





The Decline of
BOBWHITE
QUAIL
in the South

BIG PROBLEMS DON'T COME WITH EASY ANSWERS.

Written by Mark D. Jones

*J*n the January/February issue, we discussed factors behind the decline of the bobwhite quail. It's well established that the problem is widespread throughout the range of bobwhites and does not come with easy solutions. In fact, the required habitat changes are expensive, time consuming, and difficult for the average hunter or even state wildlife agency to influence because of the need to impact huge acreages of mostly privately owned lands. The difficulty of impacting enough habitat to make a difference leads hunters

to propose a variety of other solutions to the quail decline. Let's discuss a few one by one.

Many of our state's hunters suggest we stock quail, similar to the traditions for fish such as trout. While this could provide a reliable supply of huntable birds for a short period each season, in my opinion it would be a poor substitute for wild birds. Anyone who has ever witnessed a covey of wild bobwhite quail explode from in front of a bird dog will understand this sentiment. I'll let others debate the merits of



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Bobwhites are very specific in their habitat requirements, and that habitat has been dwindling for decades.

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stocking birds for providing short-term hunting opportunities, but if folks think stocking will help our wild quail situation, dozens of experiences from around the country tell a different tale. This is hard for hunters to accept, because they often assume quail can be stocked just like wild turkeys, but the circumstances around the decline of the two species are much different. Understanding the differences is critical to making sure hunters and agencies make informed decisions.

Turkeys began declining over 100 years ago because their habitat was drastically degraded and because of excessive mortality as humans over-exploited them for food. However, turkey habitat began improving over much of the second half of the 1900s as forests recovered and the creation of state wildlife management agencies in the early and middle 1900s brought wise regulation of hunting seasons. A perfect storm of improving habitat and regulatory management allowed the highly adaptable turkey to be restored to improving but unoccupied habitats across the United States.

The three keys to this successful turkey story were the recovery of habitats occurring in the late 1900s, an ability to manage mortality levels through regulatory measures by state wildlife agencies, and the adaptable nature of the turkey itself. Under this scenario, it made perfect sense to move turkeys into quality habitats without birds.

The quail story does not qualify on any of these key points. Today, quail habitats continue to decline in both quality and quantity over most of the bird's range, with no sign of recovery. Bobwhites experience very high natural mortality, making them difficult to impact with regulatory measures like hunting seasons, and quail are specialists (unlike wild turkeys), requiring very specific habitats in order to reproduce and live out their daily lives.

Quail stocking has been attempted by many state agencies and private individuals with almost no success at establishing breeding populations in marginal habitats. The vast majority of wildlife biologists agree that stocking programs are a waste of resources and that our efforts are better spent working to improve habitat for existing birds. Populations in these areas are often low simply because the amount of quality habitat is very limited on our modern landscape.

Populations of quail are widespread across the Coastal Plain and found in scattered habitats of the Piedmont. Mountain quail populations are even more disjunct due to very limited quality habitats. Without improving habitat conditions, there is little hope for stocking birds into any of these regions. Quail are a species capable of reproducing quickly when their habitat needs are met, but moving birds into inhospitable landscapes would be like dumping fish that need fast-moving, cold, clear water into a coastal swamp and expecting them to live in a sluggish, warm and muddy stream. Our best bet is to manage habitats and allow existing birds to move into and inhabit quality habitat areas.

An example from a neighboring state illustrates this point. Wild quail were thought to be locally extinct in a county far on the periphery of this state's known modern-day quail range. In recent years, major changes to cattle grazing practices occurred in this county as aging farmers reduced herd sizes

WE KNOW *of* NO AREAS *of* GOOD QUAIL HABITAT *in* NORTH



due to multiple market forces. Then along came *Miscanthus* (Japanese silver grass), an aggressive species of non-native, introduced grass. This grass forced the next major land management change—the use of prescribed fire and flash grazing to control the spread of this invasive plant. All of a sudden, wild bobwhites were found in the areas formerly thought completely devoid of quail. Our neighbors report that it has been remarkable to watch quail populations increase in some of these areas when habitat improvements occurred. No quail were stocked; existing birds simply responded to newly available habitat.

Another solution we commonly hear is that we need to kill predators. The decline of the U.S. fur market, and subsequent decline in

In order to shed light on this issue, the N.C. Wildlife Resources Commission worked with researchers from N.C. State University and the Virginia Department of Game and Inland Fisheries on a comprehensive, long-term research project in the 1990s to test the removal of nest predators, including gray and red foxes, opossums, raccoons and skunks (all species that eat eggs and kill chicks). The results from this four-year effort told us that the control of these predators will not increase quail populations without the addition of significant acreages of improved quail habitat.

