

# **Citizen-Based Grassland Bird Monitoring in the Lower Chippewa River 2011**

**Beaver Creek Reserve Citizen Science Center  
& The Prairie Enthusiasts-Chippewa Savannas Chapter**



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This is not a complete project report. This report will summarize the Grassland Bird Monitoring in the Lower Chippewa River results for 2011. A copy of the 2010 report that details the project goals, protocol, results, and survey areas can be provided upon request.

## Synopsis

In the summer of 2010, The Prairie Enthusiasts-Chippewa Savannas Chapter (TPE) launched the Grassland Bird Monitoring in the Lower Chippewa River Project. This is a long-term citizen-based monitoring (CBM) project to determine the birds that utilize grassland and savanna habitats within key sites of the Lower Chippewa River (LCR). The primary focus of this project is to fulfill a need for widespread bird surveys in the LCR that will create a baseline documentation to allow future monitoring of trends in bird populations that depend on grassland habitats. Survey sites were focused in the Dunnville Wildlife Area (owned and managed by the Wisconsin Department of Natural Resources, WDNR) and the Tyrone Property (owned by Xcel Energy and managed in partnership with TPE and WDNR). For both the 2010 and the 2011 field season, trained volunteer citizen scientists conducted avian surveys on six survey sites covering 15 plots from June-July. Information collected included the identification of avian species observed and their general abundance.

## Results

Volunteer citizen scientists donated 317 hours from June to July 2011, compared to 203 volunteer hours from 2010. That is an increase in volunteer hours of 56%. Volunteers conducted a total of 45 grassland bird surveys, covering six survey sites and 15 plots. A total of 1,492 birds (Appendix A) were counted and a total of 67 species were observed (Fig.1, Fig.2, and Fig.3). 2010 surveys had a total of 1,631 birds (a 9% decrease) and a total of 68 species (a 1% decrease). Appendix B shows which species were observed at each survey area.

### **Site # TOTALS**

Dunnville Rd TOTAL # =	318
Larrabee RD TOTAL # =	319
Beach TOTAL # =	325
Meridean TOTAL # =	47
Cut-Off RD TOTAL # =	255
Hwy 85 TOTAL # =	225

### **Site Species TOTALS**

Dunnville RD TOTAL sps =	44
Larrabee RD TOTAL sps =	39
Beach TOTAL sps =	37
Meridean TOTAL sps =	16
Cut-Off Rd TOTAL sps =	19
Hwy 85 TOTAL sps =	35

Of the birds counted 223 were listed as unknown. The unknowns were as follows, unknown sparrow = 216, unknown swallow = 3, unknown woodpecker = 3 and unknown wren = 1. Several factors may have attributed to this high number of unknowns. The most apparent factor being the challenge of identifying brief glimpses of members of the family Emberizidae, or new world sparrows. Sparrows tended to “pop up” from the tall vegetation and then quickly withdraw back into shelter. Restrictions from the allotted survey time did not allow for continued observation of unknown species. Novice birders may have also attributed to the high number of unknown birds.

In the 2011, as in 2010, the Beach survey site located along the Chippewa River proved to be the site with the highest species abundance at 13.1 birds/acre. Meridean a small 7 acre survey site again had the lowest species abundance with 6.7 birds/acre. (Fig.4, Fig.6) The relatively small Meridean survey site is a remnant prairie and had the highest site diversity with 2.3 species/acre. The mostly fallow fields of the Cutoff Road survey site had the lowest site diversity with 0.08 species/acre. (Fig.5, Fig.6)

The following 14 species of a “listed” status were observed (italicized species were new observations in the 2011 field season). These species are also listed as Species of Greatest Conservation Need under the Wisconsin Bird Conservation Initiative. Figure 7 shows the numbers observed of listed species over the last two survey seasons.

*Bell's vireo*-Threatened  
blue-winged warbler – Species of Concern  
brown thrasher - Species of Concern  
Eastern meadowlark – Species of Concern  
grasshopper sparrow - Species of Concern  
lark sparrow – Species of Concern  
willow flycatcher – Species of Concern  
vesper sparrow –Species of Concern

*black-billed cuckoo* – Species of Concern  
bobolink – Species of Concern  
*dickcissel* - Species of Concern  
field sparrow - Species of Concern  
Henslow's sparrow – Threatened  
least flycatcher – Species of Concern  
*sedge wren* – Species of Concern  
Northern harrier – Species of Concern

*Definitions of Wisconsin listed species:*

Threatened Species (THR) – Any species, which on the basis of scientific evidence, appears likely to become endangered.

Species of Concern (SC) – Species about which some problem of abundance or distribution is suspected but not yet proved. The purpose of this category is to focus attention on certain species before they become threatened or endangered.

Species of Greatest Conservation Need (SGCN) – Species that have low and/or declining populations that are in need of conservation action.

**Dunnville Road**

The Dunnville Road Survey Site consists of three plots. The three plots labeled as Plot A, Plot B and Plot C are all 25 acres in size and had a survey time of 20 minutes each. A total of 318 birds of 39 species were counted.

Plot A

Over three survey periods 99 birds were counted and 24 species observed. The highest survey day was May 31, 2011 with a total of 39 birds. Birds listed as Species of Concern included the blue-winged warbler, field sparrow, grasshopper sparrow, sedge wren, black-billed cuckoo, lark sparrow, and the Eastern meadowlark.

