

**Southern Illinois University / USDA-NRCS
Resource Professional CRP Management Workshop
12 April 2007, Executive Summary**

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Event Summary

Representatives from state, federal, non-governmental organizations, and university personal attended the workshop. The event took place at the University of Illinois Extension Office and the Kinney, MacDavid, and Hibner farms in Wayne County, Illinois. The event featured a morning presentation from Doug Osborne introducing Southern Illinois University's involvement in the Bobwhite Restoration Project. Topics included an introduction to the grant and project objectives, Illinois CRP Management options, methods of research, and preliminary results from the 2006 field season. The field tour included 4 fescue-dominated CRP fields that have been enrolled in CRP for an excess of 8 years and that are now enrolled in the CRP Management program for the purposes of this research. Finally, the workshop would not have been possible without financial and logistical support from many contributors, including Dave Howell of Quail Unlimited and Ray Webb and the local WEW QU Chapter.

Agenda

RESOURCE PROFESSIONAL CRP MANAGEMENT WORKSHOP

University of Illinois Extension Office in Wayne County, Illinois
April 12, 2007

- | | |
|----------|---|
| 9:30 am | Wayne County Extension Building |
| 9:35 am | Project Proposal and History - John Cole, Illinois Dept Natural Resources |
| 9:45 am | CRP Management Research Project - Doug Osborne, SIUC |
| 10:15 am | Leave for field tour of 3 or 4 treatment sites |
| Noon | Lunch provided at DiMaggio's in Fairfield |
| 1:30 pm | Conclusion of field day |

Attendance

The workshop was attended by 25 wildlife and natural resource professionals including personnel from IDNR, USDA NRCS and FSA, Quail Unlimited, and University faculty and graduate students.

<u>Agency</u>	<u>Responsibilities</u>	<u>Attendance</u>	<u>Proportion of attendees by agency</u>
Illinois Department of Natural Resources		9	35%
	Habitat management		
	Hunting program management		
	Nuisance wildlife		
	Public and private game management		
	Habitat development		
	Population surveys		
	Upland wildlife		
	Head field management section		
Natural Resource Conservation Service		6	23%
	Private land practices		
	Technical standards		
	Agronomist		
	Implementing wildlife Farm Bill practices		
Farm Service Agency		4	15%
	CRP enrollments		
Quail Unlimited		2	8%
	Director ag/wildlife services		
	Habitat coordinator		
WEW Quail Unlimited Chapter		2	8%
	Chairman		
	Board Member		
Southern Illinois University		3	11%
	Project principle investigator		
	Bobwhite/Bobcat genetics research		
	Private lands management/grassland bird research		

The following list was generated from attendee comments of addition topics that they would have liked to have seen covered (see question 4 from evaluation form).

Alternative herbicide combinations and tillage implements for strip disking

Spraying/tilling in different seasons

Other seeding options for quail cover and food

Seeding with forbs

Quail response 5 years later

Food plots

Acknowledgements

We would like to extend our thanks again to Dave Howell and the other Quail Unlimited staff members for the program arrangements and financial support. Ray Webb and WEW QU Chapter generously provided lunch and the Kinney, MacDavid, and Hibner families allowed us to use their property for this research effort and for this special event. In addition we would like to recognize all the staff that had a hand in organizing this field day.

Sponsors

Illinois Quail Unlimited
WEW Bobwhite Quail Unlimited Chapter
Southern Illinois University



Doug Osborne, in center of photo facing camera, (SIUC graduate research assistant, PhD) describes the herbicide spray with legume interseeded treatment and the potential to increase arthropod abundance and provide a winter food source for bobwhites.



The group observing one of many fescue-dominated CRP field in Wayne County, Illinois.



Doug Osborne (blue fleece, back to camera) explains to the group that strip disking does not eliminate the fescue grass for more than a single growing season.



From left to right, Don Sparling (Associate Director CWRL and project PI, SIUC), John Cole (Illinois Department of Natural Resources, State Upland Biologist), and Don King (Illinois FSA) discuss the lack of visual results from strip disking practices.

