

## Maintaining quail and grassland bird habitat in the agricultural landscape: CP33 - Habitat Buffers for Upland Birds



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National Bobwhite Conservation Initiative  
July 25, 2018



## Discussion Topics

- Grassland Bird Declines
- CP33 Requirements
- Bobwhite Quail Habitat Requirements
- Establishment
- Mid-Contract Management
- Landscape-scale Approach
- Conclusion

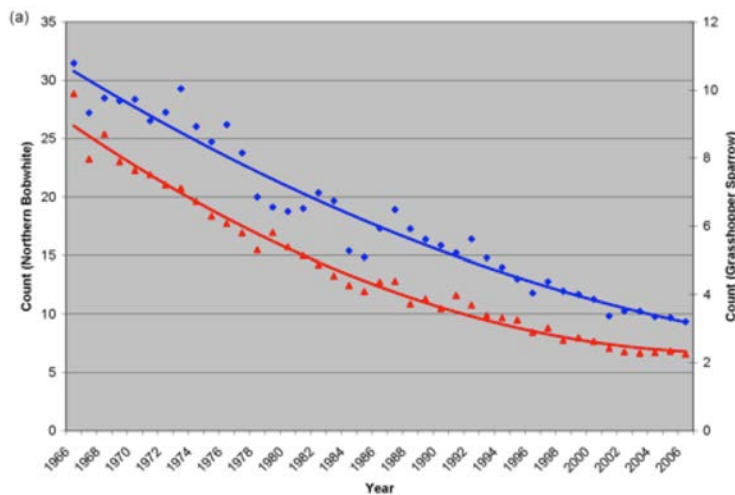


Quail Forever

## Grassland Bird Declines

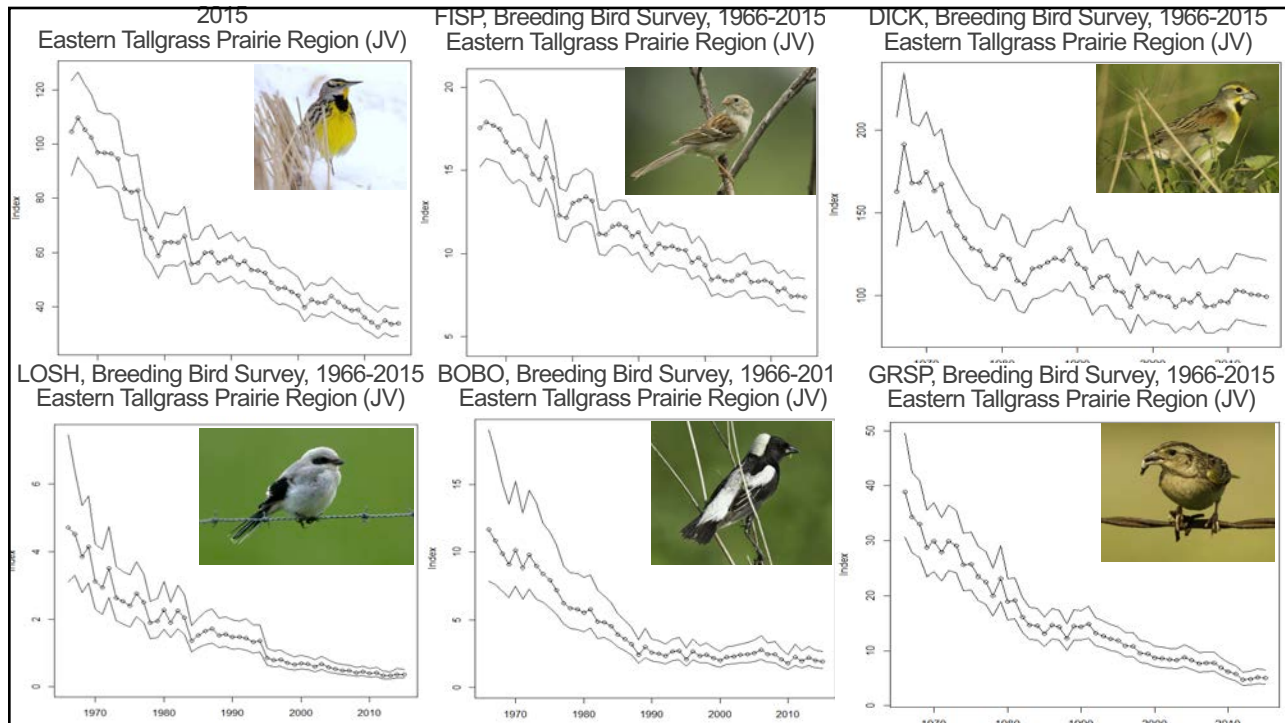
- Most rapidly declining group of birds in the United States
- Habitat loss
  - Conversion of prairie, native grassland, pastures, hayfields to row crops, development, and urbanization
- Major changes in ag practices, intensity
  - Earlier, more frequent mowing/haying
  - Overgrazed pastures
  - Non-native, introduced grass species (Fescue, smooth brome, Bermudagrass, etc.)
  - Suppression of fire and other disturbance

