

QUAIL NEWS

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EARLY IDEAS IN BOBWHITE MANAGEMENT

We think ancient thoughts. The degree to which we do so is surprising. Many of our thoughts have been around for millennia.

According to Marco Polo, the Great Khan (1165–1227) planted food plots for game animals, so the idea of food plots has been around for at least 800 years.

In bobwhite management, we have younger thoughts because our thoughts didn't start accumulating till a couple of centuries ago.

Let's go back to 1910 and an article published by Margaret Morse Nice (1883–1974) in the *Journal of Economic*

Entomology. Here are some interesting quotes from the article:

“...the tendency at present, over a large portion of its natural range is strongly toward extinction of the bobwhite.”

These words appeared in print nearly a century ago. Ms. Nice lived in Massachusetts when she wrote the article.

“For bobwhites, cats go farther toward accounting for scarcity and extinction of the birds than sportsmen and all other natural enemies combined,” she reported.

“Crows, rats, skunks, weasels, minks and several of the hawks and owls, especially the three first, are enemies which must be controlled, if the species is to increase anywhere, or if the birds are even to hold their own; and no one should attempt to introduce [bobwhites]

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for the purpose of colonization until the ground has been thoroughly gone over and all vermin exterminated.”

The 1920s and 1930s were boom decades for ideas about bobwhites. From Aldo Leopold (*Game Management*, 1933) we get...

“M. E. Bogle obtained a population of seven quail per acre by intensive management on Round Island, Mississippi, but this density persisted for only one year. This island was three miles from shore and hence was practically a pen. It burned off during 1926, after which the project was abandoned. It is possibly significant that Stoddard [yes, His Nibs] found these Round Island birds infected with coccidia to an abnormal degree during this one year of extreme abundance.”

Round Island, in the Mississippi Sound, is reported at 65 acres but sustained damage from Hurricane Katrina.

Coccidiosis is a protozoan disease of the digestive tract.

Comments by early authors enter our collective psyche and become mental barnacles. Ms. Nice’s damnation of cats at the beginning of the Twentieth Century remains a prevailing outlook early in the Twenty-first Century. Aldo Leopold’s offhand comment about coccidiosis is a classic meme—a thought that lodges in and replicates among

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human minds.

These old thoughts are fun but are they benign?

A great deal of man’s behavior may be explained on the basis of his instincts as a social animal—his need for companionship and leadership, his lack of independence, his obedience to custom, his reliance on some power outside himself.—Margaret Morse Nice (1883–1974)

QUAIL FEEDING ATTRACTS HAWKS IN GEORGIA

“Supplemental feeding is a widely used management practice in areas managed for northern bobwhites,” report Ashley S. Turner and associates, Joseph W. Jones Ecological Research Center, Newton, GA. “Although food provisioning is intended to benefit quail directly, it may also indirectly affect predators by allowing them to focus on the increased concentration of prey.”

Turner studied *indirect food supplementation*. The idea is that quail feed attracts rodents and the rodents in turn attract red-tailed hawks.

“Tractor-mounted spreaders broadcasted grain sorghum during the deer hunting season, and a mixture of sorghum and corn at other times, on

established feed trails in thickets and along field edges.”

The researchers captured red-tailed hawks and radio-tagged them to monitor where they occurred relative to feed trails.

“Supplemental feeding sites attracted red-tailed hawks, presumably due to the increased abundance of prey and subsequent increase in hawk foraging efficiency at these sites.” Supplemental feed put out for quail increased the numbers of cotton rats, house mice, eastern harvest mice, and cotton mice.

For further information, contact Ashley S. Turner, W. C. Bradley Farms, Route 1, Box 52, Omaha, GA 31821. Ask for a reprint of *Supplemental Feeding of Northern Bobwhite Affects Red-tailed Hawk Spatial Distribution*.

WHAT ARE THE EFFECTS OF LATE-SEASON BOBWHITE HARVEST?

A recurring question of wildlife biologists and sport hunters is the effects of late-season harvest on bobwhite populations and productivity. Certainly, one bird shot just before breeding season debits one bird from the breeding population, but that’s not the end of the story.

Field research on the effects of timing of harvest is difficult to conduct and so results are rare. An exception is the work of John L. Roseberry and Willard

D. Klimstra on the Carbondale Research Area in Illinois (*Population Ecology of the Bobwhite*, Southern Illinois University Press, 1984).

“Populations reduced by hunting tended to suffer a lower rate of natural mortality throughout the remainder of the winter,” they reported.