It is also important to understand that we were able to implement a level of predator removal that would be difficult, if not impossible, for the average landowner to

government would grant an exemption for killing raptors in special circumstances to increase quail populations.

Upland game enthusiasts and state wildlife agencies have worked for decades to build partnerships with habitat-oriented and bird conservation groups who are often made up of a mix of hunters and non-hunters. After all, habitat for quail and other game species is also habitat for high priority non-game wildlife species requiring the same conditions. Many members of these groups do not hunt, but support the role of hunting in wildlife management and share common interests with hunters in terms of managing quality wildlife habitats.

If we implemented programs designed to kill raptors in order to increase quail numbers, our agency and our hunters would immediately lose the support of many of these groups who have been good partners in our wildlife habitat enhancement efforts over recent years. The loss of partners and support from the general bird-loving public would far outweigh any minor benefits that quail might receive from fewer hawks. All this would occur without the existence of solid data showing that such control of birds of prey would even make a difference for bobwhites. And remember, this debate jumps over the huge hurdle of getting an exemption to the federal Migratory Bird Treaty Act to allow this control in the first place.

I sometimes wonder if the predator debate is not a serious waste of resources that could be better spent on habitat discussions and efforts. This is colored by my direct experiences hunting in the Great Plains over the last couple of decades where there are some of the densest populations of hawks, foxes, and raccoons I have ever seen. These areas also had quail populations that would make a North Carolina hunter feel like a kid at Christmas. What sets those areas apart is



Why Do Bobwhite Quail Form Coveys?

See *Nature's Ways*, page 43.

trapper numbers and interest, has played a role in increased populations of mammalian predators such as raccoons, opossums and foxes in recent decades. The ban on DDT, coupled with laws to protect hawks and owls, has increased populations of these birds of prey. There is no doubt that there are more species of many predators today than in decades past when quail were more abundant.

Because of legal status, we have to treat mammals and hawks separately when addressing any impact they may have on other wildlife. State wildlife agencies have full legal authority over resident mammal species and can pass laws and regulations to increase harvest or allow removal. Before this is allowed, it is important to know if mammalian predators can be linked directly to the quail decline.

achieve, because we used full-time, paid trappers outside the normal trapping season. Most landowners will never implement such a full-scale effort at removing predators because of time and financial constraints. The take-home message from this work is that the control of mammalian predators alone will not improve quail populations, and I expect the level of mammalian predator control possible for the average landowner will have little effect on predator populations at all.

The situation regarding hawks is much different from that of mammals. Hawks, owls and other raptors are protected by federal law that has its foundation in the Migratory Bird Treaty Act (an international treaty and the highest form of law in the United States). Let's suppose for a minute the federal

CAROLINA WHERE *the* BIRDS ARE NOT ALREADY FOUND.



that they contain large expanses of year-round bobwhite quail habitat. Also, finding a place to hunt in those states is much easier because of the greater quantity of habitat. Any North Carolina hunter who is not convinced habitat is the key ingredient needs to travel to these states and see for himself.

Year-round habitat must address a quail's needs in winter (food and cover for the leanest season), spring (courting and pre-nesting habitats), summer (nesting and chick-raising habitats), and fall (food and cover). There are few places left on the North Carolina landscape that provide all these components, but we do have examples of excellent quail habitat in the state with very high bird populations. Biologists know how to produce quail given enough resources, acreages, and commitment from the landowner. Most of these areas are on intensively managed private lands such as our Corporate CURE (Cooperative Upland Restoration and habitat Enhancement) farms or on private quail hunting areas in eastern North Carolina. This management is expensive and requires a commitment from the landowner and/or farmer that simply does not exist in most areas and cannot be easily paid for with the amount of public funds likely to be available anytime in the foreseeable future.

Historically high quail populations resulted from agricultural and forestry practices common in the late 1800s and early 1900s. Southerners at that time were working hard to clear and farm a mostly forested landscape. This work was done by hand and with work animals and created millions of acres of openings and near perfect "messy" edge habitat preferred by bobwhites. Row crop farming, grazing, and forestry of these times were not dominated by technology or machinery and not particularly manicured, efficient or clean. The resulting landscape of native grasses, briars, weeds, forbs and shrubs was very favorable for quail.

Things began to change in the years after the Great Depression and World War II when technology came onto the scene. Agricultural and forestry practices became more and more technologically advanced. It became "normal" practice to do things that manicured or "cleaned" the landscape in an unfavorable manner for quail, and quail numbers have simply followed these changes through time in the last half century. Because these land-use changes occurred for economic reasons, it will take new and economically sensible practices, implemented over huge areas, to increase bobwhite numbers.