## Northern Bobwhite Declines



Missouri Department of Conservation

Population trends (mean annual BBS counts) for the Northern Bobwhite (blue) and Grasshopper Sparrow (red)



## CP33 - Habitat Buffers for Upland Birds The Basics

- Administered by the Farm Services Agency (FSA)
- Continuous Conservation Reserve Program (CCRP) Practice
- Enrollment is not competitive
- Cropping History: planted to an agricultural commodity during 4 of the 6 crop years from 2008 through 2013
- 10 Year Contracts



## CP33 - Habitat Buffers for Upland Birds

### The Basics

- Annual Payments: Based on Soil Rental Rates (SRR)
  - 3 predominant soils on the eligible acreage offered
  - Average cash rental rates per acre based on **non-irrigated** cropland
- \$125/acre Sign-up Incentive Payment (SIP)
- Practice Incentive Payment (PIP): 40% of the total cost of practice installation.
- FSA will provide up to 50% cost share for practice installation



USDA-NRCS

## CP33 - Habitat Buffers for Upland Birds

### Purpose

- **“...to provide food and cover for quail and upland birds in cropland areas.** Secondary benefits may include reducing soil erosion, increasing soil and water quality, protecting and enhancing the on-farm ecosystem...” (2CRP Manual)
- Installed along field edges or pivot corners
- Buffer width: 30 feet to a maximum average width of 120 feet
- Pivot corners of any size may be enrolled as CP33 (with or without connecting buffers)

# Pivot Corners

\*New in 2015



## CP33 - Habitat Buffers for Upland Birds Practice Specifications

- Upland habitat buffers will be allowed to re-vegetate by natural herbaceous succession, and/or will be established to **adapted species of native, warm-season grass, legumes, wildflowers, forbs**, and limited **shrub and tree plantings** (2CRP Manual)
- “Seeding, if it occurs at all, should occur **at much lighter rates** than for CRP practices aimed at soil conservation and water quality enhancement.” (2CRP Manual)

## CP33 - Habitat Buffers for Upland Birds Practice Specifications

- No haying or grazing unless grazing is incidental to the normal gleaning of the crop residue
- Trees and shrubs shall not exceed 10 percent coverage of the buffers. “Shrubs and trees selected **must** provide optimal quail habitat and/or emergency benefits.” (2CRP Manual)
- Noxious weeds must be controlled

## CP33 - Habitat Buffers for Upland Birds Practice Specifications

- **Mid-Contract Management (MCM)**
  - “...the buffers shall be disturbed on a rotational basis by light disking, prescribed burning, selective herbicide application, or other prescribed methods as approved to set back vegetative succession and woody encroachment, and to expose food seeds. Mowing is an inadequate means of disturbance for quail habitat, except as need to facilitate prescribed burning or light disking.” (2CRP)
  - Required at least once during the 10 year contract. (Cost-share provided)
  - A second round of MCM may be allowable in some states (Cost-share may be provided)
  - Eligible MCM practices vary by state – **Check with your local FSA office**

## Farm the Best, Buffer the Rest



## Does CP33 work for the birds?



CP33–Habitat Buffers for Upland Birds Bird Monitoring and Evaluation Plan 2006–2011 Final Report  
 Wes Burger, Kristine O. Evans, Mark D. Smith, and Sam Riffell

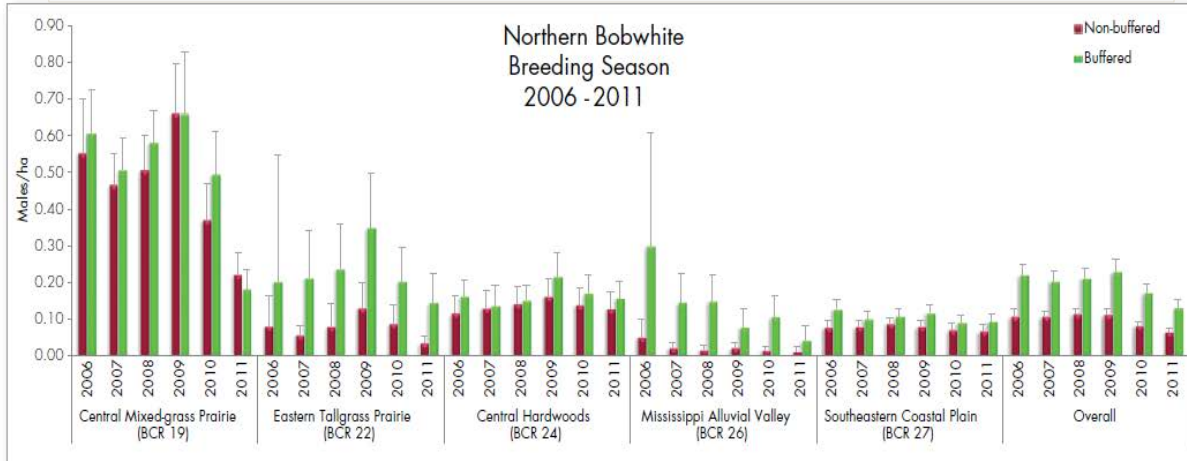


Figure 5. Breeding season bobwhite density estimates (males/ha ± 95% CI) on row-crop fields buffered with CP33 vs. non- buffered fields in the Central Mixed-grass Prairie, Eastern Tallgrass Prairie, Central Hardwoods, Mississippi Alluvial Valley, and Southeastern Coastal Plain Bird Conservation Regions (BCR) (2006-2011). Data from all survey sites (including those in peripheral BCRs) were included in overall density estimates.

