

20 Years of Avian Response to a Restored Grassland in Queen Anne's County

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Chino Farms/Chester River Field Research Station

- Largest Farm in Maryland – 5630 acres
 - **99%** of entire property is in a conservation easement
 - **3/5** of the land is in production
 - **2/5** in CRP, CREP or other wild-land easements
 - Designated as a **Important Bird Area** by Audubon



THE STATE OF THE BIRDS 2014
United States of America



COMMON BIRDS IN STEEP DECLINE



COMMON BIRDS
IN STEEP DECLINE

- | | |
|----------------------|---------------------|
| Northern Pintail | Horned Lark |
| American Wigeon | Bank Swallow |
| Cinnamon Teal | Verdin |
| Greater Scaup | Varied Thrush |
| Long-tailed Duck | Snow Bunting |
| Scaled Quail | Cape May Warbler |
| Northern Bobwhite | Blackpoll Warbler |
| Purple Gallinule | Wilson's Warbler |
| Franklin's Gull | Field Sparrow |
| Herring Gull | Lark Bunting |
| Black Tern | Grasshopper Sparrow |
| Yellow-billed Cuckoo | Eastern Meadowlark |
| Snowy Owl | Rusty Blackbird |
| Short-eared Owl | Brewer's Blackbird |
| Common Nighthawk | Common Grackle |
| Chimney Swift | Pine Siskin |
| Loggerhead Shrike | |

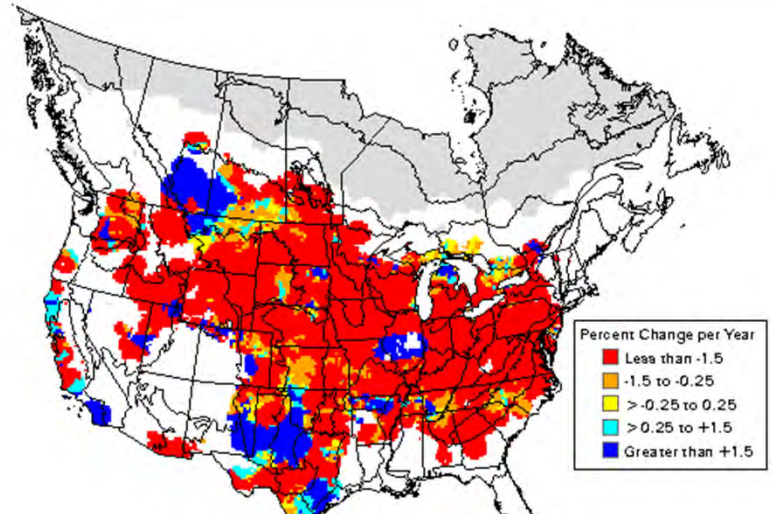
74% of Grassland birds in the East show significant negative trend estimates

Bobwhite	- 5.1
Grasshopper Sp.	- 4.9
Meadowlark	- 3.5
Bobolink	- 3.5
Field Sp.	- 2.9
Dickcissel	- 2.4
Savannah Sp.	- 2.1

NABCI 2014

BBS Data- 1966-2015

Grasshopper Sparrow Trend Map



Restoration

1999 - present

- **228 acres converted to native warm season grasses**
- Fields were enrolled in state and federal conservation programs
- Experimental design - 12 fields
- Fields were planted in replicate fashion
- Combinations of grass species and planting rates designed to attain **varying heights**

Field #	Seed Mix	Grasses	Seed Rate (lbs/acre)
1 and 6	Short	Little Bluestem	4
		Sideoats Grama Grass	2
		Deer-Tongue Grass	2
		Blue Grama Grass †	?
2 and 7	Moderately Short	Little Bluestem	4
		Big Bluestem	2
		Eastern Gama Grass	2
3 and 5	Tall	Little Bluestem	2
		Big Bluestem	2
		Indian Grass	4
4 and 8	Moderately Tall	Eastern Gama Grass	4
		Switch Grass	2
		Red Fescue*	2
		Tall Fescue*†	?
9 through 12	Mid-height	Coastal Panicum	4
		Little Bluestem	3
		Indian Grass	1

