

# **BOBWHITE RESPONSE TO NBCI-BASED HABITAT PRESCRIPTIONS ON RANGELANDS**

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## **INTRODUCTION**

Northern bobwhite quail populations have declined significantly throughout Florida as a result of tremendous changes in land use. Within peninsular Florida, bobwhite breeding populations declined at an annual rate of 4.3% since 1980 and harvest of bobwhites declined 81% during this period.

Relative to other agro-ecosystems in Florida, the Florida Fish and Wildlife Conservation Commission (FWC) has identified ranchlands as having a high potential for bobwhite restoration under the Northern Bobwhite Conservation Initiative (NBCI). The purpose of our initiative is to restore bobwhite habitats on native rangelands within a focal area in BCR 31 consistent with NBCI guidelines. Within this broad objective we will determine how to implement habitat modifications using funds available through the Farm Bill conservation programs and evaluate how much habitat restoration is needed to recover bobwhite and other bird populations on ranches.

The purpose of this project was to develop baseline data on bobwhite abundance on working ranches and to begin to monitor the efficacy of habitat manipulations applied using Farm Bill conservation program funding, such as the Environmental Quality Incentives Program (EQUIP) or Wildlife Habitat Incentives Program (WHIP). Habitat improvements, including increased burning, drum chopping, and grassland conversion, will be assessed at multiple scales. The end product will be information and education for NRCS and other agency managers to improve delivery of wildlife-friendly Farm Bill practices.

## **OBJECTIVES**

1. Determine the magnitude of response of bobwhites in relation to a suite of habitat management practices applied to ranchlands at multiple levels (% of area).
2. Determine the magnitude of response of species of birds associated with prairie habitats, such as common yellow throats, Bachman's sparrow, eastern meadowlarks, and others, in relation to a suite of habitat management practices applied to ranchlands at multiple levels.
3. Determine the efficacy of individual practices, specifically prescribed burning, drum chopping, and grass conversion, for creating suitable habitat for bobwhites.
4. Develop decision tools that provide Natural Resource Conservation Service (NRCS) and FWC biologists with information needed to identify habitat limitations and prescribe habitat solutions, consistent with the landowner's objectives and interests.

## **PROGRESS TO DATE**

We identified 8 cooperating ranches with varying acreage of native rangeland (600 – 20,000 acres). On these sites, EQIP practices are being applied at multiple scales. GIS Coverages were created from Landsat imagery, aerial photography, and through on-site GPS mapping. We ordered QuickBird Imagery to produce landscape scale vegetation maps, estimate within patch and between patch metrics, and characterize landscapes surrounding study ranches.

Project personnel are not responsible for the allocation of EQIP practices in our project however project staff have encouraged several ranchers to sign up for EQIP and have assisted them with management plans that could benefit bobwhites.

To estimate songbird abundance we conducted 325 point counts for songbirds, mainly five species of grass/shrubland birds including common yellowthroat, Bachman's sparrow, eastern meadowlark, eastern towhee and red-winged blackbird. At each point we collected microhabitat variables including, canopy coverage of saw palmetto, bunchgrasses, forbs, legumes, etc., using the line-point intercept method. We are collected structure data using the Robel pole method at each point. Surveys for wintering sparrows begin in January.

We completed >50 fall covey counts for bobwhites on the cooperating ranches. On each of the sites, covey call counts occurred on areas treated with EQIP practices as well as "control" or untreated areas. We assessed microhabitat conditions within each area sampled using the protocol used for songbird point points. Early results are showing that bobwhite densities are highly variable, but are greatest in native habitats treated with roller chopping and prescribed fire. In addition to project objectives, we monitored 60 radiotagged bobwhites for detailed habitat use information and general population demographics information. Radio-tagged bobwhites occurred on areas where EQIP practices were implemented.

We have set up 3 blocks of treatments for testing varying burning and chopping regimes. The baseline data has been collected. Complications with weather (excessive rainfall) resulted in treatments not being applied. We have applied for further funding to increase support for this objective. We have begun to cooperate with Florida's USDA Plant Materials center to develop plant materials for the restoration of grassland habitats.

University of Florida IAFUS and Tall Timbers Research Station held a 2-day cooperative Bobwhite Workshop in Arcadia Florida. University of Florida IAFUS personnel took the lead role in this field day. Approximately 120 landowners attended the field day. The field day was attended by NRCS employees, including the State Conservationist, Range Specialist, District Conservationist, and District Range Specialist as well as IAFUS Cooperative Extension Range Specialists for the 6 study county study area. During the field day participants learned about bobwhite management and ecology from multiple presenters. A field trip to one of our study sites was hosted by James Martin and participants saw how EQIP funds were being used to manage native rangelands for bobwhites.

In addition to workshop, we produce an informal project email newsletter that is distributed to all project participants. In addition to project participants, over 100 people receive this monthly newsletter. See newsletter example attached.

## **PRESENTATIONS**

Martin, J.A. Quail management and research on a private ranch. South Florida Quail Management Shortcourse. Arcadia, FL, October 14, 2005.

Martin, J.A., A.B. Butler, W.E. Palmer, T.C. Hines, G. Hendricks, J.P. Carroll. South Florida Rangeland Quail Initiative and Research Program. Southeast Quail Study Group Meeting. Kentucky August, 2005.

## **PUBLICATIONS**

Martin, J.A. Quail management and research on a private ranch. 2005 Proceedings of the South Florida Quail Management Shortcourse.

Martin, J.A. Barbwire and Bobwhites. 2004-2005. See attached copy of this newsletter.

## **PARTICIPATING AGENCIES AND LANDOWNERS**

Carlton Family (2x4 Ranch), Hall Family (Hall Pine Island Ranch), Paul Family (Tipton Bay Ranch), Carlton Family (Quail Ridge Plantation), Longino Family (Longino's Ranch), John Panning (4-wheeler Ranch), Johnston Family (Escape Ranch). Landowners who provided study sites.

Myakka State Park, Florida Department of Environment. Public lands study site.

Tommy Hines, Small Game Program Leader, FWC. Primary agency contact. Assists with study implementation, funding, in-kind support and landowner contacts.

Chuck Mckelvy, Private Lands Program Coordinator, FWC Assists with study implementation and landowner contacts.

### **NRCS INVOLVEMENT**

Greg Hendricks, State Conservationist, Environmental Services Section. Greg was the primary NRCS contact for developing EQIP program for ranchlands. He remains involved as a primary contact to the state offices and assists with monitoring progress of EQIP programs.

Pete Deal, Rangeland Management Specialist, Environmental Services Section. Pete assisted with vegetation monitoring protocols and advises on improving extension materials to both NRCS employees and ranch owners. Pete provides insights into the information needs of NRCS employees and range managers.