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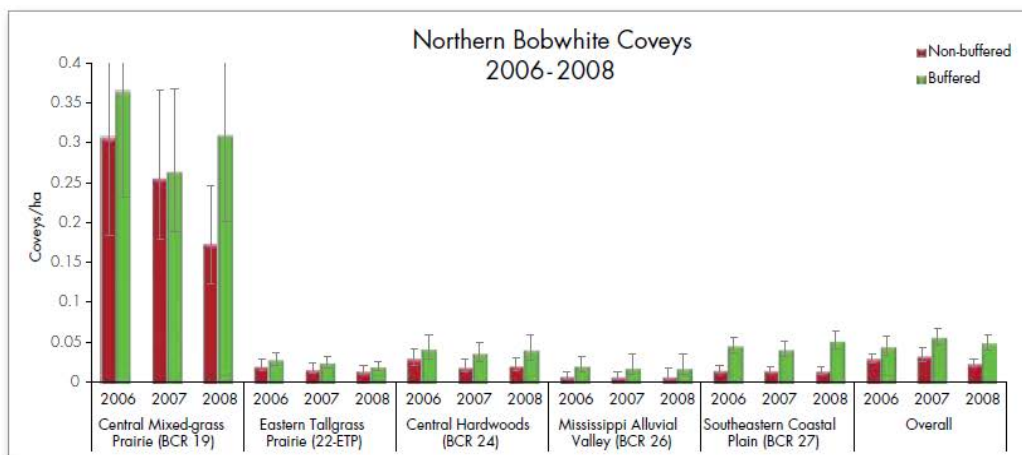
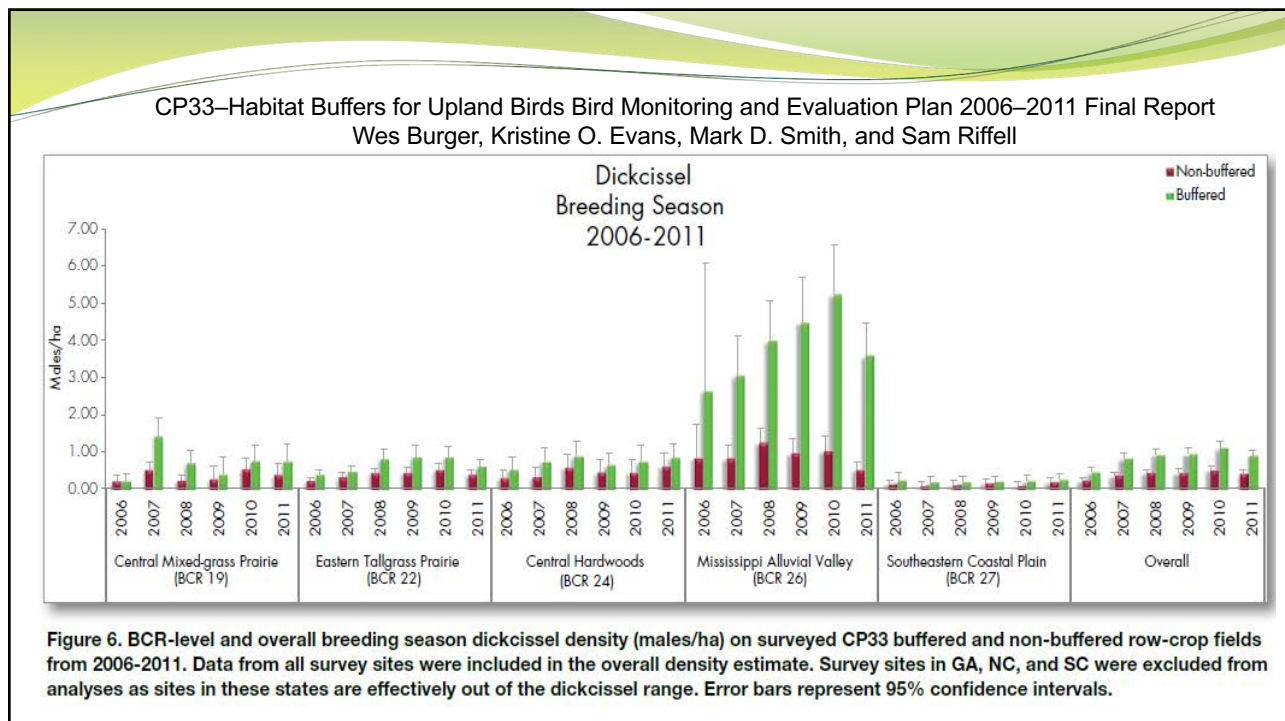
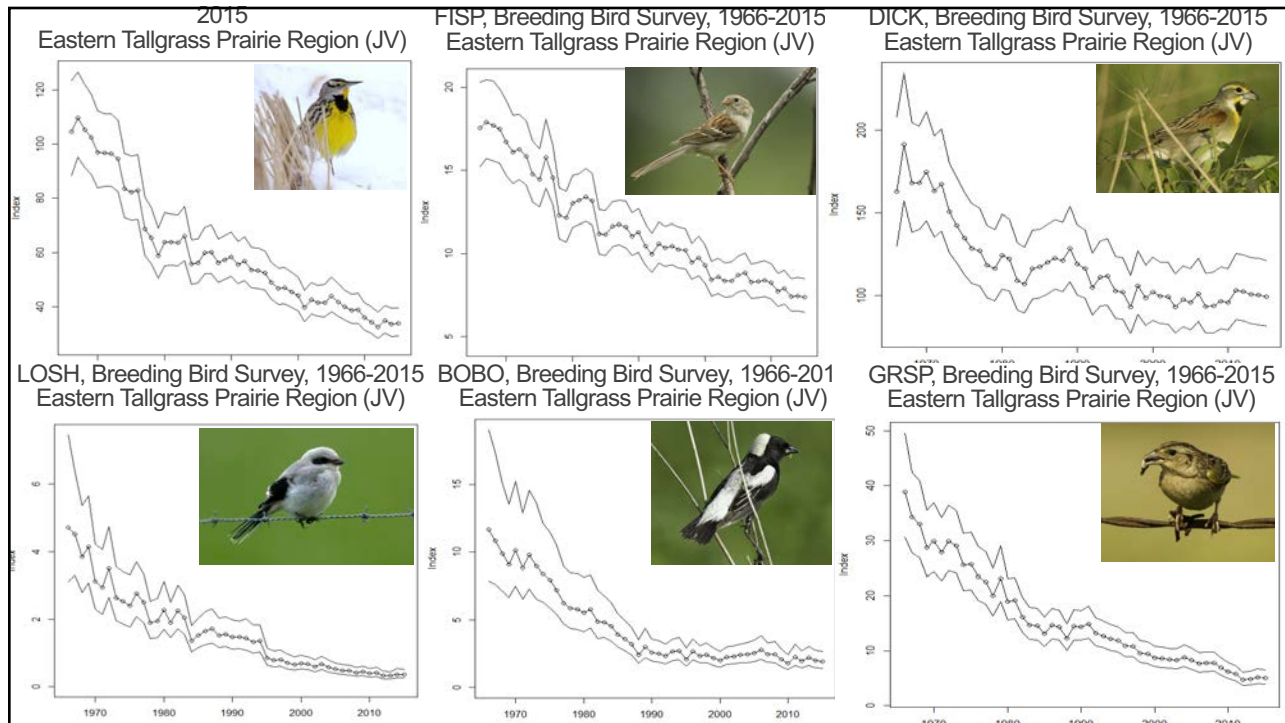