Plot B

Over three survey periods 78 birds were counted and 24 species observed. The highest survey day was May 31, 2011 with a total of 30 birds. The most interesting species was a red-headed woodpecker (SC) that was heard calling just outside of the survey boundary. This bird was heard and seen during a later search. Species of Concern counted within survey boundaries include the Eastern meadowlark, field sparrow and grasshopper sparrow, blue-winged warbler and lark sparrow. This was the first time a lark sparrow was observed at this site.

### Plot C

Over 3 survey periods 141 birds were counted and 30 species observed. The highest survey day was July 6, 2011 with a total of 55 birds. The Bell's vireo was documented for the first time at this site and is listed as a Wisconsin Threatened species. The black-billed cuckoo was also new sighting in 2011 and is listed as a Species of Concern. Other Species of Concern included the brown thrasher, lark sparrow, Eastern meadowlark, field sparrow, grasshopper sparrow and least flycatcher.

### **Larrabee Road**

The Larrabee Road Survey Site consists of three plots. The three plots are labeled, as Plot D, Plot E, and Plot F are all 25 acres in size and had a survey time of 20 minutes each. A total of 319 birds of 34 species were counted.

### Plot D

Over three survey periods 112 birds were counted and 20 species observed. The highest survey day was June 20, 2011 with a total of 47 birds. The dickcissel, a Species of Concern was observed at this site for the first time in 2011. Other Species of Concern included the field sparrow, grasshopper sparrow, lark sparrow and the willow flycatcher.

### Plot E

Over three survey periods 95 birds were counted and 19 species observed. The highest survey day was July 5, 2011 with a total of 34 birds. Two new sightings at this site include the bobolink and the dickcissel, both Species of Concern. Other Species of Concern observed include the Eastern meadowlark, field sparrow, grasshopper sparrow, lark sparrow and the willow flycatcher.

### Plot F

Over three survey periods 112 birds were counted and 27 species observed. The highest survey day was June 1, 2011 with a total of 42 birds. Species of Concern include blue-winged warbler, field sparrow, least flycatcher, and willow flycatcher.

### **Beach**

The Beach Survey Site consists of three plots. The three plots are labeled as Plot G, Plot H, and Plot I are all 25 acres in size and had a survey time of 20 minutes each. A total of 325 birds of 37 species were counted.

### Plot G

Over three survey periods 113 birds were counted and 25 species observed. The highest survey day was June 1, 2011 with a total of 49 birds. Species of Concern included the Eastern meadowlark, field sparrow, grasshopper sparrow, blue-winged warbler and willow flycatcher.

### Plot H

Over three survey periods 114 birds were counted and 25 species observed. The highest survey day was June 1, 2011 with a total of 47 birds. Species of Concern included the Eastern meadowlark, field sparrow, grasshopper sparrow, lark sparrow and the willow flycatcher.

### Plot I

Over three survey periods 98 birds were counted and 12 species observed. The highest survey day was June 20, 2011 with a total of 41 birds. The dickcissel, a Species of Concern was a new sighting for 2011 at this site. The Henslow's sparrow is listed as a Threatened species. Species of Concern included the bobolink, Eastern meadowlark, field sparrow and grasshopper sparrow.

### Meridean

The Meridean Site is a small remnant prairie seven acres in size. Following the protocol for plot selection, placing plot boundaries at least 25 meters from the edge of the chosen habitat, the Meridian survey site consists of one 7-acre plot, labeled as Plot M. Due to the small size of Plot M the survey time equation, (# of acres X 0.8 = survey time), was used to determine a survey time of 6 minutes. This short time created a rushed survey and was possibly inadequate to thoroughly cover the 7-acre plot.

### Plot M

Over three survey periods 47 birds were counted and 16 species observed. The highest survey day was July 8, 2010 with a total of 18 birds. Species of Concern included the blue-winged warbler, field sparrow, grasshopper sparrow and lark sparrow.

### Cut-Off Road

The Cut-Off Road Survey Site consists of three plots. The three plots are labeled, as Plot N, Plot O, and Plot P are all 25 acres in size and had a survey time of 20 minutes each. A total of 255 birds of 19 species were counted.

### Plot N

Over three survey periods 110 birds were counted and 14 species observed. The highest survey day was July 8, 2011 with a total of 52 birds. Species of Concern included the field sparrow, grasshopper sparrow and lark sparrow.

### Plot O

Over three survey periods 106 birds were counted and 16 species observed. The highest survey day was July 8, 2011 with a total of 47 birds. Two new Species of Concern for 2011 included the lark sparrow and the Northern harrier. Species of Concern also included the field sparrow and grasshopper sparrow.

### Plot P

Over three survey periods 39 birds were counted and 11 species observed. The highest survey day was June 2, 2011 with a total of 23 birds. The vesper sparrow is a new species of concern for 2011. Species of concern also included the field sparrow, grasshopper sparrow and lark sparrow.

## **Highway 85**

The Highway 85 Survey Site consists of two plots. The two plots are labeled as Plot R and Plot S and are both 25 acres in size and had a survey time of 20 minutes each. A total of 225 birds of 35 species were counted.

