



Photo by Ricky Linnex

FROM THE FIELD: Summer Whistle and Roadside Counts: Are they good predictors of fall quail abundance?



Photo by Ricky Linnex

Estimates of fall bobwhite abundance can provide useful information for managers. They can use this information to develop population trends through time and evaluate if populations are increasing, decreasing, or remaining stable on their property. Managers also can use fall abundance to manage bobwhite harvest. If populations are low, then harvest can be decreased for the upcoming hunting season, and hunts can be

cancelled. However, waiting until fall to estimate bobwhite abundance provides managers with little time to plan harvest adjustments. Only 1–2 months occur between the timing of fall surveys and the beginning of the hunting season. This short time window can complicate the re-booking of hunts and subsequent adjustment of harvest. Thus, it would be beneficial if a manager had some indication of what the fall abundance of bobwhites might be

several months in advance.

Summer counts of whistling males (hereafter summer whistle counts) are one method quail biologists and managers can use to predict the fall abundance of bobwhites. The premise underlying the technique is that the number of whistling males is related to the size of the breeding population. Breeding-population size, in turn, is assumed to be related to the size of the fall population. Thus, a greater number of whistling males indicates a larger breeding population and subsequently a larger fall population (and vice versa). Several studies have attempted to relate summer whistle counts with fall bobwhite abundance. Results have been mixed, with some studies finding a strong relationship and others not.

My doctoral research involves investigating the impacts of broad-scale, land-management practices on bobwhite abundance using long-term data sets from the King Ranch. One of the long-term data sets involves bobwhite abundance, and therefore I decided to conduct a side project to evaluate the relationship between summer whistle counts and fall bobwhite abundance in South Texas.

As is the case for many South Texas ranches, hunting is an important

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FROM THE FIELD

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land-use on the King Ranch. King Ranch biologists therefore have experimented with a variety of survey methods to evaluate bobwhite population trends. These methods include summer whistle counts, roadside counts, and helicopter surveys. To briefly explain the methodology of these surveys, whistle counts and roadside counts are conducted along established routes within a property. Whistle counts are conducted weekly during

summer (generally May-June). The survey route consists of listening points that are spaced about 1 mile apart. During a whistle count, an observer records at each point the number of "bob-white" whistles heard during a 3-minute listening period. From these data, the number of males calling/point is calculated.

Roadside counts are conducted weekly during August along survey routes. An observer records the number of bobwhites observed along the road and calculates the number of bobwhites observed/mile.

Helicopter counts are conducted during September-October along transects that overlay an area of interest. These surveys are conducted primarily for white-tailed deer; however, observers can record the number of coveys observed along the transects. These data are used to calculate the number of coveys observed/mile flown.

We used the data from the King Ranch to evaluate the relationship between summer abundance (whistle counts and roadside counts) and fall abundance (helicopter surveys). The data set consisted of an average of 152 miles/year of whistle counts (1999–2001), 742 miles/year of roadside counts (2000–2007), and 3,000 miles/year of helicopter surveys (1999–2008).

We used simple correlation to evaluate the strength of the relationship between summer whistle counts and fall abundance as well as between roadside counts and fall abundance. Correlation analysis yields a correlation coefficient (r) that ranges from 0 (no correlation) to 1 (perfect correlation). Our analysis

indicated that a "weak" relationship existed between summer whistle counts and fall abundance ($r = 0.35$). We also documented a "weak" relationship between roadside counts and fall abundance ($r = 0.34$).

The weak relationship between summer counts and fall abundance may result from several factors, one of which is "noise" in the data. The fall abundance estimates used in our analysis were obtained from September wildlife surveys conducted primarily for white-tailed deer. Because bobwhites are not the focus, the likelihood of missing bobwhites is high. Also, our research indicates that the best time to conduct helicopter surveys for bobwhites is December. The method involves slower speeds and lower altitudes than deer surveys. Thus, these factors may have biased our fall estimates and weakened the relationship. We plan to do more in-depth analyses to account for these and other factors.

Despite an apparent weak relationship, summer whistle counts and roadside counts are still valuable techniques for the quail manager. They are easy to implement, cover large areas, and can be used to determine population trends on a property.

