

QUAIL NEWS

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

WHAT HAPPENED?

From Woodward to Wink, the 2006–2007 bobwhite hunting season was blander than last week's mush. What happened?

In early January, I hunted in the vicinity of Snyder, Texas, with Chuck and Brad Ribelin, Dallas, and Steve DeMaso, Austin.

Grant Mecozzi, a graduate student at OSU, came along to record data on the hunt.

We used 7 dogs, 2 or 3 at once, followed by 2 or 3 shooters. In total, the dogs logged 36.7 miles of search in about 10 hours on the ground.

We flushed 9 coveys (blues and bobs), including wild flushes. Our bag

consisted of 3 blues and 3 bobs. If we hadn't had so much fun, we would have thought this a bad outing.

We did not see a single hatching-year bird, which implies a bust in production. I heard few good reports about the percentage of juveniles in the bag. Most reports ranged from 20% to lower values. We would like to see 70–80% young-of-the-year.

The bust in production explains why flush rates (coveys/day) were low. But what explains the bust itself?

We can lay the blame on hens. Cock birds have an easy task in the manufacture of sperm. Their gonads remain active regardless of prevailing environmental conditions.

Hens, on the other hand, have a rather daunting physiological task in the

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production of eggs. Accordingly, their reproductive machinery is the first to close shop in a bad year.

What we don't know is whether hens *can't* or *won't* lay in production years like 2006. If they can't, then that implies some shortage such as nutrients or some surfeit such as heat or some combination of shortages and surfeits lead to reproductive failure.

If they won't, then that implies quail populations have learned through the eons to play the odds. Their odds of leaving genes could be higher if they forsook reproduction and attendant hazards in a bad year and simply opted for survival to the next breeding season.

If hens *can't* lay, then management redress might come to us in the future. If they *won't* lay, then management redress seems less likely than a millennium of peace in the Middle East. The *won't*-lay hypothesis bears further consideration, for if it holds there is a valid place in quail management for thumb-twiddling.

As I have mentioned in previous editions of *Quail News*, the main problem in bad production years is the not-nest. These are opportunities not taken, and they manifest as reduced nesting efforts per hen (including no efforts) and shorter laying seasons.

The not-nest is invulnerable to

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predators.

We don't know whether the not-nest is a *can't* or *won't* issue. We know only that its prevalence increases with drought and heat.

En route Snyder for the west Texas hunt, Mecozzi and I drove through many miles of rangeland that looked something like aftermath of the Battle of Fallujah. Mesquite stems were standing like re-enforced concrete bunkers but ground cover was obliterated.

Maintenance of acceptable ground cover is a hedge (but an incomplete one) against production busts during drought such as prevailed from October 2005 through the breeding season of 2006. On rangeland, ground cover management and grazing management are the same thing.

Though we didn't flush many coveys on the Snyder hunt, there were, nevertheless, reasons for optimism. We saw somewhere around 100 individual quail. With a weather break in the 2007 breeding season, that could translate to 150-200 individuals next year.

Another encouraging note is Guthery's Last Theorem of Quail Abundance: "If you have any quail, you have more than you think you do."

TEXAS QUAILS

Every so often in the annals of applied and theoretical quailology, we experience a publishing event. That is certainly the case for *Texas Quails*, freshly minted (2007) at

Texas A&M University Press,
College Station.

Texas Quails is a big strapping book consisting of 25 chapters and 491 pages. Twenty-nine authors contributed to this compendium, edited by Leonard A. Brennan of the Caesar Kleberg Wildlife Research Institute, Kingsville.

The book is organized in 3 parts. The first part deals with the biology and ecology of Montezuma, Gambel's, scaled, and bobwhite quails.

The second part deals with more specific information for the eco-regions of Texas.

The third part is a catch-all section that addresses a potpourri of topics: harvest regulations, economics, pen-reared birds, hunting camp management, management cooperatives, and the future of quail hunting, among other topics.

The State of Texas has a long and storied history in the realm of bobwhite research and management. Greybeards remember names like Dan Lay, A. S. Jackson, and Val Lehmann. These pioneers, who contributed in the forties, fifties, and sixties, built the foundation for our understanding of bobwhites. During the last 30 years, a host of research biologists has continued to amass information.

Texas Quails is a remarkable, comprehensive compendium of quail biology and ecology in the Lone Star State. The information it contains will be useful for quail biologists and managers in other states as well.

As of this writing, *Texas Quails* is available from Amazon.com for \$26.40.

