



Photo by Tim Fulbright

FROM THE FIELD: The South Texas Quail Research Project: Past, Present, and Future



Photo by Shannon Rusk

It's been nearly 12 years now since we first radio-collared a bobwhite on the Encino Division of King Ranch. What initially began as shop talk over lunch with folks from the South Texas Chapter of Quail Unlimited subsequently blossomed into a 10-yr study on South Texas bobwhites. The study, called the South Texas Quail Research Project, spanned from 1998 to 2008 and involved more than 2,000 radio-collared bobwhites and >300 nests.

Thanks to generous funding from dedicated supporters such as Quail Unlimited Chapters in Texas (South Texas, Houston, Alamo, East Texas, and Texas State Council; now Quail Coalition, Inc.), several foundations, and many private donors, we were able to monitor bobwhite populations under a wide variety of weather and habitat conditions during those 10 years of study, including a hurricane, harsh drought, and even snow.

We learned many interesting things

about bobwhites during the study, some fortuitous, some unexpected. For example, we learned that:

- The longest lived banded bobwhite that we recaptured was about 4.4 years of age. The longest lived radio-collared bobwhite lived to about 4.1 years of age.

- We observed several accounts of prolonged incubation (the phenomenon of hens incubating an infertile clutch well past the hatching date). The longest prolonged incubation was a hen that remained on the nest for 3 months!

- The typical nesting season in South Texas occurs during May-August, with a handful of hens commonly nesting into September and October. The earliest nest we found was 8 April, and the latest nest hatching was 5 December.

- Drought can shorten the length of the nesting season to about 2 months (May-Jun) and result in fewer hens nesting (50%). Annual survival also is about 1/3 lower during drought compared to wet conditions.

- Bobwhite mortality is not related to the abundance of raptors in general but to the abundance of raptors capable of preying on quail (e.g., Cooper's hawks). The strength of this relationship varies as a function of aridity, becoming stronger as conditions become drier.

FROM THE FIELD

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• Coyotes are the most common nest predator of bobwhites in South Texas, accounting for about 1/3 of nest failures. This is in contrast to the Southeast, where snakes are the most common nest predator.

• Bird dogs find only about 56% of the radio-collared coveys present. Also, the average distance dogs hunt away from the truck is about 50-75 yards with an average speed of 5.5 mph in dense cover and about 6.5 mph in open habitat.

Indeed, we learned much about South Texas bobwhites. So, when the South Texas Quail Project came to a close in late 2008, we wanted to continue our long-term approach to studying bobwhites. However, we wanted to apply the knowledge that we gained over the past 10 years now in a management setting. We spent the next year or so at the drawing board, meeting with King Ranch and the South Texas Chapter of Quail Unlimited, as well as landowners, managers, hunters, and quail enthusiasts, to help refine our approach. Finally, after months of consultation and deliberation, we homed in on the future of the South Texas Quail Research Project.

The new South Texas Quail Research Project will be a collaborative project with King Ranch, Inc. and will be located at the Santa Gertrudis Division. This new study area will not only permit us to study bobwhites in habitat that is distinctly different from Encino, but it will also afford us the unique opportunity to study bobwhites in an area with a rich history of quail research—the former study area of Val Lehmann. The Project also will focus on management, specifically, quantifying bobwhite response to habitat management. We wish to answer questions such as, how much do bobwhites increase following habitat management? For how long? Can good habitat, provided year-round, override the effect of weather? That is, if we intensively manage a pasture for bobwhites using the best science available, how effective is habitat management at maintaining bobwhite numbers year in and year out? We also are interested in

building on prior research to gain a better understanding of hunting behavior (e.g., space use of quail hunters, efficiency of bird dogs). We will use radiotelemetry and global positioning systems (GPS) to tackle these objectives.

The study will be conducted on the Laguna Larga Trap (1,454 acres). We will monitor radio-collared bobwhites during the first year of study to obtain baseline measures of survival, nest success, and bobwhite density prior to any management. We will then implement a variety of habitat-management practices (e.g., prescribed fire, brush control, discing, etc) during year 2 to saturate the area with usable space and provide it year-round to bobwhites. We will compare bobwhite response pre- and post-management, as well as to a control (unmanaged) site.

We are extremely excited about this next phase of the South Texas Quail Research Project. Our continuation of this research is only possible due to generous support from Quail Coalition, Inc., King Ranch, Inc., and you, our many donors. Matthew Schnupp, quail biologist for the Ranch, will be a lead collaborator and will be intimately involved with all aspects of the research. We look forward to the future!

— Fidel Hernandez and Matthew Schnupp

Fidel Hernandez is the Alfred C. Glassell, Jr., Endowed Chair for Quail Research at the Caesar Kleberg Wildlife Research Institute. Matthew Schnupp is Quail Biologist for the Santa Gertrudis Heritage Society of King Ranch, Inc.