What does this mean? Suppose we start with 2 equal populations, one hunted during October–December and one not hunted. On 1 January, chances are the hunted population will be lower than the not-hunted population. But then members of the hunted population will survive at higher rates than members of the not-hunted population. The net effect will be a tendency towards equalization of the breeding populations on the hunted and not-hunted area.

“It should be noted that the later in the season hunting losses occur, the more additive they become to natural mortality,” report Roseberry and Klimstra.

What does this mean? Because of factors such as the passage of time and bobwhite responses to their own numbers, the fall or winter death of 1 bird by shotgun (or anything else) generally removes a fraction of a bird from the breeding population. The taking of 1 bird in October would remove a smaller fraction than the taking of 1 bird in February. In this sense, later harvests are more additive than earlier harvests.

But “additive harvest” is not necessarily good or bad in the grand scheme of things. This is a phrase that people of all ilk take to be bad. They

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take compensatory harvest to be good. But in fact all additive harvest is to some degree compensatory and all compensatory harvest is to some degree additive. This is inevitable except under highly contrived circumstances.

It is even possible to imagine (with the aid of mathematics) situations where late-season harvest is hyper compensatory: you gain breeders by harvesting late.

There is a bottom line in all this, and it is the density of breeders. It matters not how man and nature contrive to bring about a breeding population if, under average expectations for productivity, that population results in a decent population at the start of the next hunting season.

One final thought. There is a tendency for lower breeding populations to be more productive than higher breeding populations. This is Paul Errington's famous Principle of Inversity. The principle holds with greater force in northern populations (e.g., Illinois) than in southern populations (e.g., Texas). Nonetheless, there is evidence of a wraith-like inversity in southern populations, which cushions the effects of over- or ill-timed harvest on quail populations.

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## *Editorial: Structural fragmentation and bobwhites*

Ooooooooooooooooooklahoma where the wind comes roaring down the plain. That roaring wind is creating a back-forty brouhaha as interests in renewable wind energy and wildlife conservation seem to be coming to loggerheads.

The phrase "structural fragmentation" has recently entered the lexicon of wildlife conservationists and managers. Structures such as oil wells, tank batteries, power lines, fences, roads, and wind turbines may inhibit use of countryside for some species of wildlife. Lesser prairie-chickens, sage grouse, and other prairie grouse seem to be particularly sensitive.

Are bobwhites vulnerable to structural fragmentation?

We don't have any field research on the issue. On the basis of experience, though, I doubt most of us would expect bobwhites to get in a swivet over fences, roads, power lines, and other such structures. After all, we recommend weedy fence lines as a habitat management measure. We find bobwhite nests near ranch roads. We see bobwhites using ranch headquarters areas. I saw wild birds once or twice on campus when I was at Texas A&M University-Kingsville (campus abutted the King Ranch). I have a

picture of a scaled quail sitting on pipes near a gas valve.

Our research team has started an analysis of bobwhite response to artificial objects on the Packsaddle Wildlife Management Area. Stephanie Manes, U.S. Fish and Wildlife Service, and Scott Parry, Oklahoma Department of Wildlife Conservation, are collaborators. Our preliminary eyeballing of the data indicates little or no response to objects. Rather, the birds seem to be responding more strongly to cover types during the breeding and covey seasons. But I am editorializing here because the analysis is not complete.

The effects of wind farms, on the other hand, will remain speculative after this research. So let's speculate.

Wind farms look to me like a flock of pterodactyls on shish kebab skewers. I doubt they invoke that response in bobwhites because the last pterodactyl flew 65 million years ago and bobwhites of one form or another have been around for only 12 million years or so. Bobwhites wouldn't seem to have pterodactyls on their genetic listing of things to avoid.

In the Southeast, bobwhites thrive in pine forests if the trees are not too close together. Could it be that a bobwhite would perceive a wind farm as a stand of hideously mutated loblollies? (Nah. Bobwhites don't perceive using adverbs such as "hideously.")

My guess is a bobwhite's perception consists of physical, instinctual, and experiential parts.

The physical parts are the stuff of physics: heat, cold, sound waves, light waves, molecules with different properties.

The instinctual parts consist of all quail knowledge built into their genetic code.

The experiential parts consist of all the knowledge quail have gained through experience or instruction, such as running from hunters.

We do not know at this time whether bobwhites have anything in their perceptual repertoire that will cause them to respond to wind farms. If they do, it probably will be instinctual at the outset because a physics tie-in seems farfetched and they have no experience with wind turbines.