RESPONSE OF GRASSLAND BIRDS, THEIR COVER, AND THEIR FOOD TO CRP MID-CONTRACT MANAGEMENT: WAYNE COUNTY, ILLINOIS

This research transpired from a severe decline in abundance of Northern Bobwhites (*Colinus virginianus*) and many species of grassland songbirds. Although the Conservation Reserve Program (CRP) has been credited to contributing to the conservation of several declining grassland species, this has not been the case in Illinois. Illinois has over 923,000 acres of retired cropland enrolled in the CRP and the majority of which has been planted to tall fescue (*Festuca arundinacea*). While fescue is good in retaining soil erosion, its rank growth greatly reduces its values as avian habitat. In particular, ground nesting and foraging birds find it difficult to penetrate the thick growth when in search of nesting sites and food prey. To counter this, the United States Department of Agriculture (USDA) has required the CRP Management program to convert fescue into more desirable wildlife habitat.

The Cooperative Wildlife Research Laboratory at Southern Illinois University Carbondale has teamed with the Illinois Department of Natural Resources, United States Department of Agriculture, Quail Unlimited, and the Bobwhite Restoration Project (Mississippi State University) to investigate the potential of CRP Management to enhance bobwhite habitat in Wayne County, Illinois. We will evaluate 3 cover disturbance practices including fall strip disking, fall herbicide spraying using Roundup Original Max®, and fall herbicide spraying with spring interseeding of lespedeza and partridge pea. Treatments will be applied to fields in accordance with the USDA-Natural Resources Conservation Service (NRCS) Early Succession Habitat Development and Management Standards-647 (NRCS 2000). Therefore, treatments will be applied to one-third of each field per year for 3 consecutive years and will be applied in alternating strips. We will measure any change in field use by birds, insect abundance, vegetation characteristics, and evaluate cost-effectiveness of each practice for increasing bird use of CRP fields. In 2007-08 we will evaluate the food prey of select precocial and altricial species, using imprinted bobwhite chicks and Dickcissel (*Spiza americana*) nestlings.

BIRD RESPONSE: On nearly 1600 acres of CRP in Wayne County under study Red-winged Blackbirds (22.1 %), Dickcissel (16.5), Field Sparrow (11.0), Eastern Meadowlark (8.1), Northern Bobwhite (7.4), and Henslow's Sparrow (3.0) made up 68.1 % of all birds detected during the 2006 breeding season. Bobwhite adults with broods were observed in 6 CRP fields, 4 in sprayed fields and 2 in spray/interseeded fields. We observed 42 Henslow's Sparrows in 2006,

an Illinois State Endangered Species; 21 individuals in spray/interseeded fields, 6 in sprayed fields, 8 in disked fields, and 7 untreated fields. We evaluated the 2006 bird data in 3 major categories including the relative abundance by treatment type (Fig. 1), species richness by treatment type (Fig. 2), and number of birds per hectare by treatment type (Fig. 3). The results indicate that sprayed and spray/interseeded fields had more birds, bird species, and birds per hectare than disked and untreated fields.

INSECT RESPONSE: Insects are an essential component in the diets of many precocial and altricial species. Bobwhite chicks rely on insects for nearly 90% of the diet during the first 2 weeks after hatch. Unfortunately, at this time I have very little data to report due to the intensive time consuming nature of this component. Visual observations in the field suggest that the legume component in the sprayed/interseeded fields contributes to an increased number of insects relative to other treatment types. This is supported by examinations of samples in the laboratory. Due to time restraints we will have to modify this component in 2007. In 2007-08 we will evaluate the effectiveness of each treatment type on increasing foraging efficiency and mobility of imprinted bobwhite chicks and Dickcissel nestlings. The number of insects consumed per chick per 30 minutes will help us understand the effectiveness of each treatment type in enhancing the foraging potential each fescue habitats. We will also compare the family groups of insects that are being consumed by bobwhite and dickcissel chicks to those that are available to determine what type of insects are being selected for.

VEGETATION RESPONSE: The results of the MANOVA indicated that the control and disked strips contained a greater percent grass and less forbs than did sprayed and sprayed/seed strips during the first growing season post-treatment. While sprayed/seed and disked strips contained less litter than did control and sprayed strips (Fig 4).

By the fall of 2008 we will have converted over 700 acres of fescue to usable quail habitat. We are thankful for the landowners that have agreed to participate in this study. Please feel free to contact me with any additional questions or comments you may have. Doug Osborne:
618.453.6959 or osborne@siu.edu.



