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Leonard A. Brennan

Tall Timbers Research Station

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STRATEGIC PLANNING UPDATE

Leonard A. Brennan

Tall Timbers Research Station, 13093 Henry Beadel Drive, Tallahassee, FL 32312-0918

John P. Carroll

University of Georgia, Daniel B. Warnell School of Forest Resources, Athens, GA 30602

"As the years roll on, the tribute which we extract from the American landscape to sustain our prodigal society increases. There is an ever-growing demand for more agricultural crops, more livestock and more wood products, while the acres available for production are shrinking from urbanization and other causes." (Leopold 1978).

ABSTRACT

This paper is a snapshot assessment of what has been achieved in quail management and research since the first national strategic planning workshop was organized at Quail III in 1992. In general, interest in quail remains strong and in many cases is increasing, among a diverse community of managers, researchers, and hunters, despite the continued population declines of several species of quails, and widespread loss of quail hunting opportunities on both public and private lands.

Several regional interest groups who serve as advocates for quail have emerged in both the southeastern and western U.S. Some potentially promising opportunities for broad scale habitat improvement have emerged from Farm Bill legislation (such as subsidies for planting longleaf pine [*Pinus palustris*] in the Southeast). Whether such incentives will serve to reverse the broad scale northern bobwhite decline, remains to be seen. Several states in both the Southeast and Midwest have either reaffirmed or renewed their commitment to quail research and management. They fully realize that reversing declines and local extinctions will be extremely difficult given the incompatibility between most modern agricultural and forestry land use practices and the habitat needs of wild quail. How, and if, wild quail will be able to fit within the ever-tightening constraints of modern land use by our prodigal society is one of the most challenging questions currently facing anyone interested in these birds.

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INTRODUCTION

As part of Quail III in 1992, one of us coordinated a workshop (Brennan 1993a, 1993b) that defined the major problems facing wild quail in the United States, and outlined strategies that could be used to solve them. The workshop, and resulting publication was primarily conceptual, and, unlike documents such as the North American Waterfowl Management Plan, did not contain specific population or habitat benchmarks such as "increase northern bobwhite populations in Mississippi 5% per year for the next 20 years." Rather, the workshop leaders chose to outline some basic, concept-driven, practical ideas that could be used on a national scale to benefit the 7 species of wild quail in the United States in terms of issues that related to Agricultural Practices and Pesticides (Capel et al. 1993); Forest Practices (Brennan et al. 1993); Grazing and Range Management (Brown et al. 1993); Releases of Pen-raised Quail (Hurst et al. 1993); and Population Dynamics and Effects of Hunting (Kuvlesky et al. 1993).

In this paper, our objective is to provide a brief synopsis of the major elements of progress that have been achieved with respect to quail management and research since 1992. In addition to keeping up with the scientific and management literature, living and working in the midst of 300,000 acres of private lands

managed exclusively for quail hunting, and traveling widely throughout the Southeast, Midwest, and western U.S., we queried the Quail III workshop leaders to send us their insights and perceptions about progress and achievements with respect to quail management and research. Our purpose here is to share those comments and insights.

PROGRESS SINCE 1992

General Issues

One of the most promising developments since 1992 has been the formation of the Southeast Quail Study Group (SEQSG), a consortium of biologists, researchers, and managers who are interested in working cooperatively to solve problems related to the northern bobwhite decline. Other regional efforts in the western states are emerging, but still inchoate.

New bobwhite initiatives have emerged in Virginia, North Carolina, Oklahoma, Tennessee, and Georgia. Major bobwhite programs have continued in Mississippi, and will expand in Texas. Mississippi has spent more than a million dollars on quail research and habitat management during the past decade, and several other states, such as Virginia and Georgia, are developing quail management and research programs with multi-year budgets > several million dollars. A

recent study of economics of bobwhite hunting in the Southeast (Burger et al. 1999) needs to be communicated beyond the bounds of the professional wildlife literature.

An area where we have not made much progress is emphasizing the connection between declining quail populations and declining populations of other early successional species. Management to benefit quail and management to benefit other groups, such as early successional and grassland birds, would provide a better and more unified front. Carroll et al. (2000) addressed some of those issues, but mainly documented lack of research in the Southeast.

Agricultural Practices and Pesticides

Although Farm Bill legislation seems to hold promise for encouraging quail-friendly land use practices, it remains to be seen whether this strategy will pay dividends with respect to reversing the bobwhite decline. In addition, research on agricultural issues relative to quail management seems to be on the increase.

Recent work in North Carolina by Palmer et al. (1998) and Puckett et al. (*this volume*) on incorporating bobwhite habitat in modern agricultural landscapes appears promising. By using filter strips, and field borders, it appears that bobwhites can be incorporated in modern agricultural landscapes if about 5% of the total area is allocated for quail. Whether modern farmers will embrace the "5% solution" is not clear. How implementation of precision farming might benefit or hurt these edge areas managed for wildlife is unclear.

