

# QUAIL NEWS

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The newsletter of game bird research and management from the Bollenbach Chair in Wildlife Ecology, Oklahoma State University.

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## A GOOD SEASON REVISITED

Portions of the southern Great Plains experienced excellent breeding conditions during the summer of 2002. The summer was relatively cool and rainy. Accordingly, the breeding effort was intense and the breeding season long.

Some bobwhite populations made hell-bent-for-boom jumps between fall 2001 and fall 2002. A good fall-to-fall increase is a doubling of population abundance. An excellent increase is a tripling of abundance. Although you hear reports of up to 6-fold increases, such productivity is well beyond the biological capability of quail populations. For example, a population surviving at an annual rate of 80% and producing 6.5 juveniles per adult would yield a 6-fold fall-to-fall increase. This combination of survival rate and productivity is about as likely as a covey of albino blobs (blue-bob crossbreeds).

Our research team on Boone Pickens' Mesa Vista Ranch, north of Pampa, Texas, estimated a tripling in abundance of bobwhites between October 2001 and October 2002. This big jump apparently occurred because of excellent survival of adults and good production (about 4 juveniles/adult). Survival estimates were based on radiotelemetry and the team aged 647 bobwhite wings.

Whenever biologists estimate some population variable, such as the year-to year

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multiplier, they usually get insecure, tentative and otherwise wishy-washy and add the qualifier, “**subject to uncertainty.**” This is necessary because nobody can ever know precisely how a quail population performed. Subjecting the Mesa Vista estimate to uncertainty, via the magic of probability theory, indicates a high likelihood that the fall-to-fall multiplier exceeded 1.8 (we can be darned neared certain the population at least doubled between years).

Good production seemed to be the norm from Stillwater, OK, to San Angelo, TX, and points west of San Angelo for blues. However, not all bobwhite populations in eastern Oklahoma reached acceptable levels. To some degree, these birds are still recovering from the devastating winter of 2000–2001.

If we get another good production summer, weather wise, it’s legitimate to fantasize about another ’87 or ’92 in ’03.

## THE BAG LIMIT DONYBROOK OUT WEST

Arizona is in the throes of a 100-year drought and populations of desert quail—Gambel’s, scaled and Mearns—have declined accordingly. They say this drought matches the badness of the drought of the 1890s, when cattle

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were dying like, well, quail. The masked bobwhite, a first cousin of our ordinary bobwhite, disappeared from the velvet mesquite bottoms of southern Arizona during the 1890s.

On 22 and 23 October 2002, the Arizona Game and Fish Department convened hunters, biologists, guides, ranchers and other interested parties for a symposium in Phoenix to discuss harvest management relative to the quail situation.

When quail populations bottom out, hunters quite responsibly get concerned about whether state game departments ought to reduce bag limits and season length to conserve low populations. This concern precipitated the Arizona Quail Symposium. An impromptu group, the Arizona Quail Alliance, had lobbied successfully to reduce daily bag limits on Mearns quail from fifteen to eight birds.

(This colorful species is also known as the harlequin quail, Montezuma quail or fool quail. The “fool” comes in because coveys hold quite tightly when approached by bird dogs in oak woodlands or Suburbans on state highways.)

## BAG LIMITS

The question of daily bag limits arose early on. Fortunately, that question is one for which we have quite a good understanding of process. When the daily bag reaches about ten birds, maybe a little less, higher bag limits are meaningless—they have trivial effects, if

any effect at all, on the total number of quail harvested in a state.

Here's how it works. In general, from Watonga, Oklahoma, to Winslow, Arizona, and all points north and south, the average daily bag of quail hunters ranges between two and four birds (avid hunters do better). Some hunters get no birds (the most common daily bag) and a rare few may reach limits of up to fifteen birds. The point is it is a RARE FEW hunters that get even ten birds in one day. So the rarity of a high daily take makes a high bag limit about as important as, say, a regulation that enjoins earplugs for bird dogs.

On the other hand, if the bag limit goes to zero, there will be no quail taken by legal hunters. In between high and low bag limits, some interesting things happen.

If we want to use the daily bag to invoke substantial reductions in a statewide harvest, we must severely restrict that bag. We must go to bag limits of, say, three or four or five birds per day.

Now presumably we would want to invoke such severe reductions during population lows. Great irony here, folks. A reduction in bag limits has relatively less effect during population lows, relatively more effect during population booms. That is, reduced bags have exactly the opposite of the desired effect when perpetrated upon boom and bust populations!

Compare the effects of a bag limit reduction to five birds between the Oklahoma boom year of 1992 and the bust year of 2001. In the boom year, a

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five-bird bag would have reduced take for 23% of hunters, whereas it would have affected only 5% of hunters in the bust year.

This outcome is difficult to explain. Suffice to say we have the back-forty records and highfalutin theory to confirm it. **Markus Peterson** of Texas A&M University was the first biologist to discover the regressive nature of bag limit reductions based on harvest data collected by the Texas Parks and Wildlife Department.