[W]e have a moral responsibility to sustain and elevate populations of wild Texas quails to sustain the future of quail hunting. It would be wrong to do otherwise.—Leonard A Brennan, Texas Quails (2007:426)

SUCCESSFUL TRANSPLANTING OF WILD BOBWHITES

Recent research in southwestern Georgia demonstrated the feasibility of trapping and transplanting wild bobwhites as a method of increasing bobwhite abundance in low density populations.

Theron M. Terhune and associates trapped and transplanted bobwhites in February just before the start of the breeding season. Birds were released in groups of 8–12 in large areas of suitable habitat (an important consideration). Within these large areas, the researchers selected sites with low densities of native quail.

Survival, movements, and nest success of released and resident birds were determined with radio telemetry.

In general, released and resident bobwhites performed equally well in terms of survival and production. The release program resulted in modest to good increases in density on the release sites.

Visit the Bollenbach Chair website at <http://bollenbachchair.okstate.edu/>. The site contains information on the biology and management of bobwhites, coming events, back issues of *Quail News*, and other topics.

“The quantity and quality of suitable habitat, regarded as excellent on our study sites, was perhaps the most important component for a successful relocation as bobwhites were afforded good cover allowing them to survive and reproduce. Therefore, relocating bobwhites to poor ... habitat will likely produce poor results and is not recommended.”

For further information, contact D. Clay Sisson, Albany Quail Project, c/o Pineland Plantation, Newton, GA 39870. Ask for a reprint of *The Efficacy of Relocating Wild Northern Bobwhites Prior to Breeding Season*.



Editorial: Changing ideas in the last 50 years

If you're and old hippie like me, you remember the '57 Chev. Talk about cool! That car was more popular than a retro-active tax cut. Every high school kid wanted one.

You could open the hood of a '57 Chev and see the ground, for crying out loud. You can't do that nowadays. Cars have changed greatly in the last 50 years, and so, too, has some of our thinking on the biology and management of bobwhites.

The great, original ideas in quail management appeared in the '30s and '40s. Among them is Aldo Leopold's Principle of Edge which, crudely paraphrased, states that more edge implies more quail.

A new idea has supplanted the Principle of Edge. That idea is the notion of slack in the arrangement of required habitats, such as woody and herbaceous cover. Under the concept of slack, more edge or less edge may imply the same number of bobwhites.

Paul L. Errington put forth the idea of a doomed surplus of individuals in certain wildlife populations, such as muskrats and bobwhites. The doomed surplus consisted of animals fated to perish between fall and spring. Errington believed that harvest of these doomed animals had no effect on the abundance of breeders.

And then, in the 1950s, a fisheries biologist named Ricker realized that a wizened old theorem of probability had relevance to harvest management. The theorem is called the additive model; it was around in Errington's day but he did not use it.

Today, most biologists believe the additive model is closer to truth than the doomed-surplus model. However, that change in mindset has had little effect on the way we manage quail harvests.

I don't know who came up with the idea that bobwhites are a *lower successional* species. Succession here refers to plant succession, or

the natural transition from bare soil to weeds to grasses to brush to forests. Wallace Grange wrote about the successional affiliation of wildlife in his book, *The Way to Game Abundance*, published in 1949. Perhaps he originated the idea.

While the idea of successional affiliation still holds, we have revised it for western portions of bobwhite range (e.g., western parts of Kansas, Oklahoma, and Texas). In these drier portions of the bobwhite's distribution, mid to higher successional conditions are generally better than lower successional conditions. In the west, higher successional conditions imply an abundance of tall, perennial grasses such as native bluestems.

Another big change in our thinking since the guys with '57 Chevys were getting all the good dates is our understanding of research techniques. A prime example is the identification of the predator species responsible for destroying nests. We used to infer from evidence at the nest site. If, for example, a clutch disappeared without shell fragments remaining, the presumptive villain was a snake.

Video camera technology, with which we can monitor nests 24/7, has shown that other predators may remove eggs without leaving shell fragments. This technology also has revealed nest predators we didn't suspect, such as white-tailed deer. Until video technology, our knowledge of nest-depredating dastards was quite bad.

One of the really big ones in the last 50 years was field documentation of multiple brooding in bobwhites in the 1980s. Up to that time, quail biologists were thoroughly convinced that it was *impossible* for them to raise more than 1 brood.

That is the nature of knowledge accrual. Sometimes facts come and go like diet fads.

Fred S. Guthery
Bollenbach Chair in Wildlife Ecology



BOBWHITES, HUNTERS: COMPARATIVE HABITAT USE

Bobwhites know what they're doing when they select cover types. Do hunters know what bobwhites are doing?