Figure 17. BCR-level and overall non-adjusted northern bobwhite covey density (coveys/ha) on surveyed CP33 buffered and non-buffered fields from 2006-2008. Data from all BCR's are included in the overall density estimate. Error bars represent 95% confidence intervals.



CP33–Habitat Buffers for Upland Birds Bird Monitoring and Evaluation Plan 2006–2011 Final Report  
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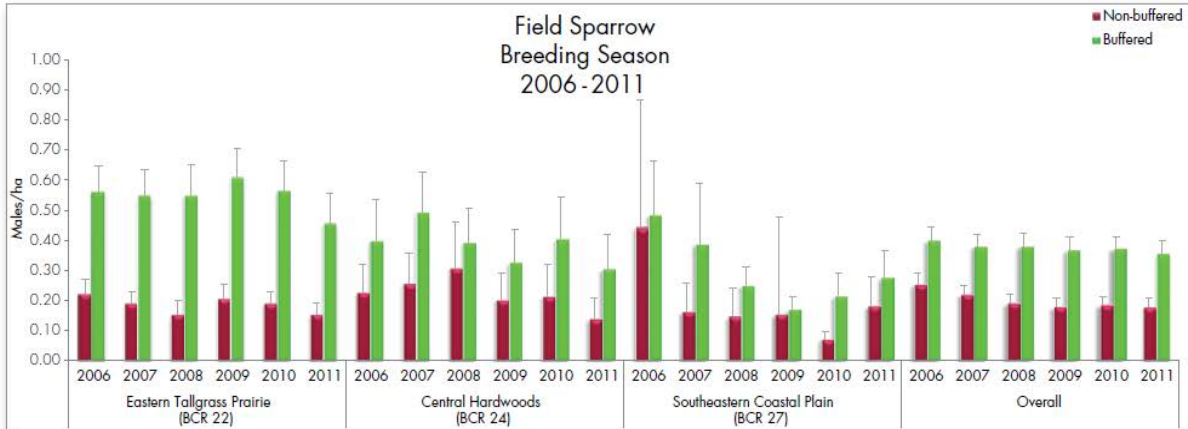


Figure 7. BCR-level and overall breeding season field sparrow density (males/ha) on surveyed CP33 buffered and non-buffered fields from 2006-2011. The Central Mixed-grass Prairie region (BCR 19) was not evaluated as the majority of survey sites are in TX which is effectively out of the field sparrow range; data from the remaining survey sites were included in the overall density estimate. Error bars represent 95% confidence intervals.