#### ADDITIVE OR NOT?

Another topic that received considerable debate at the Arizona symposium, some of it hot enough to blow aneurysms, was whether harvest mortality of quail is compensatory or additive. It would be compensatory, in crudest form, if the reduction of one quail to quail and gravy removed exactly no quail from the population. It would be additive if one quail in gravy removed more than none and up to one quail from the population.

Whew! Vested interest careered to the fore like a mad cow.

The advocacy groups said harvest mortality must be however they want it to be. The bag limit reducers and the ranchers wanted it to be additive—the ranchers because additive harvest mortality would deflect criticism of grazing effects on desert quail populations (blame hunters, not cows). The guides wanted it to be additive so

bag limits would be reduced so they could, they hoped, guide more out-of-state hunters (mornings and afternoons with different hunting parties). The hunters wanted it to be compensatory because that just sounds better if you're debating the value of hunting with some vegetarian from Fresno or Tucson.

Lost in all the emotional baffle-gab and trenchant flapdoodle was the observation that it is possible to extract a sustained yield from quail populations, to take some and leave some every year such that populations persist over the long term. (Given that they have plenty of habitat to persist on.) Nature has been extracting sustained yields from bobwhites, for example, for something like twelve million years.

I doubt many minds were changed at the Arizona Quail Symposium, in large part because many of the players wanted to beat drums rather than learn. It's hard to hear anything when your mental tom-toms are a-thumping. Those tom-toms seemed particularly loud in Arizona, owing possibly to conflicting interests in the management of public land (most of Arizona) and nearness to California.

*As civilization seeped into the hinterlands, game concentrations were broken up wherever they occurred on fertile soils. (They seldom were found anywhere else.) The gun took its toll in passing, and as much as opportunity permitted; but farm crops and livestock were what worked the land over to a new destiny.—Durward L. Allen, Our Wildlife Legacy, 1954*

A recommendation for Midwesterners: If you're standing on a corner in Winslow, Arizona, don't discuss religion, politics or quail harvest management with the natives.

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### *Editorial: winds of change in harvest management*

There has arisen a sensitivity to quail harvest management issues in the staid halls of state game departments throughout the United States, especially those dealing with bobwhites. The America of the double-naughts is not the America of the mid-Twentieth Century or earlier. You know about bobwhite populations in general. A prevailing question is, "Do traditional principles of harvest management at the state level hold in the context of modern landscapes and recent quail trajectories?"

That question is leading to the dusting off and re-examination of historical harvest records, impromptu gatherings of concerned quail biologists at meetings and a good deal of critical thinking and biological soul-searching.

The quail harvest regulations promulgated by state game departments are at once blends of social and biological considerations. That is **exactly** how it should be in a pluralistic democracy (within reason). A public resource ought to be managed such that the resource is secure and that it affords maximum benefit to the humans with which it shares tenancy in a state.

Declining populations are hardly secure. No rational being believes harvest is the cause of the decline. However, declines put harvest management in a new light.

Here are some regulation changes the quail hunter **MIGHT** see in the coming decades:

- More complex regulations—different bag limits and seasons within different regions of a state, including closure of hunting in some regions. Quail harvest management would become more like deer harvest management.
- Experimentation with regulations to learn how to formulate better regulations. This is called adaptive harvest management and it already is used in managing the continental waterfowl harvest.

Meanwhile, there will be serious research on how to optimally blend social and biological objectives of harvest management. Quail hunters shouldn't be surprised if they receive questionnaires on how they view different sets of regulations and what satisfactions they derive from quail hunting. Researchers will delve into heretofore untouched if not unimagined aspects of harvest management at the state level.

Fred S. Guthery  
Bollenbach Chair in Wildlife Ecology  
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*To the question, "Why manage bob-white?" perhaps the best answer is another question, "Why not?"—Paul L. Errington and F. N. Hamerstrom, Jr., 1936*

## THE NORTHERN BOBWHITE CONSERVATION INITIATIVE

Roger Wells, National Habitat Coordinator for Quail Unlimited, considers the Northern Bobwhite Conservation Initiative one of the most significant programs to come along in his 30-some-year career in quail management and conservation.

The Southeastern Quail Study Group spearheaded drafting of the initiative, which involved biologists from throughout the occupied range of bobwhites in the United States. Management recommendations are aimed at ecological regions rather than states because bobwhites do not recognize political boundaries.

The goal of the initiative is to restore the current U.S. population of bobwhites to 1980 levels. This would represent an increase of more than 10,000,000 bobwhites.

Visit [www.qu.org/seqsg/nbc/nbc.cfm](http://www.qu.org/seqsg/nbc/nbc.cfm) for information on the initiative. The initiative may be downloaded at this site.