Another neighboring state gives us an example of the importance of economics in the bobwhite equation. This state's overall quail population has declined just as much, if not more, than ours. First, through coincidence, one county in this southern state's Coastal Plain experienced an unusually high amount of timber harvest (thinning and clearcuts) in local pine timberlands due to timber market forces beyond anyone's control.

This timber harvest was followed by the use of an unusual combination of herbicides to control competition with replanted trees. These mixes were less lethal than normal for quail-friendly legumes and grasses. Secondly, two very large acreage landowners in the county implemented prescribed burning on

several thousand acres. And thirdly, many local landowners implemented conservation practices, cost-shared by USDA Farm Bill funds, on croplands.

All of these changes came together at the same time for pure economic reasons in a perfect storm for bobwhite quail. Bobwhites temporarily responded to the unusual amount of new, quality habitats. One hunter reportedly found over 125 coveys and killed 225 quail in these areas last season. All of this occurred in an area very similar to our Coastal Plain landscape, which has millions of acres of row crop land and forest land managed for timber

For a landowner with sufficient acreage, money and will, biologists can produce quail. Some of the habitat work involves controlled burning (below) and the introduction of plants beneficial to bobwhites.



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WILDLIFE AGENCIES THROUGHOUT *the* SOUTH ARE WORKING



production. If this type of change to standard land management regimes were implemented over entire regions of Southern states, imagine the impact to quail populations!

There are two bobwhite worlds that exist today. In one world, intensive habitat management produces bobwhites given adequate landowner commitment, finances, and acres. Scores of these areas exist throughout the South, and we have many right here in North Carolina. The average hunter will not set foot on these, and if you have access to such areas count yourself among the fortunate few. What we should learn from these areas is that there is no mystery about how to produce quail—the challenge is paying for it over larger areas.

That leads us to world number two: “The Real World”. This covers the vast majority of quail range where common land use practices are driven by economics that determine the fate of quail. Lands are managed here by farmers, ranchers, and forest owners in ways they believe are economically sound. Whether biologists, hunters, and wildlife enthusiasts agree with this management does not matter. Putting food on the table, sending children to college, and paying the loan on the tractor, truck, and seed comes first. I say this with no disrespect because I think most Americans would do the same.

To address quail in this “Real World”, we are left with two options. One is to directly pay landowners for quail-friendly habitat. That has been done to varying degrees in many states, but it is expensive and rarely sustainable over the long-term. Some experts believe this is the future of quail management and the only chance for the species. Time will tell if they are right, and at least we have this option.

I still have hope of another promising option. If adopted, it would be more sustainable over time and benefit more acres, people, and other wildlife species. It involves finding economically sensible alternatives to current

Corporate CURE: Growing Quail in a Growing Partnership

A unique partnership that started between the N.C. Wildlife Resources Commission and Murphy-Brown, LLC, a large hog-farming corporation, has morphed into a wildlife habitat focal area that includes 22 farms with multiple landowners. The emphasis here is to promote and protect water quality while providing much needed early successional habitat for species like bobwhite quail.

Currently, on over 15,000 acres of farmland, there are 262 acres of field borders, 189 acres of fallow habitat areas, 75 acres of native grasses planted, and 170 acres of longleaf pine restored. Quail response on the original farm has been very good, with surveys indicating that covey counts now average 5.5 coveys per point.

The commission recently implemented permit quail and rabbit hunts on these farms to provide sportsmen a return on the investment in this project and show that small game management can be successful on today’s North Carolina landscape.

land management practices. No-till planting, filter strips on cropland, conversion of sod-forming fescue and Bermuda grass to native bunch grasses, and thinning and burning of woodlands are examples. These practices benefit not just quail but a host of declining species.

Unfortunately, these and other practices are not common on a high percentage of our landscape. Perhaps we have not identified the right practices or presented the right economic arguments. Clearly, we have a long way to go in terms of reaching out to landowners and developing reasons for them to change standard practices. We must continue to search for more information about economically smart land management alternatives and hope for a little luck along the way.

For quail and associated species to ever recover, Government agencies, quail hunters, songbird enthusiasts, and landowners must all work together to find these economically sensible reasons for private landowners to do things differently. Changes must address practices on crops fields, pastures, and forested lands. It will take a combination of persistence, hard work, and planning for bobwhites to once again return to prominence in North Carolina and throughout their range in the South. ♦

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on “QUAIL PLANS” DESIGNED to ADDRESS the PROBLEM.