### **Plot R**

Over three survey periods 131 birds were counted and 29 species observed. The highest survey day was July 8, 2011 with a total of 60 birds. The Bell's vireo, a Threatened species, was observed in 2011 for the first time at this site. The lark sparrow and least flycatcher are two new Species of Concern. Other Species of Concern included the blue-winged warbler, field sparrow and grasshopper sparrow.

### **Plot S**

Over 3 survey periods 94 birds were counted and 23 species observed. The highest survey day was July 8, 2011 with a total of 45 birds. The Bell's vireo, threatened species, was observed in 2011 for the first time at this site. Species of concern included the field sparrow and grasshopper sparrow.

## **Offsite/Flyover**

Raptors, cranes or birds of known special interest spotted outside the search area were recorded separately as "offsite". Raptors, cranes or birds of known special interest that flew over survey site, but never actually stopped in survey site were recorded as "flyover". Observed birds in these categories were as follows:

<b>Species</b>	<b>Code</b>	<b># Observed</b>	<b>Notes</b>	<b>Listing</b>
American kestrel	AMKE	3	OFFSITE	
bald eagle	BAEA	8	FLYOVER	special concern
Bell's vireo	BEVI	5	OFFSITE	threatened
black-billed cuckoo	BBCU	2	OFFSITE	special concern
red-shouldered hawk	RSHA	1	OFFSITE	threatened
sandhill crane	SACR	14	FLYOVER	
turkey vulture	TUVU	2	FLYOVER	

## APPENDICIES

Appendix A. Species list for all 2011 surveys.

### Individual Species Totals Across all Survey Sites

Species	Total Counted
American crow	20
American goldfinch	112
American Robin	8
Baltimore oriole	17
barn swallow	6
Bell's vireo	8
black-billed cuckoo	1
black-capped chickadee	1
blue jay	7
blue-gray gnatcatcher	2
blue-winged warbler	12
bobolink	28
brown thrasher	8
brown-headed cowbird	124
cedar waxwing	24
chimney swift	2
chipping sparrow	34
clay-colored sparrow	64
cliff swallow	1
common grackle	3
common yellowthroat	51
dark-eyed junco	1
dickcissel	10
downy woodpecker	1
Eastern bluebird	36
Eastern kingbird	33
Eastern Meadowlark	65
Eastern Phoebe	1
Eastern towhee	22
European starling	2
field sparrow	103
grasshopper sparrow	105
gray catbird	27
great crested flycatcher	3
hairy woodpecker	2



Henslow's sparrow	9
horned lark	6
house wren	7
indigo bunting	14
killdeer	5
lark sparrow	42
least flycatcher	4
mallard	2
mourning dove	51
Northern flicker	7
Northern harrier	1
orchard oriole	9
red-bellied woodpecker	1
red-winged blackbird	12
rock dove	3
rose-breasted grosbeak	5
ruby-throated hummingbird	4
sedge wren	1
song sparrow	67
tree swallow	7
turkey vulture	9
unknown sparrow	216
unknown swallow	3
unknown woodpecker	3
unknown wren	1
vesper sparrow	1
warbling vireo	3
white-throated sparrow	1
willow flycatcher	8
wood duck	2
yellow warbler	41
yellow-throated vireo	3
Total # of birds =	1492
Total # of species =	67
Unknown birds =	223

Appendix B. Species site location for all 2011 & 2010 surveys.

Species Site Location for 2011 Surveys						
Species	Dunnville Rd	Larrabee Rd	Beach	Meridean	Cut-Off Rd	Hwy 85
American crow	X	X			X	X
American goldfinch	X	X	X	X	X	X
American Robin	X				X	X
Baltimore oriole	X	X	X			X
barn swallow	X					X
Bell's vireo						X
black-billed cuckoo	X					
black-capped chickadee						X
blue jay	X		X	X		X
blue-gray gnatcatcher		X				
blue-winged warbler	X	X	X	X		X
bobolink		X	X			
brown thrasher	X	X	X		X	X
brown-headed cowbird	X	X	X	X	X	X
cedar waxwing	X	X	X	X		X
chimney swift			X			X
chipping sparrow	X			X	X	X
clay-colored sparrow	X	X	X			X
cliff swallow						X
common grackle			X			
common yellowthroat	X	X	X	X		X
dark-eyed junco						X
dickcissel		X	X			
downy woodpecker	X					
Eastern bluebird	X	X	X	X	X	X
Eastern kingbird	X	X	X		X	X
Eastern Meadowlark	X	X	X			
Eastern Phoebe					X	
Eastern towhee	X	X	X	X		X
European starling			X			
field sparrow	X	X	X	X	X	X
grasshopper sparrow	X	X	X	X	X	X
gray catbird	X	X	X	X		X
great crested flycatcher	X		X			