— Chad Parent and Fidel Hernandez

Chad is a native of Minnesota and a Ph.D. candidate with the Caesar Kleberg Wildlife Research Institute at Texas



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QUAIL HUNTING SEASONS, BAG LIMITS, DROUGHT, AND HABITAT IN TEXAS

Lately, there has been considerable gnashing of the teeth about the plight of quail populations in Texas. Of the two remaining stronghold regions for quails in Texas, the Rolling Plains has not had a quality quail hunting season during the past three years, and South Texas has not had a quality quail hunting season during two of the past three years. For South Texas, we recorded juvenile:adult age ratios lower than 1:1 during those years. The problem, as we see it, is that an extreme and persistent La Niña oscillation in the Pacific Ocean has been the driver behind historic drought and excess heat during much of this period. The La Niña oscillation broke down a bit in late 2009, and we received some well-deserved rain in 2010. In South Texas, bobwhites responded quite well to this influx of rainfall, and the 2010-2011 quail season was very good. We recorded juvenile:adult age ratios as high as 5:1 in many areas.

Quail in the Rolling Plains also responded to the 2010 rainfall pulse; their numbers increased by 20% from 2009 based on Texas Parks and Wildlife Department roadside count data. However, quail numbers in 2009 were historically low and even with this increase, the 2010-2011 quail season in the Rolling Plains was lousy and quail hunters were extremely disappointed. Hunters were left scratching their heads as



Photo by Fidel Hernandez

to why the 2010-2011 quail season in the Rolling Plains was so terrible, when it might have been unrealistic to expect that quail numbers could triple or quadruple in one year.

In 2011, La Niña came roaring back and in her wake, more drought and heat. The result was virtually no quail production in either the Rolling Plains or South Texas during the 2011 nesting season.

The result of such extended drought and excess heat is that under such conditions, quail production essentially goes to zero no matter how much good habitat is available. We have a 10-year data set that shows more than 90% of the variation in annual production of bobwhites in South Texas is explained by cumulative rainfall from April through August. In semiarid, subtropical environments such as South Texas, adequate rainfall is the key driver of quail populations, so long as ample habitat for quail is

kept on the landscape.

The current plight of quails in Texas has caused many people, including those who wield great influence over public opinion, to call for cutting back quail seasons in Texas by either shortening the season, reducing the bag limits, or both. While these opinions are well intentioned, it is our opinion that shortening the season or reducing bag limits will do nothing to solve the plight of quails in Texas. It is impossible to repair quail populations with regulations. It has been tried numerous times. It has failed every time it has been tried.

One of the rationales for shortening the season and/or reducing bag limits for quail in Texas is that many people think Texas Parks and Wildlife needs to "send a message". Presumably, the people who are calling for these additional limits think this message is: "Quail numbers are so low that you should stop hunting them or

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drastically reduce the extent to which you hunt them." However, at least in South Texas, quail managers and hunters already know and heed this message. They have self-regulated their quail hunting accordingly. For example, during the 2009-2010 and 2011-2012 quail hunting seasons, there was virtually no quail hunting in South Texas.

Unfortunately, the idea of "sending a message" about hunting seasons and the plight of quail has a high likelihood of backfiring. This is because a huge proportion of the public will perceive this message in a way that somehow makes them think quail hunting has been responsible for the low numbers of quail. In our view, this would be a grave mistake.

In a recent article, our colleagues Drs. Chris Williams, Markus Peterson, and Fred Guthery argued that quail management today is "upside down". By this, they mean that state hunting regulations are imposed on a broad scale and habitat management is implemented on an individual property or pasture scale. Thus, a change in hunting regulations is

usually ineffective with respect to sustaining quail numbers at the landscape scale. Self-regulation on the local ranch or pasture scale, which is already being done in many areas, however, can be extremely effective at conserving quail numbers.

Changing the quail hunting season by shortening the season length or reducing the bag limit will only perpetuate the upside down nature of quail management. This is because the problem with quails in most of Texas is too little habitat, not too much hunting. When quail numbers are low, quail hunters self-regulate. They do not need any one to tell them that there are too few quail to hunt. They already know this. On the other hand, when quail numbers do recover, having a shortened season and reduced bag will only limit opportunity and punish hunters who have already self-regulated their efforts during the bad years.

The solution to the quail problem in Texas lies in creating and restoring habitat in a large-scale, purposeful manner that provides for the annual life history needs of the birds.

Purposeful management on the appropriate scale provides nesting, brooding, loafing, and escape cover that provide the habitat structure and foods the birds need to survive and reproduce. The flipside of purposeful management is cultural management, which is supplemental feeding, predator control, food plots, etc. These kinds of efforts typically do little to sustain and elevate wild quail populations. Shortening the quail season and/or reducing the bag limit is simply another form of cultural management that will do nothing to recover, sustain, or elevate quail numbers in Texas. It never has. It never will.

- Lenny Brennan

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