Josh Richardson, a graduate student at Oklahoma State University, collected data to answer this question during the 2004 and 2005 hunting seasons on the Packsaddle Wildlife Management Area in western Oklahoma.

Hunters voluntarily agreed to carry GPS units that recorded their location every 7 seconds. From these records, Richardson could estimate the degree to which they selected or avoided cover types. Selection means they were in a cover type more than expected by chance, whereas avoidance means they

were in a cover type less than expected by chance.

Telemetry data collected during the famous Packsaddle Study (1991–2002) provided comparative data on cover selection by bobwhites.

Generally, hunters and bobwhites showed similar selection-avoidance behavior, but the relationship was surprisingly noisy. If selection and avoidance were identical between bobwhites and hunters, the correlation would have been 1.0. The actual value was 0.4.

Both hunters and bobwhites selected 1) level little bluestem-sand sagebrush less than 500 yards from roads, 2) level little bluestem-sand sagebrush between 500 and 1,500 yards from roads, 3) steep little bluestem-sand sagebrush less 500 yards from roads, and 4) steep little bluestem-sand sagebrush between 500 and 1,500 yards from roads.

Hunters avoided steep little bluestem-shinnery oak between 500 and 1,500 yards from roads, whereas bobwhites strongly selected for this cover type. Hunters erred in this case.

Richardson observed that a method of increasing hunter-bobwhite encounters on public hunting areas is to educate hunters about quail-preferred cover types.

“When hunting parties choose habitats that quail avoid, or avoid habitats quail prefer, they are likely reducing their probability of encountering bobwhites, and thus reducing their overall satisfaction with a hunt on an area.”

Some other findings from Richardson’s study:

- Walking hunters on the Packsaddle Area moved at an average velocity of 0.82 feet/second (0.6 mph). The most frequent velocity was 0 feet/second (stopped). Hunters reached peak velocities of 2.2 feet/second (1.5 mph).
- The average distance walked during a hunt (leave vehicle, hunt, return to vehicle) was 3.9 miles in 2004 and 4.2 miles in 2005. There was considerable variability in these averages.
- Important features of bobwhite hunts were seeing several coveys, watching dogs work, and being with friends. Attaining a bag limit was not particularly important to Packsaddle hunters.
- Ninety-six percent of hunters claimed they would hunt the same amount if the daily bag limit was lowered from 10 to 7 birds. This result goes contrary to the widely held notion that maximizing bag limit maximizes recreational opportunity for hunters.
- All hunters imposed some type of personal restrictions on themselves in addition to state-mandated harvest regulations. Nine percent had a lower personal bag limit than the state permitted, 15% percent shot only at coveys (not singles), 53% limited the number of shots taken on a covey rise, and 56% did not shoot at small coveys.

BITS AND PIECES.....

- “In general, cropland, pastureland, and rangeland together must compose more than half of a landscape in order to sustain populations of bobwhites,” reported Joseph A. Veech in a recent number of *The Journal of Wildlife Management* (70:922–930, 2006). “Urban land is ... much more common in landscapes where bobwhites have recently become extinct than in landscapes where bobwhites are still extant....”
- With support from TLW Land & Cattle, Waynoka, OK, faculty and students from the Department of Natural Resource Ecology and Management have initiated a study of sand plum management. This plant provides excellent cover for bobwhites. The study will determine best practices for establishing sand plum on areas deficient in woody cover. Techniques range from the planting of bare-root seedlings to the collection and transplanting of rootstocks from existing plum thickets. The experiments also will involve transplanting fragrant sumac (skunkbush) and flame-leaf sumac rootstocks.
- The Department of Natural Resource Ecology and Management will be publishing a quarterly, electronic newsletter with information on the ecology and management of fish, forests, rangeland, and wildlife. To subscribe, send an e-mail to LISTSERV@LISTSERV.OKSTATE.EDU with the following command in the body of the e-mail: SUBSCRIBE NREMNEWS-L. You should then get an e-mail response with a web link. Once you select

that web link, you will be added. If you do not get a return e-mail within a day, e-mail

dwayne.elmore@okstate.edu.

- Do you do any outdoor grilling on quail hunts? Use kosher salt. This salt is milder than table salt (about half the kick) and it draws out flavor like ragweed draws out quail.
- As of 8 February 2007, a copy of *Beef, Brush and Bobwhites* by Fred S. Guthery (Kleberg Institute Press, 1986) is available for \$2,025 on Amazon.com.
- *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.

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 Natural Resource Ecology and Management, 008C Ag Hall, Oklahoma State University, Stillwater, OK 74078. Contributors receive *Quail News* and *Quail Flash*.