## Species Site Location for 2011 Surveys

Species	Dunnville Rd	Larrabee Rd	Beach	Meridean	Cut-Off Rd	Hwy 85
hairy woodpecker	x			x		
Henslow's sparrow			x			
horned lark					x	
house wren	x		x		x	
indigo bunting	x	x		x	x	x
killdeer	x	x	x			
lark sparrow	x	x	x	x	x	x
least flycatcher	x	x	x			x
mallard	x					
mourning dove	x	x	x		x	x
Northern flicker	x	x	x			
Northern harrier					x	
orchard oriole	x	x	x			x
red-bellied woodpecker						x
red-headed woodpecker	x					
red-winged blackbird	x	x				
rock dove						x
rose-breasted grosbeak		x		x		x
ruby-throated hummingbird	x	x				
sedge wren	x					
song sparrow	x	x	x		x	x
tree swallow		x	x			x
turkey vulture	x					
unknown sparrow	x	x	x	x	x	x
unknown swallow	x	x	x			
unknown woodpecker	x		x	x		
unknown wren			x			
vesper sparrow					x	
warbling vireo	x					x
white-throated sparrow			x			
willow flycatcher		x	x			
wood duck			x			
yellow warbler	x	x	x			
yellow-throated vireo	x	x	x			

## Species Site Location for 2010 Surveys

Species							
	Dunnville Rd	Larrabee Rd	Beach	Meridean	Cut-Off Rd	Hwy 85	
American crow	x	x	x	x	x	x	
American goldfinch	x	x	x	x	x	x	
American redstart						x	
American robin	x	x	x	x	x	x	
Baltimore oriole	x	x	x	x		x	
bald eagle			x				
barn swallow	x	x				x	
black-capped chickadee						x	
blue jay	x	x		x		x	
blue-headed vireo			x				
blue-winged warbler	x	x	x			x	
bobolink		x	x				
brown thrasher	x	x	x			x	
brown-headed cowbird	x	x	x	x	x	x	
cedar waxwing	x	x	x	x	x	x	
chipping sparrow	x	x	x	x	x	x	
clay-colored sparrow	x	x	x		x	x	
cliff swallow	x						
common grackle					x		
common yellowthroat	x	x	x			x	
dark-eyed junco							
dickcissel							
downy woodpecker		x	x				
Eastern bluebird	x	x	x	x	x	x	
Eastern kingbird	x	x	x		x	x	
Eastern meadowlark	x	x	x			x	
Eastern Phoebe						x	
Eastern towhee	x	x	x	x	x	x	
Eastern wood peewee		x					
field sparrow	x	x	x	x	x	x	
grasshopper sparrow	x	x	x	x	x	x	
gray catbird	x	x	x	x		x	
great-crested flycatcher	x			x			
	Dunnville Rd	Larrabee Rd	Beach	Meridean	Cut-Off Rd	Hwy 85	
	Survey Site						

## Species Site Location for 2010 Surveys

Species	Dunneville Rd	Larrabee Rd	Beach	Meridean	Cut-Off Rd	Hwy 85
	Survey Site					
hairy woodpecker	x					
Henslow's sparrow			x			
horned lark	x	x			x	x
house wren	x	x	x		x	x
indigo bunting	x	x	x	x	x	x
killdeer		x	x			
lark sparrow	x	x	x	x	x	
least flycatcher			x			
mourning dove	x		x		x	x
Northern flicker	x	x	x			
Northern harrier						x
orchard oriole	x	x	x			x
oven bird	x					
red-bellied woodpecker	x	x				
red-tailed hawk	x	x			x	
red-winged blackbird	x		x			x
rock dove					x	
rose-breasted grosbeak	x					x
ruby-throated hummingbird	x	x	x	x	x	x
sandhill crane			x		x	
savannah sparrow	x	x				
scarlet tanager			x			
sedge wren			x			
song sparrow	x	x	x		x	x
tree swallow		x	x		x	x
turkey vulture	x					
unknown sparrow	x	x	x	x	x	x
unknown swallow	x		x			
unknown woodpecker			x			
warbling vireo	x					
white-breasted nuthatch		x				
willow flycatcher	x	x	x			
wood thrush				x		
yellow warbler	x	x	x			x
yellow-throated vireo	x					