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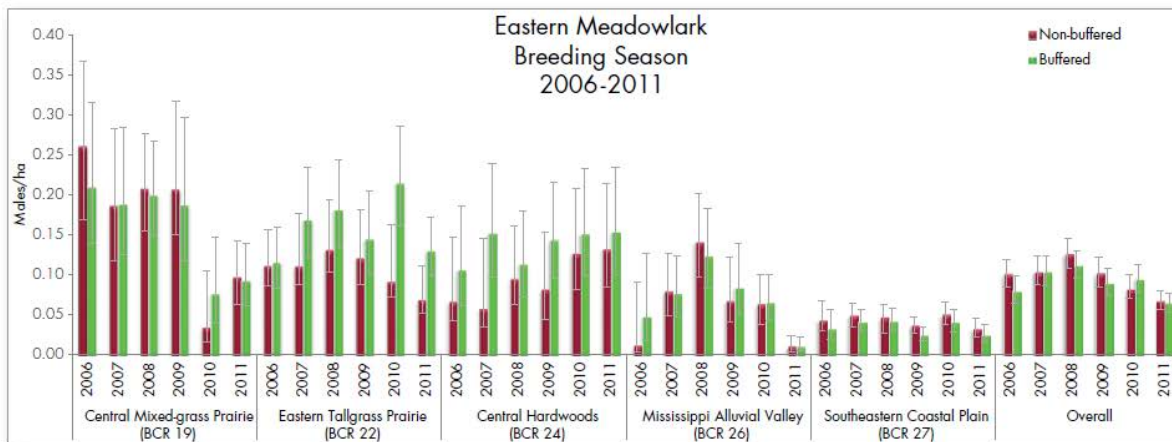


Figure 9. BCR-level and overall breeding season eastern meadowlark density (males/ha) on surveyed CP33 buffered and non-buffered fields from 2006-2011. Data from all BCR's are included in the overall density estimate. Error bars represent 95% confidence intervals.

CP33–Habitat Buffers for Upland Birds Bird Monitoring and Evaluation Plan 2006–2011 Final Report  
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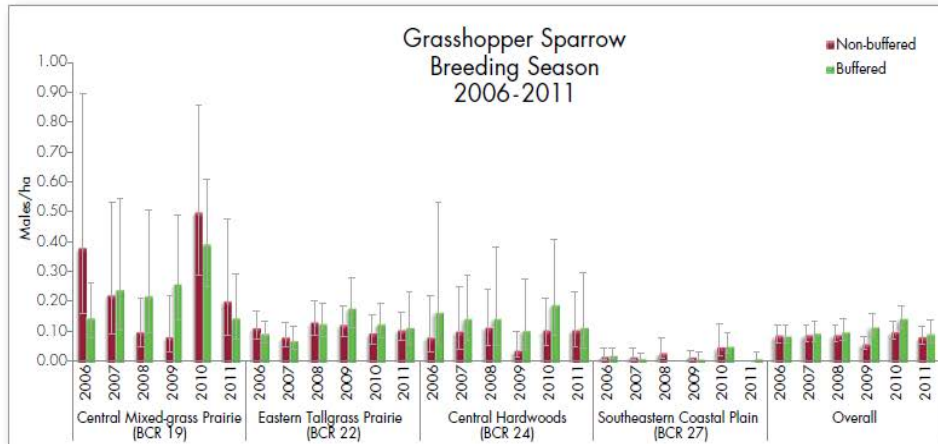


Figure 10. BCR-level and overall breeding season grasshopper sparrow density (males/ha) on surveyed CP33 buffered and non-buffered fields 2006-2011. Error bars represent 95% confidence intervals.

## Does CP33 work for the birds?

**YES!**



## Why CP33 Works for Quail

- Quail are an early successional species who live on the edge
  - *30' – 120' buffer*
- Early Successional Habitat = Disturbance
  - *Light, diverse seeding mixes*
  - *Mid-Contract Management*
- 3 Primary Habitat Requirements
  - Nesting Habitat
  - Brooding Habitat
  - Escape and Loafing Habitat



## Nesting

- Nesting Habitat:
  - Moderately dense stand of grasses, legumes, and annual weeds with an open nature at ground level
  - Warm or Cool-season native bunch grasses
- Quail often build nests within 50 feet of an edge or opening with bare ground
- South TX research: Nest productivity peaked at about 1 clump of grass per 100 square ft!



## CP33 - Habitat Buffers for Upland Birds Practice Specifications

- Upland habitat buffers will be allowed to re-vegetate by natural herbaceous succession, and/or will be established to **adapted species of native, warm-season grass, legumes, wildflowers, forbs**, and limited shrub and tree plantings (2CRP Manual)
- “Seeding, if it occurs at all, should occur **at much lighter rates** than for CRP practices aimed at soil conservation and water quality enhancement.” (2CRP Manual)

Polling Question:

Would this native grassland field be considered as quality nesting habitat for bobwhite quail?

