

# **USE OF HUMAN DIMENSIONS INFORMATION AS A TOOL FOR SELECTING LARGE-SCALE QUAIL RESTORATION AREAS**

## **INVESTIGATOR INFORMATION**

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## **INTRODUCTION**

Large-scale bobwhite restoration is dependent on management of private lands, and conservationists are targeting select geographic areas to increase the probability of achieving permanent and significant increases in bobwhite abundance. Efficacious selection of target areas requires a foundation of biological and sociological information. We have a sound biological foundation but lack understanding of how to motivate landowners to carry out quail conservation. This research will determine Missouri landowner willingness and ability to carry out bobwhite habitat restoration in joint-venture style cooperatives with natural resource agencies and conservation organizations. This information will be used in conjunction with biologically-based habitat suitability models to select quail restoration areas and to design marketing plans for USDA Farm Bill conservation practices.

## **OBJECTIVES**

- 1.) Determine landowner knowledge, willingness and ability regarding quail conservation and open land habitat restoration.
- 2.) Determine desired components of cooperative restoration agreements.
- 3.) Develop a spatial inventory of landowner suitability for implementing cooperative restoration.
- 4.) Evaluate landowner experience with, and attitude toward, cooperative ventures.

## **PROGRESS TO DATE**

Our primary objective for the second fiscal year was to analyze data from the landowner survey mailed out at the end of the first fiscal year, and to select two focus areas for implementation of restoration programs. In addition, we presented 9 posters and/or presentations on the preliminary results of the study.

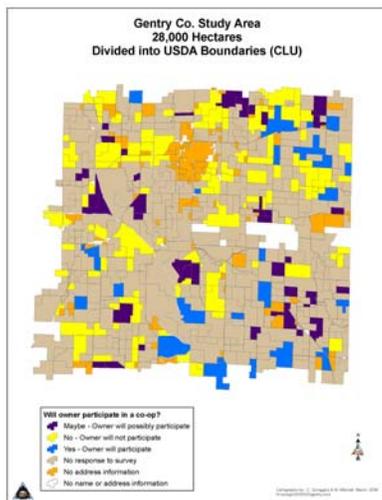
To select the 2 quail restoration focus areas we first narrowed the area of interest to 2 of the 5 70,000-acre survey areas based on availability of MDC staff to implement a special quail restoration program. Our goal was to select one contiguous 10,000-acre restoration area in each survey area. Within these survey areas we further narrowed potential restoration areas using GIS

maps of quail habitat suitability. We then worked with local private land experts (e.g., MDC and NRCS staff) to review the veracity of the quail and landowner suitability maps.

The GIS maps were created by coding each landowner’s common land unit (USDA shape files) according to their survey answers. The primary question/answer was their interest in joining a quail habitat restoration cooperative *if* one were offered. Choices were ‘yes,’ ‘maybe’ and ‘no.’ An example of the affirmative responses coded to landowner CLUs is displayed in Figure 1. It is immediately apparent that data ‘holes’ (no response to survey, no name and/or address) greatly reduce our ability to describe landowner willingness to join a quail restoration program. To better understand the attitude of landowners who did not respond to the survey, we are planning to conduct telephone surveys during the last fiscal year.

Although there was a paucity of positive responses to the question about landowner interest in joining a quail cooperative (figure 1), biologists in each of the 2 survey areas were able to identify a grouping of affirmative landowners with potential for restoration. In each survey area, a 15,000-acre cooperative was created. During the final fiscal year we will document interest and participation in each cooperative.

To understand the general attitude of landowners toward quail restoration, the survey included questions about the popularity of quail, interest in quail hunting, and willingness to use quail-friendly land management practices (e.g., controlled fire, disking, planting of woody covey headquarters). Coded answers for these questions were also displayed in GIS format. Although these maps provided a wider-variety of information about the potential for landowner involvement in quail restoration, the results were similar to those observed with the cooperative question. To better understand barriers to landowner participation in quail restoration, during the final fiscal year we are planning on conducting focus group discussions with survey respondents who answered ‘maybe’ or ‘no’ to the cooperative question.



**Figure 1.** Gentry County survey area, with landowner common land units coded according to our ability to obtain any response, and by respondents answer to the question: “Would you be interested in joining a quail co-op?”

We designed the survey with multiple objectives in mind: (1) to provide data for selecting land ownerships for development of cooperatives, and (2) to explore the interaction of landowner attitudes and demographics in a landowner's decision to participate in a cooperative. The latter was a priority because our primary objective was to provide recommendations on the usefulness of gathering sociological data for development of restoration cooperatives.

We developed 11 a priori models to explain landowner interest in joining a bobwhite habitat cooperative. We used 509 responses for selecting among our models those that best represented landowners who were most willing to join habitat cooperatives. Only 15% of respondents expressed a strong interest in participating in habitat restoration in a cooperative. Our global model of 29 variables fit these data well ( $\chi^2_{985} = 946.16, P = 0.8083$ ). Of the a priori models that were considered, the global model was the most appropriate. Further examination of the global model resulted in 2 submodels with 9 and 10 variables that more appropriately explained who would be more willing to consider cooperating in habitat restoration programs. These preliminary models will be used to develop questions for a telephone survey of nonrespondents.

## **PRESENTATIONS**

Dailey et al. Use of human dimensions information as a tool for selecting habitat restoration areas in Missouri farm lands for northern bobwhite. 12<sup>th</sup> International Symposium on Society & Resource Management. June 7, 2006. Vancouver, BC. Abstract & Poster.

Dailey et al. Use of habitat and landowner suitability models as tools for selecting large-scale quail habitat restoration areas on private land in Missouri. Gamebird VI. June 1, 2006. Athens, GA. Abstract & Presentation.

Dailey et al. Use of habitat and landowner suitability models as tools for selecting large-scale quail habitat restoration areas on private land in Missouri. 12<sup>th</sup> Annual Meeting of the Southeast Quail Study Group. August 8, 2006. Auburn, AL. Abstract & Poster.

Dailey et al., Use of habitat and landowner spatial suitability models as tools for selecting large-scale quail habitat restoration areas on private land in Missouri. The Wildlife Society 13<sup>th</sup> Annual Conference. September 25, 2006. Anchorage, AK. Abstract & Poster.

Dailey et al. Quail human dimensions study update. QU State Council Annual Meeting. February 4, 2006. Mexico, MO. Presentation.

Dailey et al. Do landowners give a hoot about quail? QU National Convention. July 27, 2006. Kansas City, MO. Presentation.

Reitz et al. Attitudes of north Missouri landowners toward quail habitat restoration areas on private land. 12<sup>th</sup> Annual Meeting of the Southeast Quail Study Group. August 8, 2006. Auburn, AL. Abstract & Poster.

Reitz et al. Attitudes of north Missouri landowners toward quail habitat restoration areas on private land. Annual Missouri Natural Resources Conference. February 1, 2006. Osage Beach, MO. Presentation.

Scroggins et al. Focusing on bobwhite quail: Results of four northern Missouri focus groups. 12<sup>th</sup> International Symposium on Society & Resource Management. June 7, 2006. Vancouver, BC. Abstract & Poster.

## **PUBLICATIONS**

None to date

## **PARTICIPATING AGENCIES AND LANDOWNERS**

University of Missouri-Columbia, facilitated the focus group discussion

**Jef Hodges**, Quail Unlimited Regional Director, is a study collaborator

Missouri State Council of Quail Unlimited continues to provide assistance in hosting focus group discussions

## **NRCS INVOLVEMENT**

**Pat Graham**. State Biologist-MO, is a study collaborator.