys between 1970-2003.



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