✓Yes    XNo



## Brood Rearing Habitat



- Brood Habitat: Area consisting of native forbs, legumes and annual weeds (ragweed, foxtail) that provide overhead cover with **at least 30-70% bare ground**
- Bugging Grounds – For the first few weeks of life, 80-95% of a chick's diet consists of insects

## To put things into perspective...



# Unmanaged Grassland Fields



# Quail Chicks' View of the World

## CP33 - Habitat Buffers for Upland Birds Practice Specifications

- Upland habitat buffers will be allowed to re-vegetate by natural herbaceous succession, and/or will be established to **adapted species of native, warm-season grass, legumes, wildflowers, forbs**, and limited shrub and tree plantings (2CRP Manual)
- “**Seeding, if it occurs at all, should occur at much lighter rates than for CRP practices aimed at soil conservation and water quality enhancement.**” (2CRP Manual)
- Missouri Seeding Requirements = Nesting and Brooding Habitat on the same acre
  - Little Bluestem: 2.7 lbs PLS/ac
  - Sideoats Grama: 1.4 lbs PLS/ac
  - Native forbs: 3 lbs PLS/ac (at LEAST 9 species of forbs)

## Buffer Establishment

- One of the most important steps to providing a quality habitat buffer is to start with a good native seed mix, site preparation and planting timeline.
- **Site Prep:** Be sure to remove/eradicate any vegetation that would hinder seed to soil contact or provide excessive competition.
  - Chemical application, Prescribed Burning, Haying, Combination and/or Multiple treatments.
- **Seed Mix:** High diversity mix of native grasses and native forbs
- **Seeding Dates:** In Missouri, we strongly recommend dormant seeding
  - Provides cold, moist stratification period for forbs
  - Avoids providing grasses a ‘head-start’ when planting in spring

## Escape and Loafing Habitat

- **Covey Headquarters:** Consists of woody shrubs, low-growing trees, down tree structures, feathered edge. **Ground cover within headquarters must be sparse.**
- Needed year-round
  - Loafing and dusting in hot summer
  - Protection from severe weather
  - Protection from overhead predators
- Missouri research found quail in winter spend most of their time within 70 feet of woody cover.