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**Quail**  
**Questions.....**  
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*I am enclosing pages 61–65 of A. S. Jackson’s Quail Management Handbook for West Texas Rolling Plains [Texas Parks and Wildlife Department Bulletin 48, 1969]. Do you agree with this? —*  
**Chuck Ribelin, Dallas, TX.**

Since A. S. Jackson’s time, we have come to a different view of bobwhite abundance and plant succession. [Jackson touted lower successional—weedy—conditions for bobwhites in north Texas.] We still believe they are associated with successional stages, but those stages change with rainfall and length of growing season. In Florida, say, with high rainfall and long growing seasons, we want weedy successional stages (early post-disturbance). However, in drier climates with shorter growing seasons (e.g., north Texas), we want more of a perennial grass successional stage.

So, in the perspective of some 40 years of knowledge accumulation since Jackson’s pamphlet, I don’t agree with him about his successional stage generality for west Texas, but I do agree that 2 years of rain will tend to yield bumper crops of quail. However, I think this is just as likely to happen in a perennial grass stage as on some pasture that had been laid bare by drought and overgrazing.

As cases in point, I reference lightly grazed ranches where the quail

population goes up and down with rainfall: Mesa Vista, Tongue River, Pitchfork, Elm Creek, Snipes, Selman. The thing about these lightly grazed ranches is they tend to have better production and higher populations than heavily grazed ranches when there is little rainfall.

**BITS AND PIECES.....**

- Visit <http://teamquail.tamu.edu/> for a mother lode of information on quail biology and management. Dale Rollins created this website.
- Bobwhites consuming seeds from wild plants had higher concentrations of aflatoxin in their crops than bobwhites consuming supplemental feed during the 1996–1997 and 1997–1998 hunting seasons in Wheeler County, TX, and Roger Mills County, OK. “This information suggests that northern bobwhite may consume contaminated food much more frequently than previously thought.” For further information, contact C. B. Dabbert, Department of Range, Wildlife and Fisheries Management, Texas Tech University, Lubbock 79409. Ask for a reprint of *Aflatoxin Contamination in Supplemental and Wild Foods of Northern Bobwhite*.
- Management metaphors: Under the usable space hypothesis of quail habitat management the prevailing aphorism is “Build them new houses, don’t remodel the ones they occupy.” This simply means that if you want more bobwhites or other quail, you’re more likely to have more birds if you create new covey ranges than if you try to improve conditions within an already-occupied covey range. That metaphor holds

approximately in drier areas. In wetter areas, such as eastern Oklahoma and eastern Texas, we need a caulk-paint-and-reroof addition to the aphorism. That is, in wetter environments where plant succession advances like Godzilla, there must be maintenance of the quail house. Caulking and painting are tantamount to maintaining sufficient quantities of bare ground with disking or grazing, and reroofing is tantamount to a periodic burn to set back the advance of unwanted woody houseguests. So build them new houses and make sure the old ones are kept up according to covenants in the Quail Acres subdivision.

- Recent research at Ft. Riley, KS, revealed that food plots (sorghum and soybeans) generally were an ineffective method of improving winter survival of bobwhites. With or without food plots, the radio-tagged birds generally experienced low survival. For further information, contact **L. A. Madison**, Union University, UU Box 3148, 1050 Union University Dr., Jackson, TN 38305. Ask for a reprint of *Hunting Mortality and Overwinter Survival of Northern Bobwhites Relative to Food Plots in Kansas*.
- Studies of the nesting behavior of bobwhites on Mesa Vista Ranch in the Texas Panhandle reveal that incubating adults may be more important as air conditioners than as heaters. The adults faithfully guard against high nest temperatures, which kill developing embryos, but they are rather cavalier about low nest temperatures. Incubating adults leave the nest when the temperature of nests contents is more likely to

decline than to increase. Incubating birds may leave the nest at any hour of the night or day. They are most likely to leave the nest around 8:00 in the morning and 5:00 in the afternoon.

- ***On Bobwhites*** by Fred S. Guthery (Texas A&M University Press, 2000) is available from the Department of Forestry, 008C Ag Hall, Stillwater, OK 74078 for \$25, including shipping and handling.
- ***The Technology of Bobwhite Management—The Theory Behind the Practice*** by Fred S. Guthery (Iowa State University Press, 2002) is available from the Department of Forestry for \$60.
- ***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 Forestry.
- ***A Field Guide to Oklahoma Plants*** by Ronald J. Tyrl, Terrence G. Bidwell, and Ron Masters is now available. The book (515pp.) will be useful for hunters and ranchers as far west as the Texas Panhandle. It contains hundreds of line drawings and range maps. Contact Cindy Neal (405/744-6421) to order a copy (\$25 + \$5 shipping and handling—a real bargain).

Support quail research. Send a tax-deductible contribution made payable to "OSU Foundation/Game Bird Research Fund" in care of Fred S. Guthery, Department of Forestry, 008C Ag Hall, Stillwater, OK 74078. Contributors receive *Quail News* and *Quail Flash*.