

**NORTHERN BOBWHITE RESPONSE TO ENVIRONMENTAL QUALITY  
INCENTIVES PROGRAM (EQIP) PRACTICES IN THE HIGH PLAINS  
ECOREGION OF TEXAS**

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## **INTRODUCTION**

The Northern Bobwhite Conservation Initiative seeks to reverse northern bobwhite declines across the species' range. The goal for the Southern High Plains of Texas, or the Texas portion of the Shortgrass Prairie Bird Conservation Region (TBCR 18) as it is delineated in the initiative, is to add 18,933 new coveys to those already in existence. Regrettably, cotton, the primary crop in the region, uses a cropping system that precludes bobwhite habitat. Rangeland provides the most usable habitat for quail in TBCR 18. However, much of the rangeland that would be considered suitable habitat has been overgrazed to the point it is no longer usable. New incentives could change the dynamics in TBCR 18.

In Texas, the Environmental Quality Incentives Program (EQIP) is one Farm Bill incentive that holds promise for management practices that are beneficial to northern bobwhite. EQIP was created as part of the 1996 Farm Bill to help individuals involved in agriculture to address environmental problems. This program is voluntary and seeks to promote the compatibility of agricultural production and sustained environmental quality. EQIP offers cost-shares and incentive payments for conservation practices that producers might not otherwise implement. Approximately \$66.8 million were available for EQIP projects in Texas for 2004. The primary wildlife species of concern for TBCR 18 are the Lesser Prairie chicken (*Tympanuchus pallidicinctus*) and the Black-tailed Prairie dog (*Cynomys ludovicianus*). Prescribed grazing, brush management, and prescribed burning are eligible practices for EQIP in this area. About 21 individual projects are planned in TBCR 18 during 2004. These practices may also be beneficial for developing or improving northern bobwhite habitat in the region. Destocking or grazing deferment may be one of the single most effective methods of increasing acreage of suitable northern

bobwhite habitat in TBCR 18. In fact, the Texas Quail Conservation Initiative indicates 75% of the needed coveys in Texas could be produced by altering range management practices. The potential benefits of EQIP projects for Northern Bobwhite in TBCR 18 have not been evaluated. As scaled quail (*Callipepla squamata*) are sympatric with northern bobwhite in many of these areas it is probable that their populations may also benefit from EQIP practices.

## **OBJECTIVES**

1. Examine northern bobwhite and scaled quail population responses to brush management and grazing deferment (EQIP practices) in TBCR 18.

## **PROGRESS TO DATE**

Our study is being conducted in Yoakum, Cochran, Bailey, and Hockley counties which are located in the Southern Panhandle of Texas. We contacted landowners and were able to secure permission to evaluate quail response on 9 separate study sites. Each study site varies in size from 1000 hectares to 2000 hectares. Of the 9 study sites, 6 are being treated with brush management and 3 are being treated with grazing deferment. Of the brush management sites, 4 are being treated to control sand shinnery-oak (*Quercus havardii*), 1 is being treated to control honey mesquite (*Prosopis glandulosa*), and 1 is being treated to control little-leaf sumac (*Rhus microphylla*), and plains yucca (*Yucca campestris*).

We estimated northern bobwhite abundance on each study site using spring whistle counts conducted between mid-April and mid-June. We used a paired t-test to evaluate differences between treatment and control sites. We analyzed brush management and deferred grazing treatments separately.

Brush management ( $P = 0.224$ ) did not affect bobwhite abundance, but bobwhite abundance was greater on control sites as compared to grazing deferred sites ( $P = 0.074$ ). Likewise, scaled quail abundance was not affected by brush management ( $P = 0.908$ ) or grazing deferment ( $P = 0.979$ ). These results, though counterintuitive, are not unexpected. Many of the treatments have not been applied to the study sites and where treatments have been applied there has not been sufficient time for treatments to have any effect. Three factors can explain why deferred grazing on our study sites has not caused an increase in quail abundance as compared to controls. First, sites that were enrolled in grazing deferment contracts had been previously grazed to the point that the vegetative cover and diversity were inferior to available control areas with many being wholly unusable by quail. Consequently, there has not been sufficient time, since the start of the new management practice, for bunch grasses and other vegetation to reach the desired nesting cover characteristics. Second, there has not been sufficient time for quail abundance to show any improvements during our spring count, because it was conducted during the first breeding season post treatment. It is likely that we may see some changes in abundance when we conduct the fall covey call counts and mark-recapture population estimates. Finally, nesting cover usually consists of residual cover, which is dormant,

standing vegetation, preferably grasses, which grew during the preceding growing season. Therefore, since spring 2005 was the first growing season post treatment it is likely that there was not sufficient nesting cover for quail during this first year of treatment. Next years breeding season may show significant improvements because of the increased availability of residual grasses for nesting.

Several factors can explain why brush management on our study sites has not caused an increase in quail abundance as compared to controls. First, only two of six sites had actually been treated when we conducted call counts this past spring. Therefore, results would not be expected on the four sites that had not received treatments. Second, either because the chemical treatment had not been applied properly or the treatment takes more time, no brush mortality was evident on one of the two sites. Brush mortality was apparent on the other site that had been treated before our whistle counts, but this site may not have had sufficient time to achieve improvements in quail abundance, even with improved nesting cover and availability of food. Therefore, none of the brush management sites should be expected to show a significant difference in quail abundance between control and treatment sites during the spring of the first year of treatment.

## **PRESENTATIONS**

Abercrombie, E. D., and C. B. Dabbert. Northern bobwhite response to Environmental Quality Incentives (EQIP) practices in the High Plains Ecoregion of Texas. 11<sup>th</sup> Annual Southeast Quail Study Group Meeting. Gilbertsville, KY, August 14-17, 2005.

## **PUBLICATIONS**

None to date.

## **PARTICIPATING AGENCIES AND LANDOWNERS**

James Adams, Stan Adcock, Tommy Box, Manuel T. De Leon, Vennum Fitzgerald, Mary Dale Forbus, Robert Lepard, Tommy Lewis, Jim Lutz, Jackie L. Pate, Lynnette K. Payne, Robert Perkins, L.J. Sanders Jr. Landowners who provided study sites.

## **NRCS INVOLVEMENT**

Charles Coffman, Wildlife Biologist. Charles provided guidance on the development of the project and serves as our primary NRCS contact.