Functional Grassland established in TWO years

Over 265 species of plants



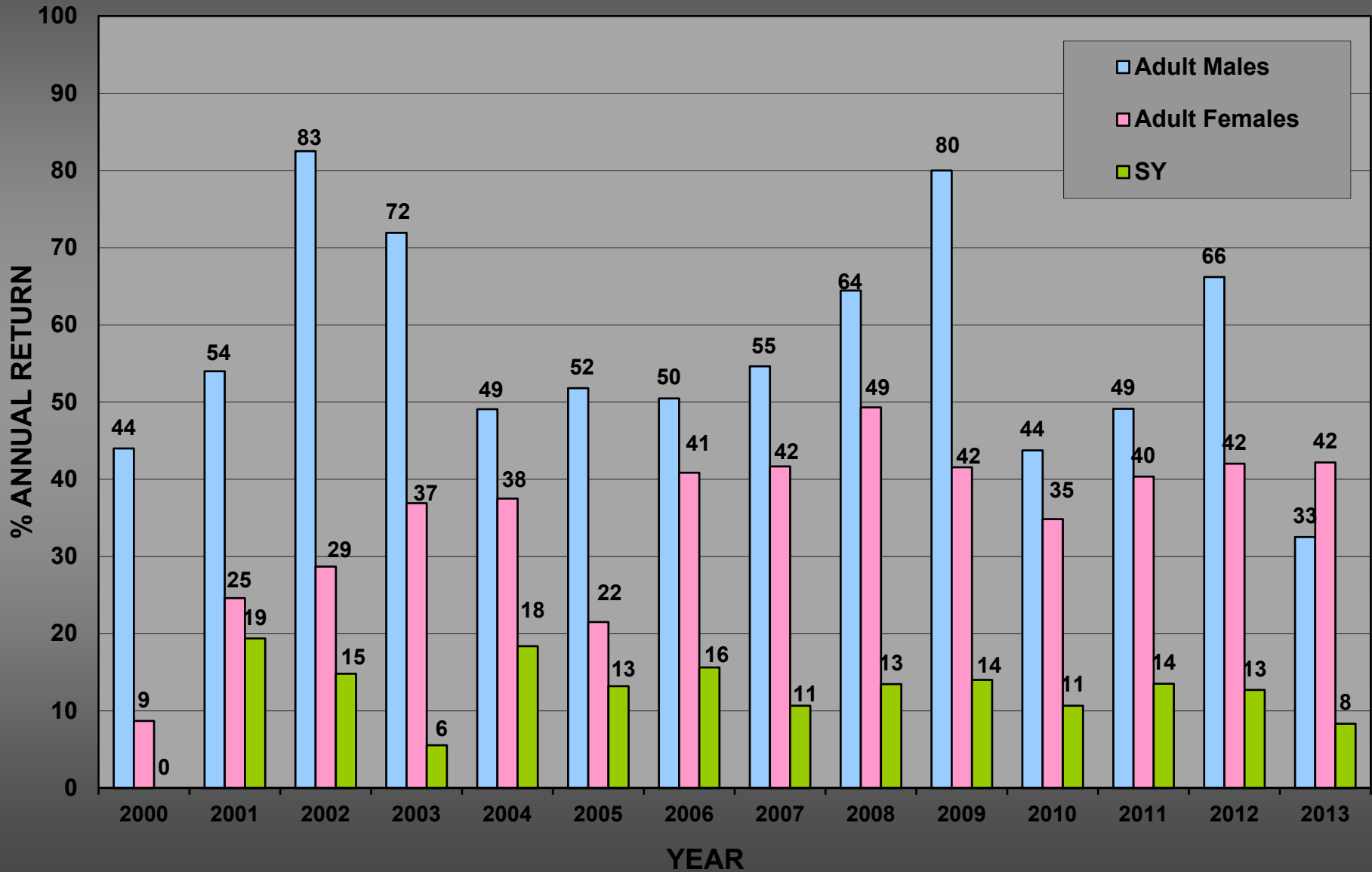
Bird Banding

15,000+ birds banded in 20 years

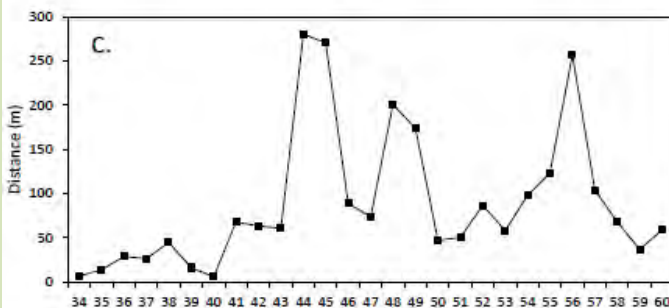
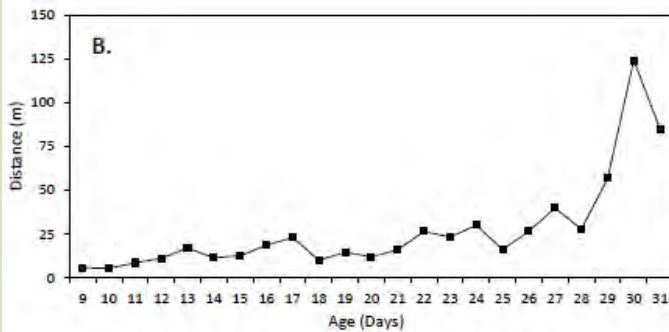
- **4,500+** Grasshopper Sparrows
- 2,800+ Field Sparrows
- **221** Dickcissels
- Bobolinks
- Northern Bobwhite