**Fred S. Guthery**  
**Bollenbach Chair in Wildlife Ecology**



"The carrying capacity of an area for bob-white [sic] may conceivably be reduced by half or possibly more, simply by the natural seasonal loss of leaves from deciduous vegetation."—Paul L. Errington and F. N. Hammerstrom, Jr. *The Northern Bob-White's Winter Territory*, Iowa Agricultural Experiment Station, 1936.

## SOME GEMS FROM *PRINCIPAL GAME BIRDS AND MAMMALS OF TEXAS*

The Texas Game, Fish and Oyster Commission published this book in 1945. There follow some quotes on bobwhites.

“Before colonization by white settlers, bobwhites occurred in most parts of Texas, but usually in numbers even smaller than at present [1940s].

“For a while practically all who exploited the land [farming, grazing, lumbering] practiced quail management. Quail increased and the surplus went largely unharvested, for sport hunting was practically unknown and market hunting and trapping were limited. The period from about 1875 to 1910 ... might appropriately be designated as the era of maximum bobwhite abundance.

[One has to be careful when ascribing causes (in this case exploitation) to quail abundance for whatever is happening on the ground is confounded with prevailing weather at the time. In the period 1845–1854 in Wisconsin, bobwhites reached incredible numbers *before* settlers arrived, apparently due to a decade of mild winters.]

“It is logical to assume that quail range and quail numbers were generally poorer by 1912 compared with 20 years before, but the real pinch was not felt until the 1920’s, after World War I. During the war, and in the period of high prices that followed, brush along creeks and fences

in the Blackland Belt was almost entirely removed. The number of sheep and goats in the Edwards Plateau was doubled. Power machinery prepared the way for the dust storms that followed in the Panhandle....

“Necessary cover is of two kinds, woody and herbaceous. Woody cover is of proper quality when it provides concealment, freedom of movement underneath, and good visibility.

“While good populations may be encountered in areas where woody cover is scanty, but ground cover is good, they seldom occur where ground cover is scanty, regardless of the amount and quality of the woody cover present.”

## BITS AND PIECES.....

- “Adeptness in evaluating quail range is not anything that requires an academic degree or any formal training, though it does require the scientific attitude of striving to find out only what is true, regardless of what that may be. An observer should be sufficiently familiar with the species so that he will not jump at the conclusion that, because he flushed a covey of quail on the west side of the corn field one day and the same or a different number on the east side of the field the next day, the two coveys must be two different ones. An observer should also be able to count about 20 birds in a covey of 20 instead of guessing that there were 30 or 40.”—Paul L. Errington and F. N. Hammerstrom, Jr., *The Northern Bob-White’s Winter Territory*, Iowa Agricultural Experiment Station, 1936.

- “With the advent of winter, a bobwhite population adjustment is typically necessary, even though there be no snow [in Iowa]. The adjustment or ‘fall shuffle’ ... takes place in response to the wholesale seasonal shrinkage of quail habitable environment brought about by the withering of herbaceous vegetation and the loss of leaves of deciduous woods and brush. It is unquestionably influenced also by changes in the food supply, occurring naturally or through the agency of man.”—Paul. L. Errington and F. N Hammerstrom, Jr. (see citation above).
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- Texas A&M University Press will publish *A Primer on Natural Resource Science* by Fred S. Guthery in April 2008. “Guthery has written a tour de force in depth that will shape the field of wildlife science for many years to come.”—Steven W. Buskirk, Department of Zoology and Physiology, University of Wyoming.
- *On Bobwhites* by Fred S. Guthery (Texas A&M University Press,

2000) is available from the Department of Natural Resource Ecology and Management, 008C Ag Hall, Stillwater, OK 74078 for \$20, including shipping and handling. The book is in its second printing and available only in paperback.

- *Bobwhites on Oklahoma Farms and Ranches: Management Options for Landowners* by Fred S. Guthery, Ronald E. Masters, and Michael D. Porter is available free from the Department of Natural Resource Ecology and Management (address above).
- *Patch Burning: Integrating Fire and Grazing to Promote Heterogeneity* by John R. Weir and co-authors is available for free from the Department of Natural Resource Ecology and Management (address above). The rotational burning of small plots causes grazing cattle to follow and results in more different types of plant communities and plant species (heterogeneity) in a pasture. Visit OSU’s **prescribed fire website** at <http://fireecology.okstate.edu>.

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