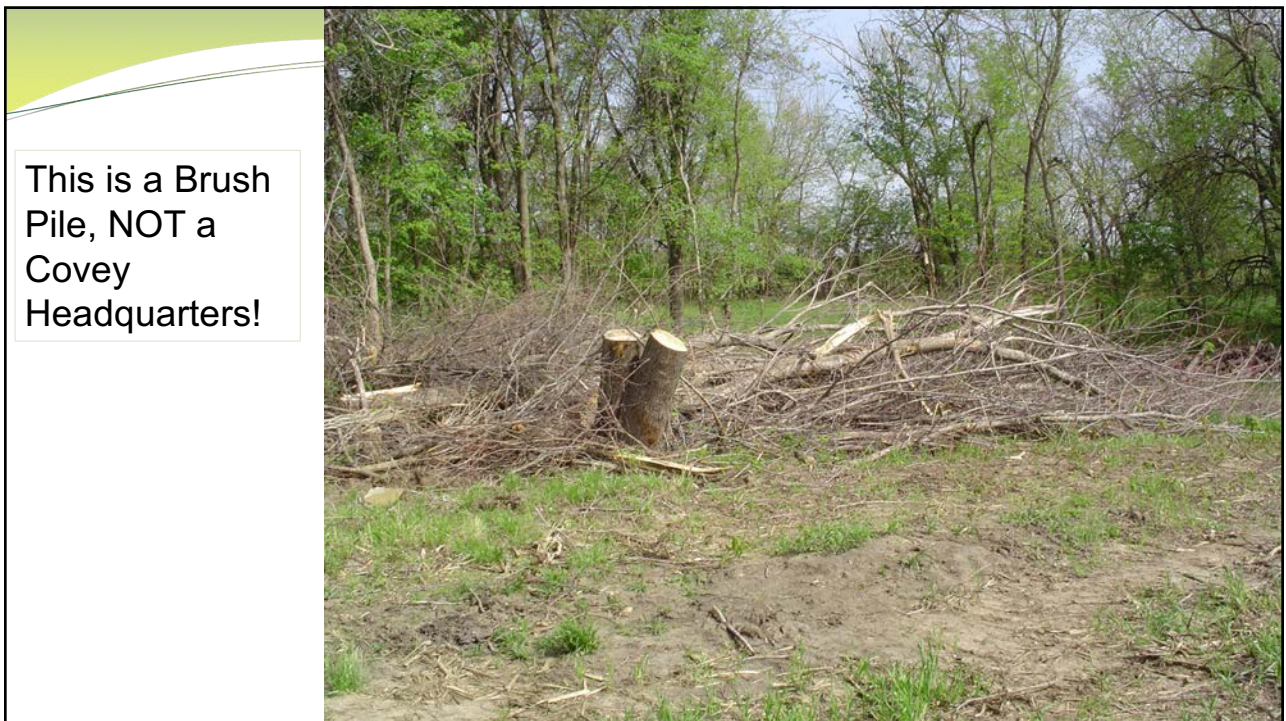


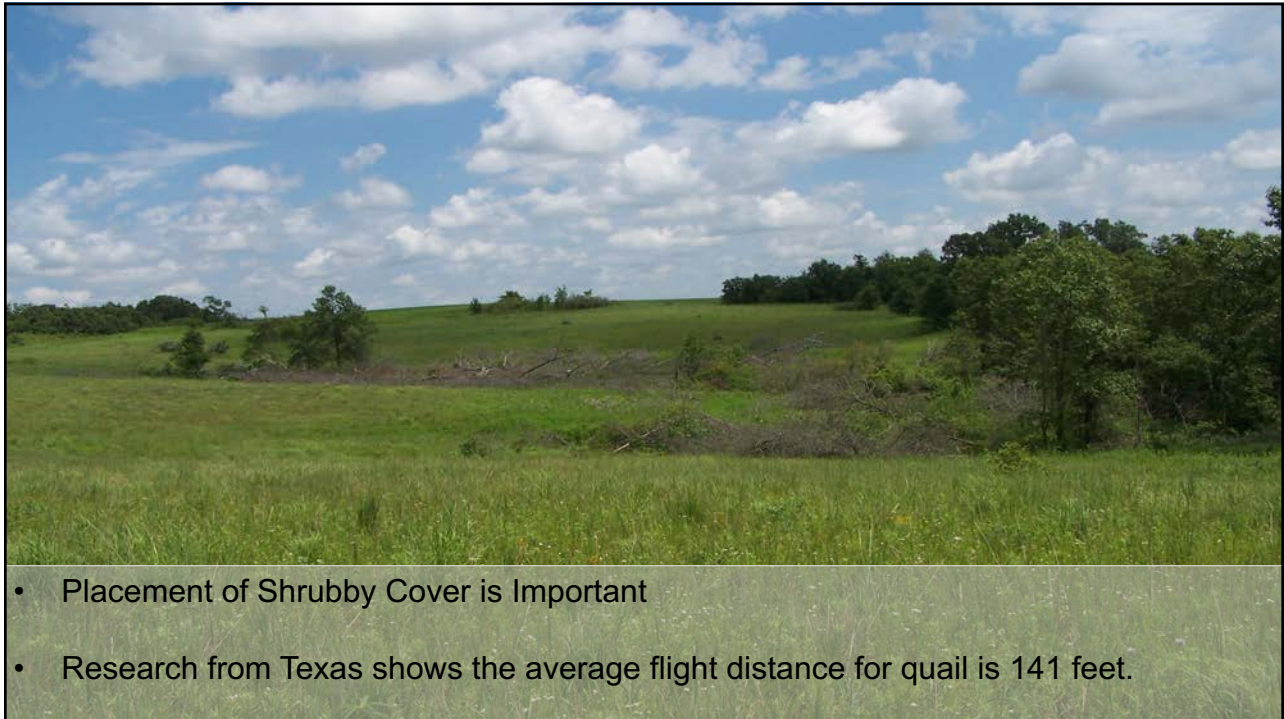


## CP33 - Habitat Buffers for Upland Birds

### Practice Specifications

- Upland habitat buffers will be allowed to re-vegetate by natural herbaceous succession, and/or will be established to adapted species of native, warm-season grass, legumes, wildflowers, forbs, **and limited shrub and tree plantings** (2CRP Manual)
- “Shrubs and trees selected **must** provide optimal quail habitat and/or emergency benefits.” (2CRP Manual)
- Missouri requires 0.1 acres per 40 acres of shrubby cover
  - Plant Native Shrubs
  - Edge Feathering
  - Downed Tree Structure
- Missouri Size requirements:
  - 30 ft. X 50 ft. at a minimum = 1,500 sq. ft.
  - 3, 30 x 50 ft covey headquarters = 1/10 of an acre
- **Spray before you cut!**






Polling Question:

Does your state require shrubby cover be included with CP33 enrollment?

a) Yes  
b) No  
c) Don't Know



## Mid-Contract Management

- **Mid-Contract Management (MCM)**
  - "...the buffers shall be disturbed on a rotational basis by light disking, prescribed burning, selective herbicide application, or other prescribed methods as approved to set back vegetative succession and woody encroachment, and to expose food seeds. Mowing is an inadequate means of disturbance for quail habitat, except as need to facilitate prescribed burning or light disking." (2CRP)
- The most important variable for providing a quality CP33 buffer for quail and grassland birds



## Mid-Contract Management

- Options vary state-to-state (ALWAYS check with you local FSA first!)
- Common MCM practices:
  - Chemical Application
  - Strip Disking
  - Prescribed Burning
  - Interseeding native forbs





Benefits of MCM

Change a  
CP33 Buffer  
from this....



Benefits of MCM

...To This!