Annual Return Rates of Grasshopper Sparrows at the CRFRS Grasslands 2000-2013

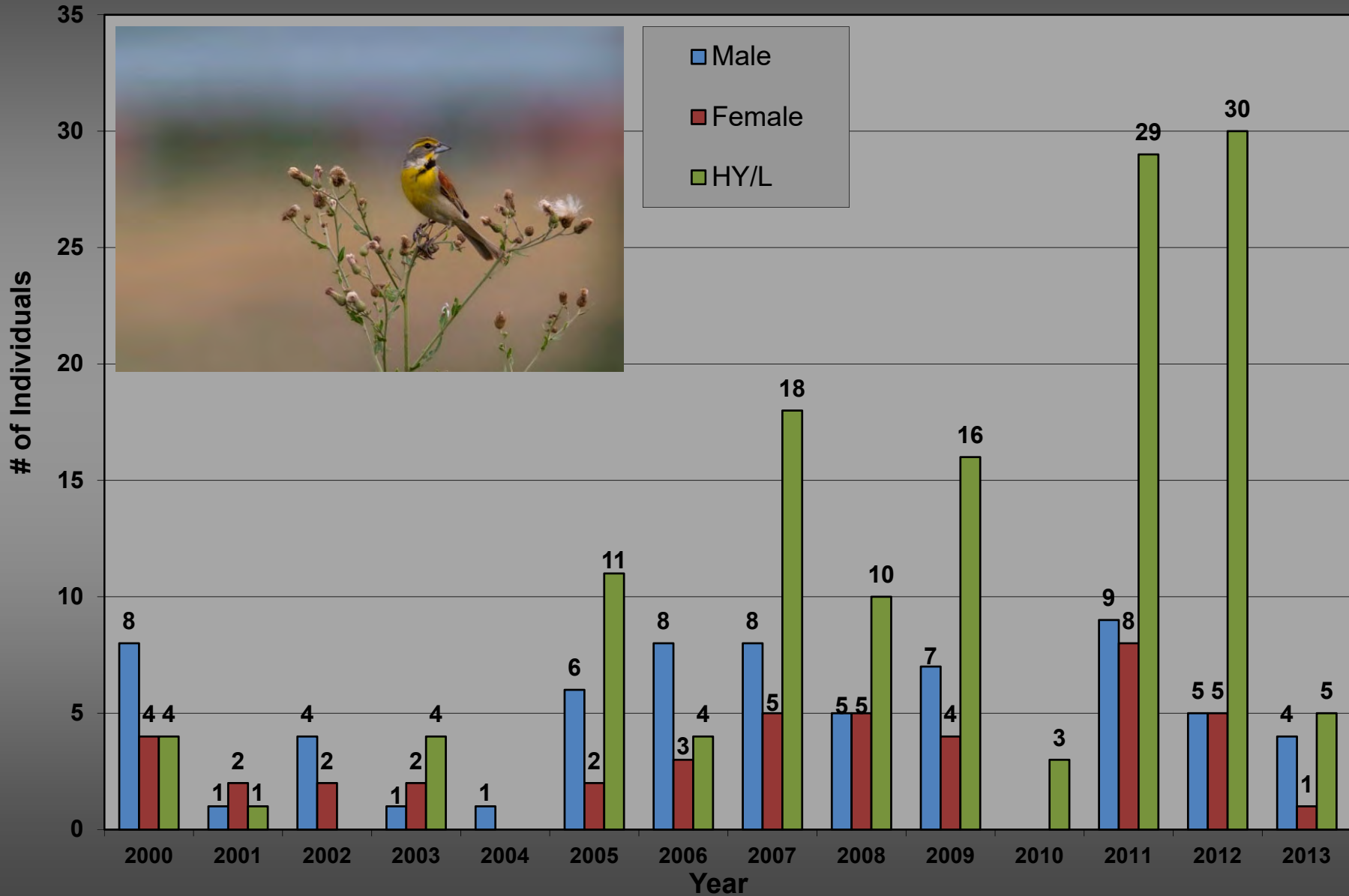


Grasshopper Sparrow Research

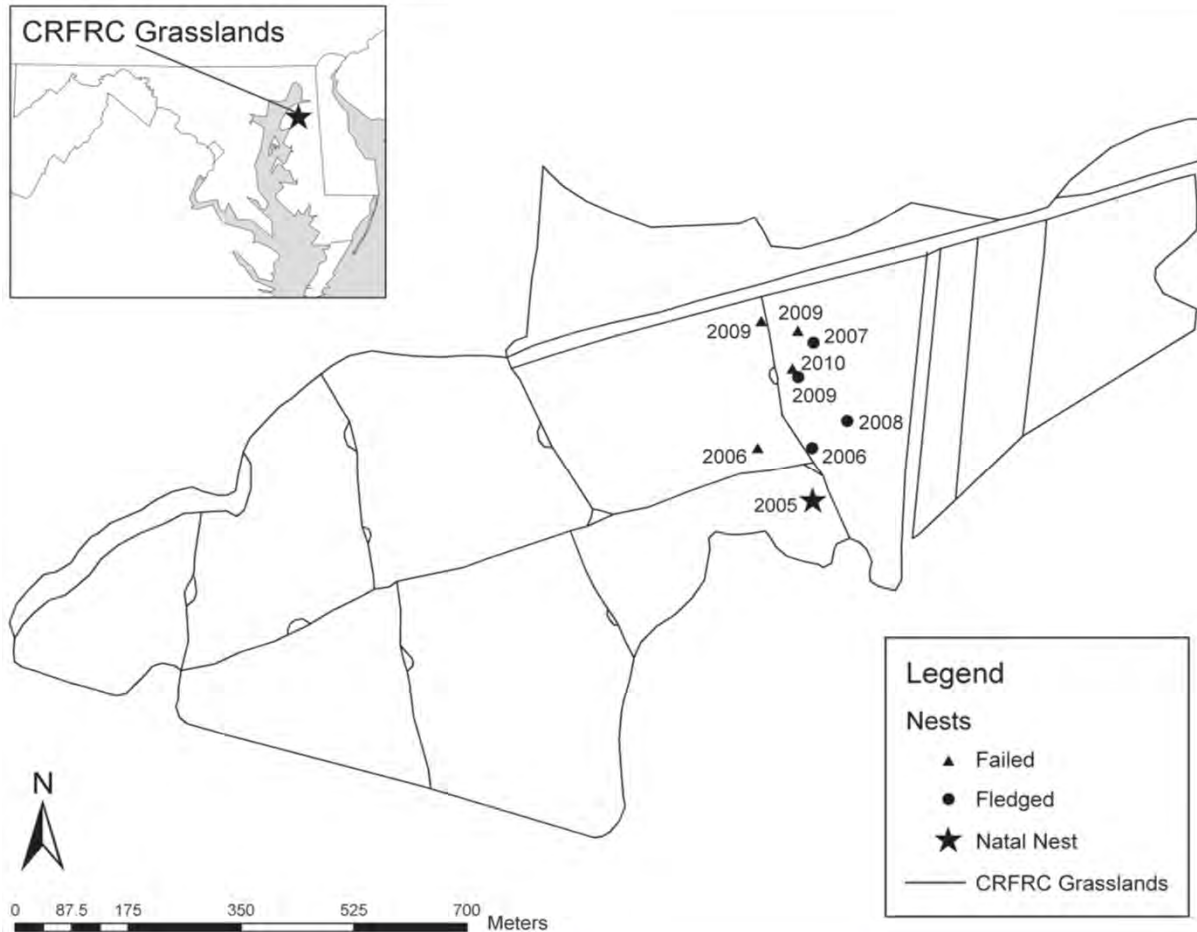


- Our observations of social polygyny document rare exceptions (0.37%) in this normally socially monogamous species
- 62% of nests contained EPP young
- Habitat use and Movement Patterns by Dependent and Independent Juvenile GRSPs during the Post-Fledging Period

Number of Dickcissels Banded on the CRFRS Grasslands 2000-2013



Dickcissels



A nestling Dickcissel banded in 2005 returned to the grasslands as a breeding female in 2006–2013. She fledged 16 young from half (4) of her 8 nesting attempts.



Bobolink

- Molt migrant
- Stop over Habitat
- Non-breeder



Wintering Birds



Field Sparrow Breeding Biology



Rare habitats matter to more than just birds!



**Takeaway: If you build it they will
come!***

***Acreage matters**

***Vegetation type matters**



Thanks! Questions?

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