**FIGURES**

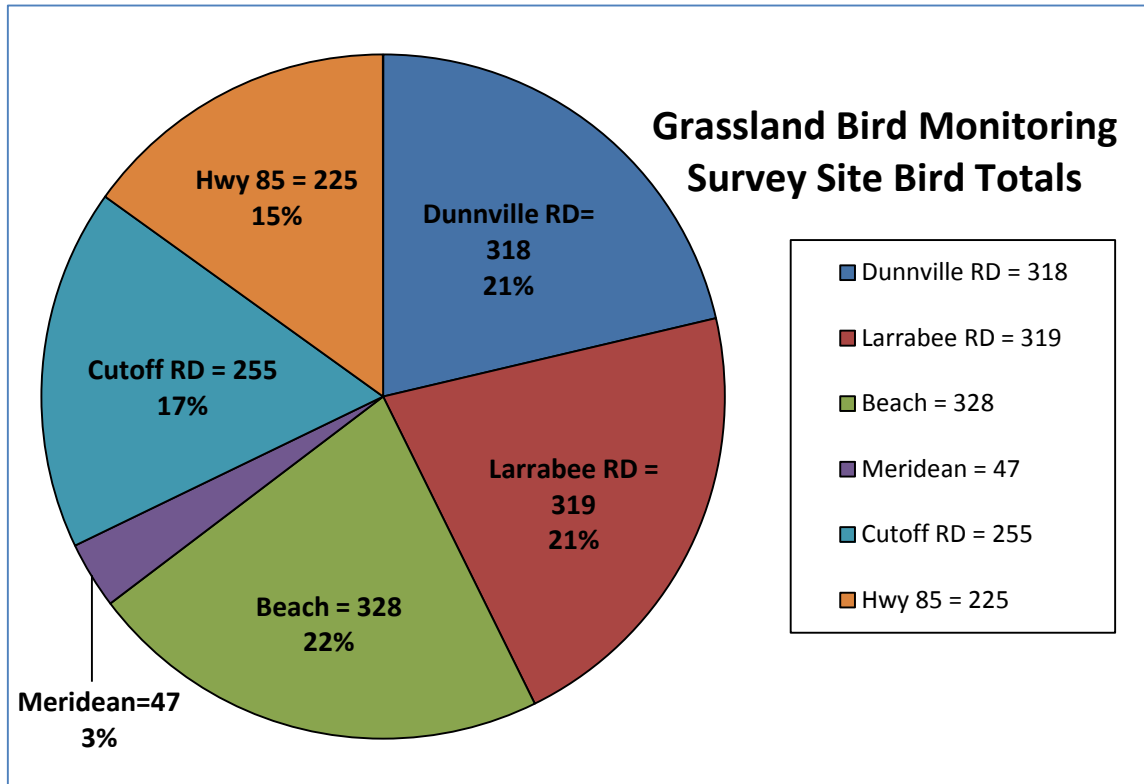


Figure 1

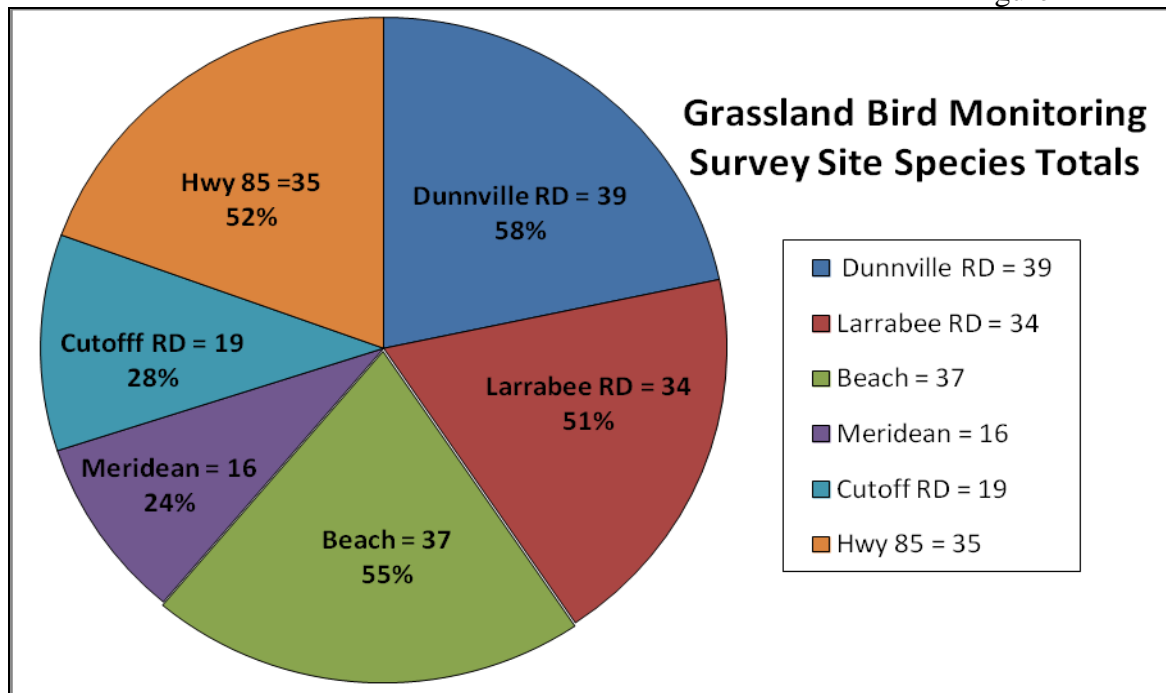


Figure 2

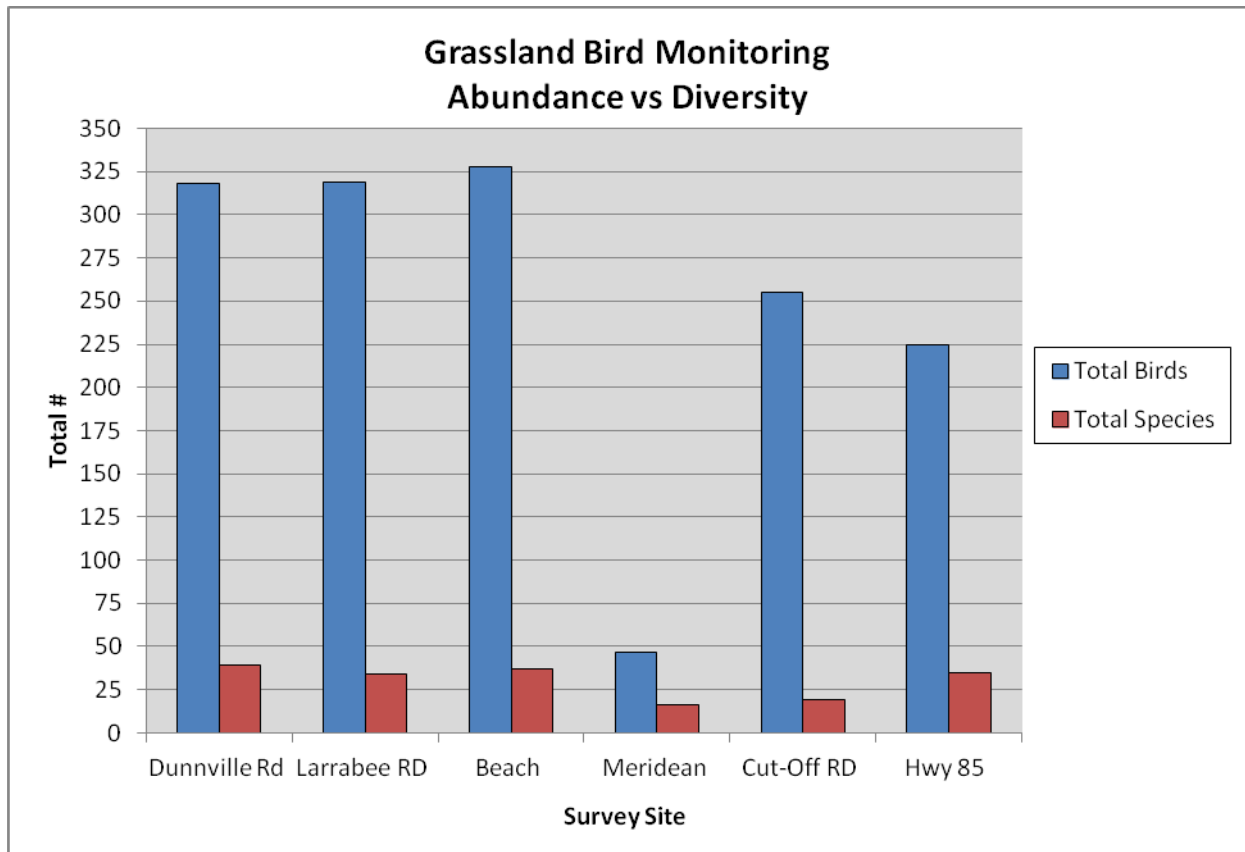


Figure 3