Without MCM:

- Thick Vegetation
- Invasive Species
- Tree Encroachment



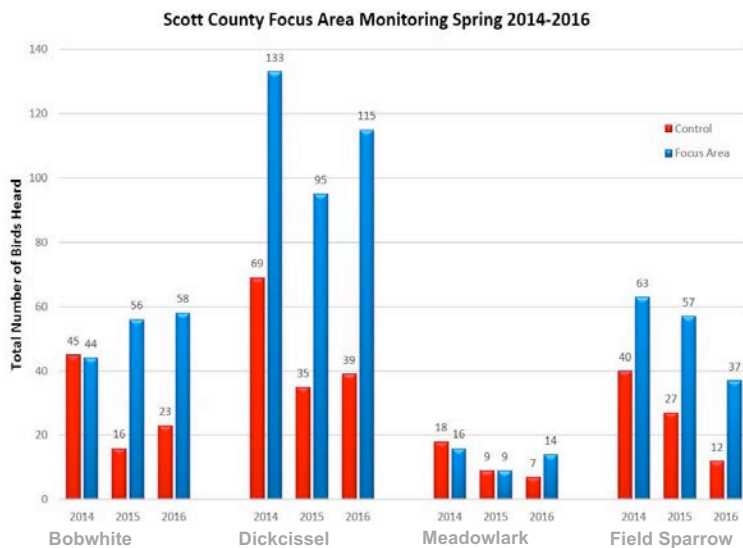
**Polling Question:**

What do you think is the primary factor that discourages landowners from enrolling into CP33 in your state?

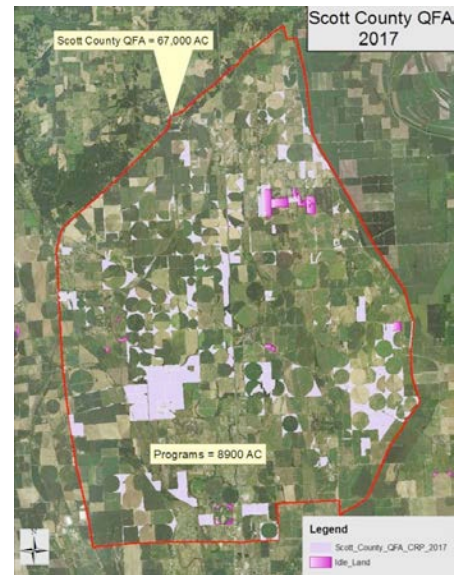
- a) CCRP Rental Payments are not high enough
- b) Planting native grasses and forbs is perceived to be too hard
- c) Fear of invasive species
- d) Mid-contract management requirements
- e) Don't know



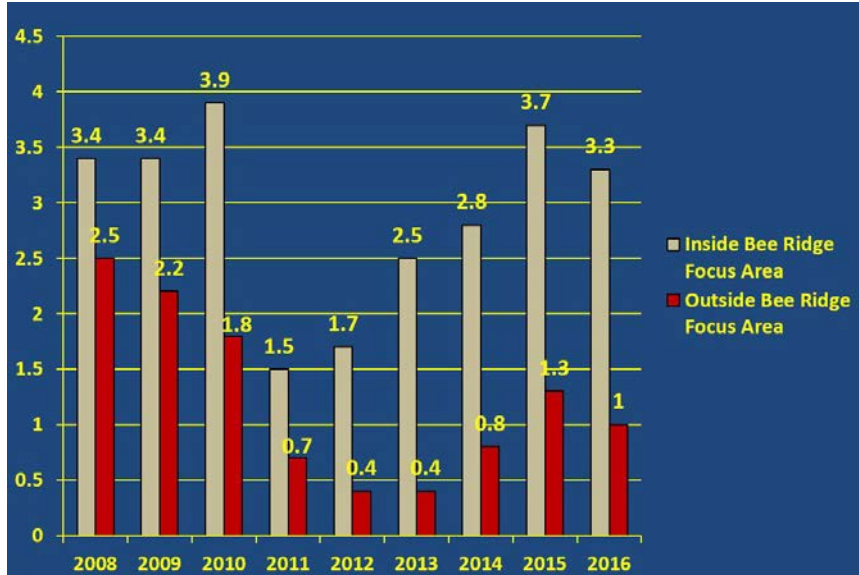
**Importance of Landscape-Level Restoration**



Spring songbird survey results for the SCQFA and control area 2014-2016.



## Importance of Landscape-Level Restoration



*Average number of calling coveys heard per survey point in Knox County Bee Ridge QFA compared to control area.*

## End Points



- Remember to check with your local FSA for your state-specific requirements
- CP33 is an important tool to keep grasslands on the Ag landscape
- CP33 helps keep quail and grassland birds on the landscape
- Diverse, native mixes with grasses and forbs is a priority
- Mid-Contract Management is essential to maintaining CP33 quality habitat
- Landscape-scale implementation is best
- **Always remember to check with your local FSA for your state-specific requirements!**

# Thank you!

- Lisa Potter  
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For more information:

- **Farm Services Agency:** <https://www.fsa.usda.gov/>
- **National Bobwhite Conservation Initiative:**  
<https://bringbackbobwhites.org/>
- **Natural Resources Conservation Service:**  
<https://www.nrcs.usda.gov/wps/portal/nrcs/site/national/home/>
- **Missouri Department of Conservation:** <https://mdc.mo.gov/>