2006 Avian Relative Abundance by Treatment Type

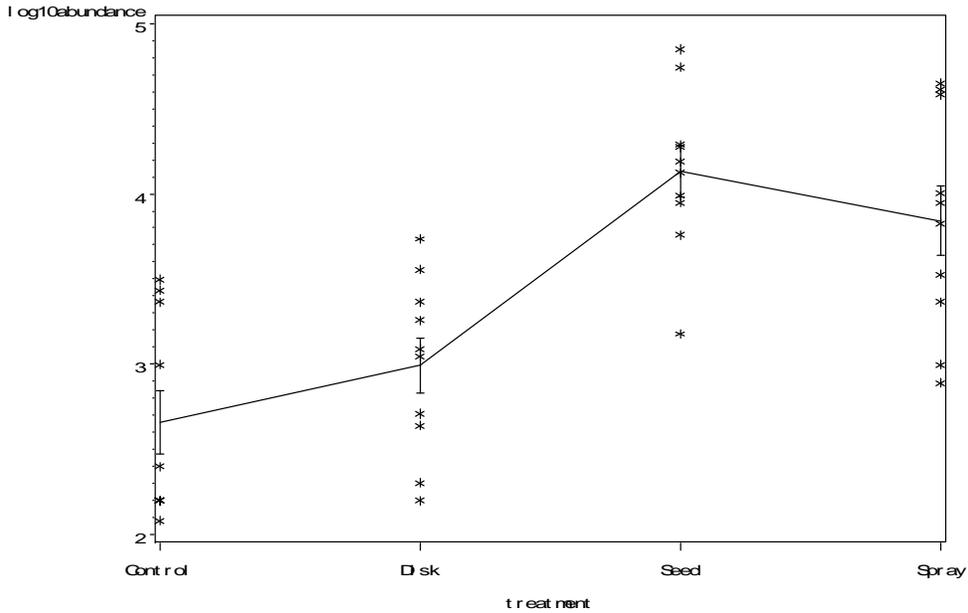


Figure 1. 2006 avian relative abundance by treatment type. This graph represents the mean number of birds detected per field by treatment type during the 2006 breeding season.

2006 Avian Species Richness by Treatment Type

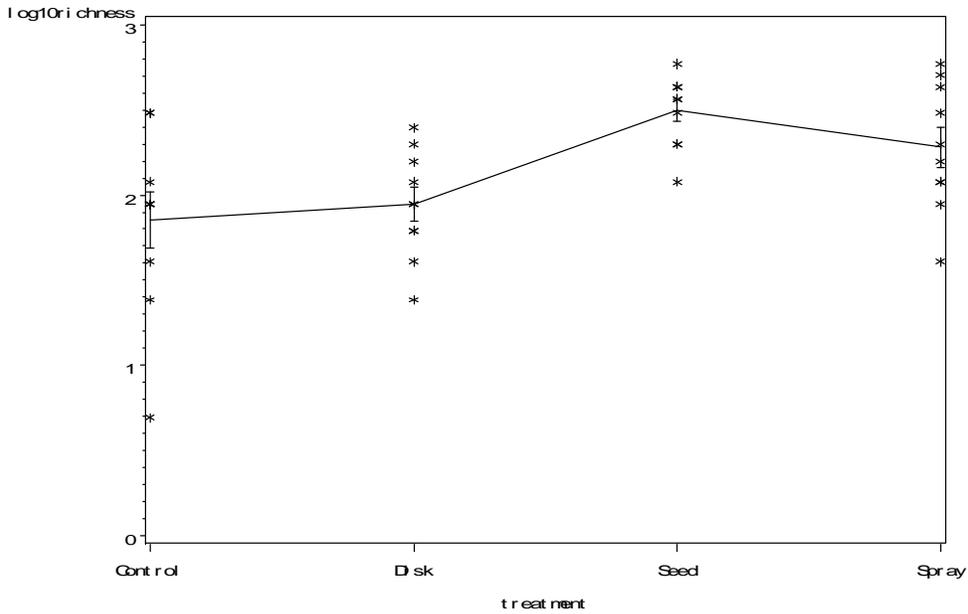


Figure 2. 2006 avian species richness by treatment type. This graph represents the mean number of bird species detected per field by treatment type during the 2006 breeding season.