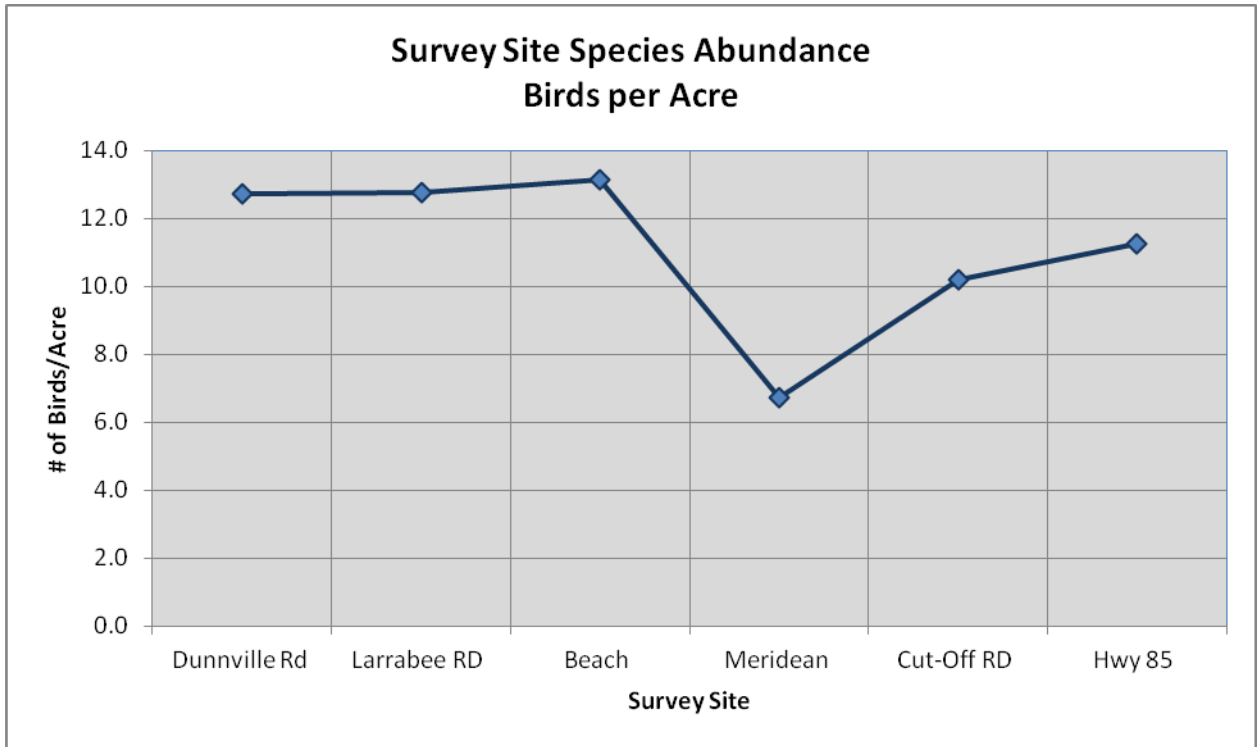


Figure 4



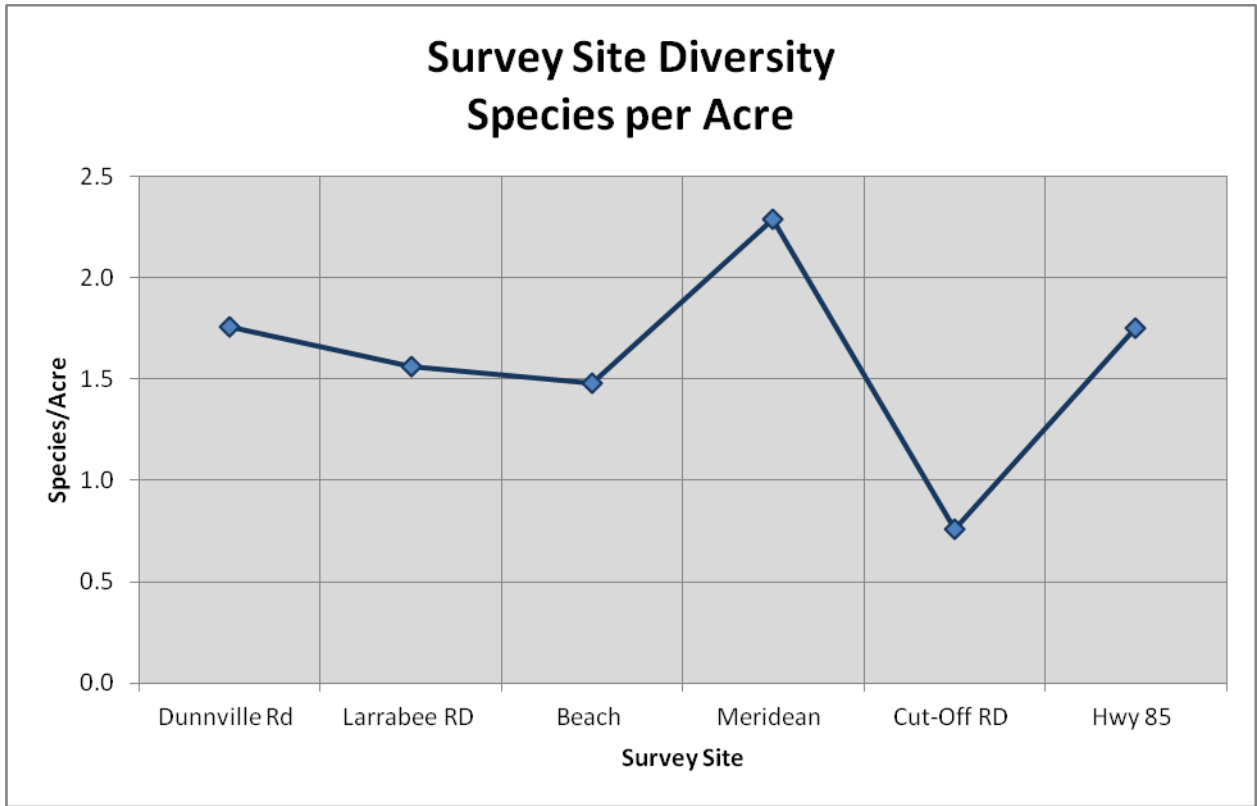


Figure 5

## A Comparison of Total Birds & Total Species for 2010 & 2011 