New technological advances such as genetically altered crops, "Round-up Ready" soy beans and cotton, and no-till approaches, all remain huge question marks on the agricultural horizon for quail. These technologies potentially allow widespread adoption of alternative cropping systems that might benefit quail. Preliminary data in Georgia (E. Goldberg and J. Carroll, unpublished data) suggest that cotton can be made better for quail brood habitat using strip-tillage systems.

It may be a combination of in-field and field margin approaches used in concert and in creative ways that are acceptable to farmers that will yield the greatest benefit for quail management.

Forest Practices

A huge step forward has been the inclusion of subsidies for planting longleaf pine in the CRP program, along with renewed interest in uneven-aged management of southern pine forests in general. A potential step backward has been the emergence of "total control" southern pine silviculture, whereby all (yes all) competing vegetation in pine plantations is eliminated by herbicides. Basically, the result of this land use is pine trees growing in a substrate of sandy soil and scattered woody debris that remains after site preparation. What this system represents is the final transition of management of southern pines from a silvicultural context to a multi-year agricultural crop. That sort of system creates many of the same challenges already

seen in annual row-crop agriculture. However, there are also differences because of the multi-year, growth patterns that accumulate much more standing biomass than row crops.

There needs to be continued progress on understanding how to optimize quail populations and timber resources on the same parcel of land. We know from experience that it is not possible to maximize both quail and timber, but surely, there must be an optimal solution to this dilemma. Approaches to looking at these issues on landscapes containing a shifting mosaic of ephemeral quail habitat might yield more positive results than continued focus only on the stand level.

Grazing and Range Management

Dave Brown reported that "all the issues that existed in 1992 remain with us today."

Releases of Pen-raised Quail

Despite the recent paper by DeVos and Speake (1995), there is little active research in this area. In our opinion, two distinct camps have developed and are evolving: (1) people who do not want anything to do with pen-raised quail, and (2) people who believe that pen-raised quail are the only viable substitute to wild birds for providing hunting opportunities. A third view, based on our observations during a "debate" on the Anchor Covey System at a recent Quail Unlimited Convention, is that there is a contingent of people who believe this method can actually use pen-raised birds to restore wild quail to areas where they did not exist. The difficulty here is that views become quickly entrenched with little scientific evidence to support the notion that distributing pen-raised quail will recover wild populations.

Possibly there is middle ground in approaches adopted by some in Europe. There, the view tends to be that wild bird management is the ideal goal; however, modern land use results in much of the land area providing very little sporting opportunity without large monetary investment. In those situations, compromises on habitat development are made to allow reared birds to survive relatively long periods of time and even reproduce in the wild. However, management of reared birds is looked at as being beneficial only when there is a net conservation benefit in terms of habitat management, not just "dumping and shooting" birds in poor habitat (Tapper 1999).

Population Dynamics and Effects of Hunting

During the past several years, there has been an orchestrated effort to develop a large-scale experiment to assess the effects of hunting on bobwhite populations. However, this project is still in the planning stages.

In general, we see a welcome trend toward more field experiments, including those involving hypotheses related to predation. Investigators working on various field experiments related to predation, as well as other topics, should strive to standardize experimental

designs and sampling methods so that effective meta-analyses can be conducted on such data. One project, sanctioned by the SEQSG, and supported by funds from Quail Unlimited, Tall Timbers, and other organizations, is looking at quail productivity relative to indices of mammalian predator abundance on a regional scale by combining the results of a large number of intensive quail studies being undertaken in the Southeast.

CONTINUING PROBLEMS AND CONCLUDING REMARKS

Despite a renewed interest in research, the bobwhite decline continues throughout much of the range of this species. The scaled quail (*Callipepla squamata*) decline also continues, but, in contrast to the bobwhite decline, without the benefit of much research to understand it. The mountain quail (*Oreortyx pictus*) remains largely extirpated from the intermountain regions of its geographic range. Although there is currently an active petition process to list the Columbia-Snake River basin populations as endangered, state and federal resource agencies seem reluctant to embrace a comprehensive solution to this problem.

Despite a heightened interest and activity in both research and in delivering extension products about quail, including a plethora of new videos, myths and misconceptions about quail seem to be more prevalent than ever. This begs the following questions:

- Are we asking the right questions about factors responsible for the declines of quails?
- Are we investing in the right kinds of research to answer those questions?
- Are we framing this work in such a way that all of the competing interests, stakeholders, and constituency groups, understand the level of investment needed to restore quail in the context of tradeoffs relative to other conservation objectives?

We live in a prodigal society (Leopold 1978) where inexorable trends in land use yield less and less habitat space for quail every year. Whether wildlife professionals can devise methods to incorporate quail in modern industrial agriculture and silviculture landscapes, and convince people that it is in their best interest to make some modest concessions, such as the 5% solution developed in North Carolina, remains one

of the most challenging wildlife management problems for the next century.

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