2006 Avian Density by Treatment Type

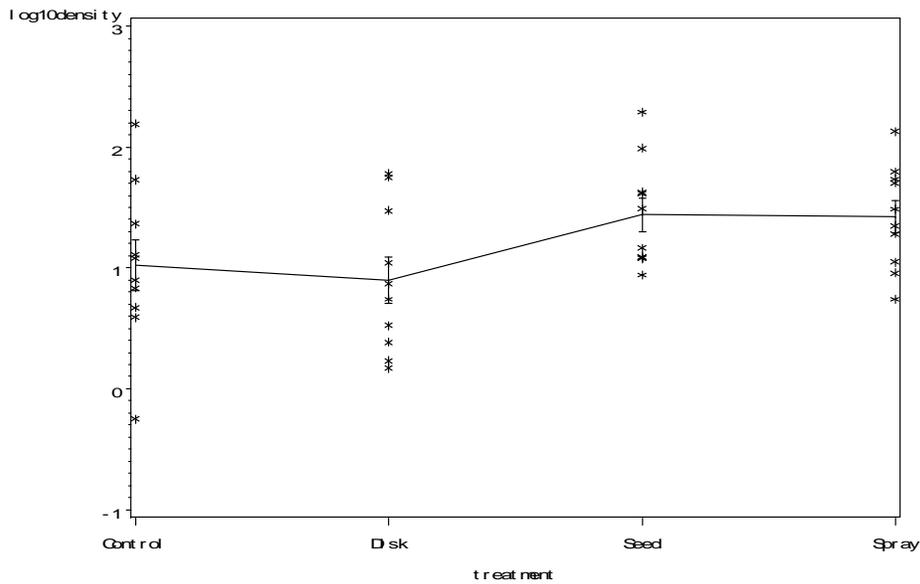


Figure 3. 2006 avian density by treatment type. This graph represents the mean number of birds detected per field per hectare by treatment type during the 2006 breeding season.

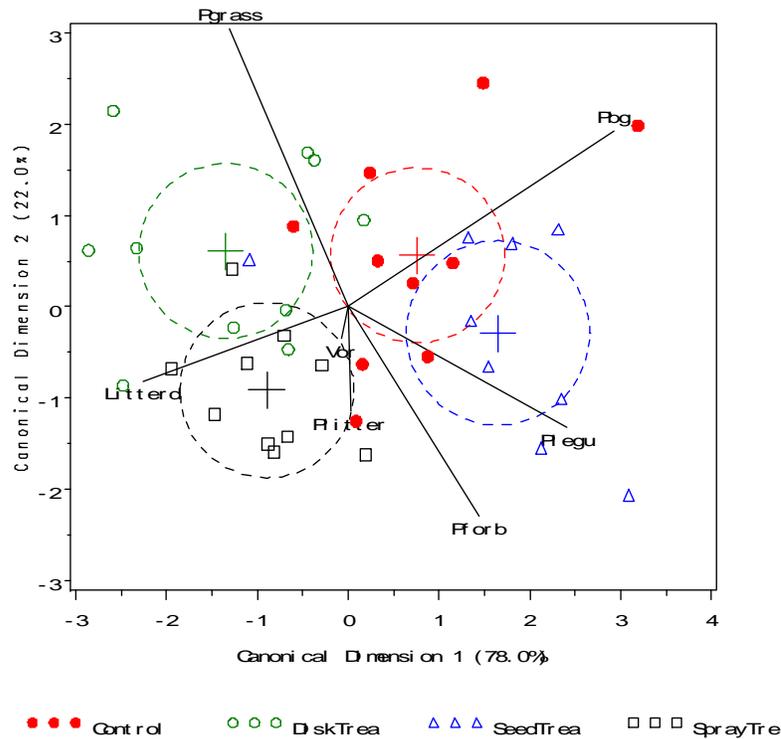


Figure 3. Canonical Plot illustrated the response of vegetation characteristics in treated strips in managed fields and untreated strips in control fields to various treatment practices. Control and disked strips contained a greater percent grass and less forbs than did sprayed and sprayed with reseed strips 1 growing season post-treatment. While sprayed with reseed and disked strips contained less litter than did control and sprayed strips.

Field Day Evaluation Form

Southern Illinois University / Quail Unlimited

Grassland Community Response to CRP Mid-contract Management

USDA-NRCS/MSU Bobwhite Restoration Project

1. **What involvement do you have with wildlife management:**
 - a. **What agency do you work for?** _____
 - b. **What county or region are you responsible for?** _____

 - c. **What wildlife species, if any, do you work with on a regular basis?**

 - d. **What are your primary responsibilities?** _____

2. **Please rank the overall value of this field day in increasing your knowledge of the topics presented:**
(low) 1 2 3 4 5 (high)

3. **Would you be interest in attending another workshop next year with updates and addition information as this project progresses?** Yes No

4. **Are there any other topics you would like to have seen covered?** _____

5. **Do you have any suggestions on how we could improve this workshop for next year?**

6. **Any other comments or concerns?**