Surveys

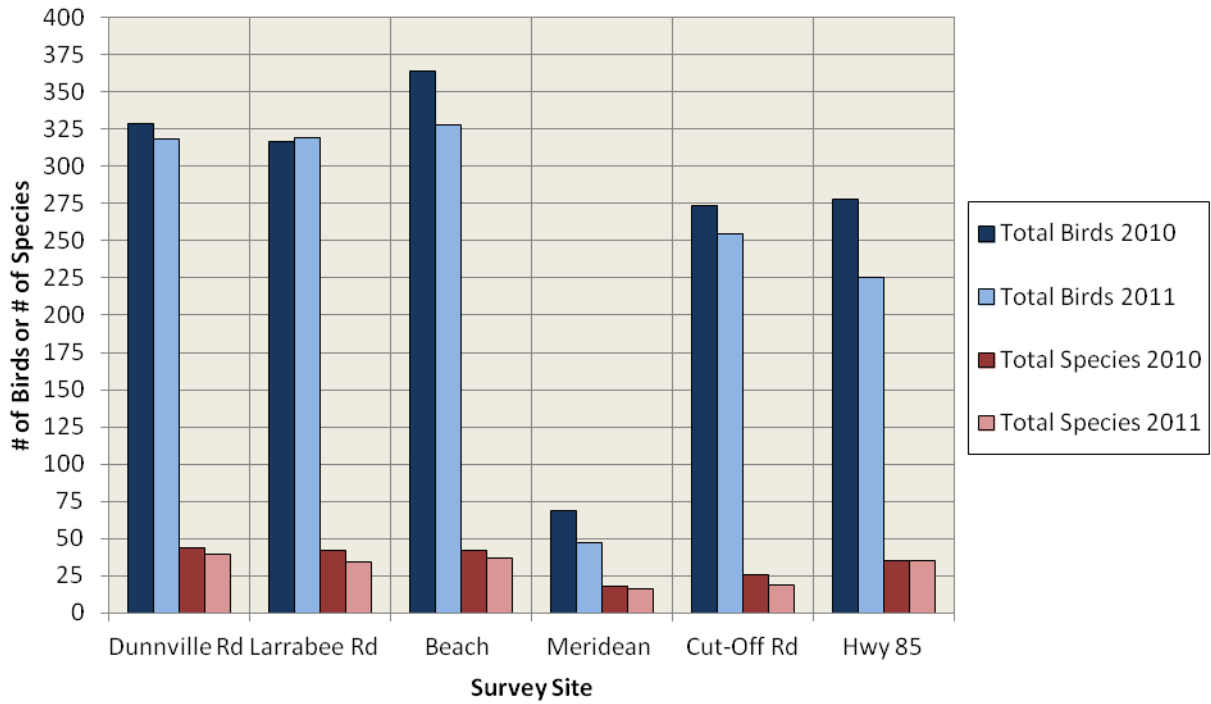


Figure 6

# Wisconsin State Listed Species observed

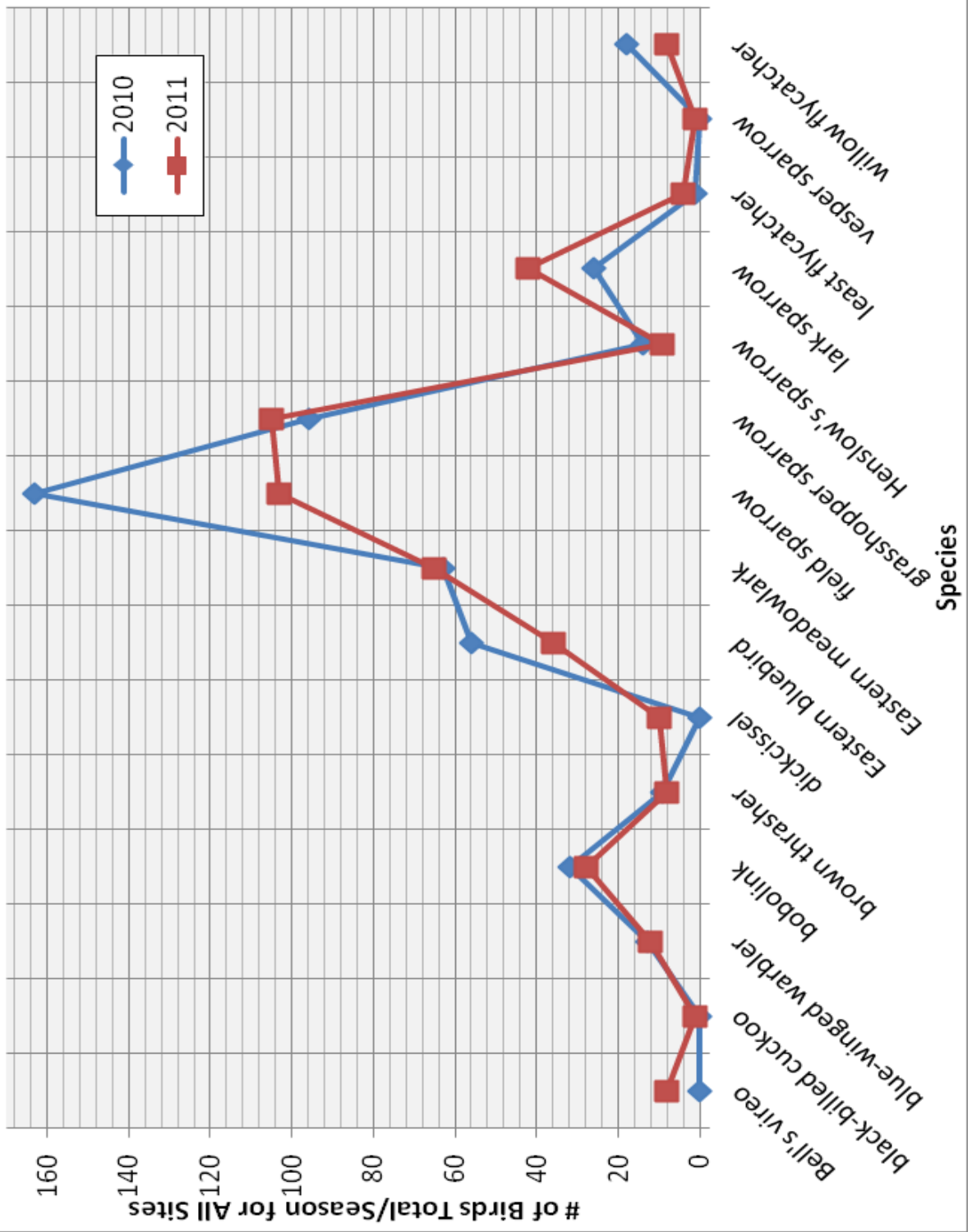


Figure 7

**REFERENCES**

Wisconsin Endangered and Threatened Laws & List  
[http://dnr.wi.gov/org/land/er/wlist/WI\\_ET\\_Laws\\_List.pdf](http://dnr.wi.gov/org/land/er/wlist/WI_ET_Laws_List.pdf)