RUNNING EARLY AND FLUSHING WILD

During the second week of December 2009, I had the good fortune of being invited to hunt quail on two South Texas ranches. Admittedly, our expectations for shooting a limit of bobwhites were extremely low. The 2009 nesting season was a nearly a total bust because on historic heat and drought conditions. This was a nesting season where few, if any, birds were produced. Since the majority of birds in a bobwhite hunter's bag are usually hatch-year, or juvenile birds, we knew from the get-go that we would most likely find only a few coveys for our efforts.

Indeed, early in the week, a hard day of hunting, with good dogs and expert guides, in areas of good habitat, yielded five coveys. Later in the week, a half-day hunt in Starr County, again in good habitat, yielded two coveys. The fact that we found any birds at all was fairly impressive. What was most impressive, however, was how the birds behaved. They behaved more like bobwhites at the end of a hunting season, rather than at the beginning of the hunting season. They were running early, and they were flushing wild.

It was amazing to watch a dog lock down on point, and then slowly creep up another 15-20 yards, and then see the covey flush another 15-20 yards from where the dogs last stopped. It was clear that the birds were obviously running, and running anywhere between 30-40 yards from where



Photo by Fidel Hernandez

they were first found by the dogs. We know, and are used to, having bobwhite run and flush wild late in the season. Theoretical Hunter-Covey Interface models developed by our colleague Fred Guthery predicted this would happen. Our field tests using radiomarked birds showed that naïve—or previously unhunted—bobwhites learned to how to best avoid dogs and hunters—typically by running from the dogs and hunters and then flushing wild, or beyond the reach of the gun, as the season progressed.

One of the lingering issues that we could not understand was whether there was a difference in learning between adult bobwhites that were entering their second hunting season, compared to the juvenile bobwhites, who had not yet been hunted. We wondered if the adult birds retained their avoidance behaviors that were apparently learned during the previous hunting season. Seeing

bobwhite running early and flushing wild provides some insight into this question.

During hunting seasons after summers of good to excellent quail production, a South Texas bobwhite population typically consists of 75-80% juveniles. These are clearly naïve birds that have not been hunted. The presence of this large percentage of naïve birds most likely masks the behaviors of the relatively small percentage (20-25%) of adults in the population.

This year, however, when summer quail production was one of the poorest on record, it is probably safe to assume that most to the bobwhites entering the 2009-2010 hunting season in South Texas are adult quail. They have already survived the previous hunting season, along with one of the harshest summers on record. They are the survivors. They are continuing to survive because they are running early and

ON POINT...

flushing wild from hazards that they encounter.

There has been a considerable buzz about whether to hunt bobwhites in South Texas this winter. It is important to realize that we do not yet have the ability to prescribe exact or precise recommendations for managing bag limits of wild quail on specific properties or even pastures. Quail researchers do, however, know enough about quail population ecology that we feel comfortable in recommending strict and conservative moderation of hunting early in the season, and most likely total abstinence from hunting, later in the season, given the conditions we have seen this year.

We do know that the fixed liberal quail harvest regulations in Texas—15 birds per hunter per day over a 120-day season—have the potential to devastate local quail populations during circumstances like the ones we have experienced this year. However, it is important to remember that legal daily bag limits of quail are like speed limits on the highway—just because the sign says

we can drive 80 mph on Interstate 10 in West Texas does not mean that it would be safe to do such a thing in the fog or the rain.

In addition to regulating hunting pressure, the best thing that quail managers can probably do is maintain as much native grass and ground cover as possible. This approach will provide the birds with the best possible habitat structure and associated resources that will allow them to maximize their reproductive efforts this coming nesting season.

The 2009-2010 quail season in South Texas will surely be one for the record books, albeit on the low range of the spectrum. It shows, as Val Lehmann noted so accurately more than 25 years ago, that bobwhites in South Texas, as well as their hunters, must cope with an “unstable utopia.” However, South Texas quail managers have been trained and tested in the severest school that Mother Nature can provide. This training has made South Texas quail managers, in my view, the best game bird managers in the world. Anybody can grow wild quail when rainfall is abundant and predictable. Having patience

and understanding how to 1) make it through historically severe conditions of drought and excessive heat, 2) keep habitat on the ground, and 3) mitigate hunting pressure in a way that provides at least some limited hunting opportunity, but not excessive mortality, is what makes South Texas quail managers the best in the world.

A hunting season like 2009-2010 also shows there is always an opportunity to learn something new about bobwhites in this part of the world. Seeing bobwhites running early and flushing wild so early in the hunting season is not just interesting from a theoretical perspective. From a practical standpoint, such behaviors also illustrate one of the many strategies that bobwhites use to survive, and ultimately persist, during population bust years in South Texas. By running early and flushing wild, they are maximizing their chances of making it to the 2010 nesting season.

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