# SPOON RIVER STATE FOREST BIRD SURVEY, 2004

## BY MAURY BRUCKER

#### PURPOSE OF THE SURVEY

This bird survey was conducted to determine the presence and rough abundance of species of breeding birds in the newly acquired Spoon River State Forest in Knox County, Illinois.

#### **METHODS**

During the breeding season of May 18 to June 25, 2004, birds were identified by sight and calls from 14 selected points and also recorded on the legs between points. The centers of the selected points were approximately ¼ mile apart and were marked with wooden stakes and plastic marking tape. I estimate I could hear birds calling at 300 feet although some birds such as American Crow, Bobwhite and Ring-necked Pheasant have very loud calls which can be heard even further away. With a radius of 300 feet the fourteen circles cover about 90 acres. The order of surveying the points was rotated to spend time more equally near sunrise when the birds were most active. The 14 points selected are indicated on the map on page 1 of the appendix.

#### **RESULTS**

A total of 72 bird species were identified during the four periods of the survey with 725 individuals counted from the 14 points. These results are summarized in Table 1 on page 2 of the appendix. The 7 species with a zero count were found on the legs between the points. The most numerous bird found on the survey was Indigo Bunting (an average of 19 per count date) with American Crows, House Wrens, Northern Cardinals and Redwinged Blackbirds all having above an average of 8 birds per count date. Few avian predators were found: however, one Coyote was seen. Although three Wild Turkeys were found, only one Bobwhite and one Mourning Dove were heard. An average of 6 Brown-headed Cowbirds per count date were found. The raw data for the points and legs are shown in the 8 tables in Tables 1A thru 4B on pages 4 – 11 in the appendix. A few of the birds seen were probably migrants; however, the totals for each of the four counts were between 174 and 189 indicating most of the migration had passed.

#### **ANALYSIS**

Spoon River State Forest is located in the Western Forest-Prairie Natural Division (Schwegman et al. 1973). The current map of the Spoon River Forest area shows mostly woodland; however, long narrow fields on the upland dissect the wooded ravines and bluffs. Small numbers of area sensitive forest birds were found in the broken woodland areas. The woodland quality varies greatly from areas with larger oaks and hickories to other areas of mostly overgrown pastures consisting now of mostly Osage-Orange. Many of the upland cropland and hayfields attract few grassland birds beyond the Red-winged

Blackbirds in the waterways. The grassland field next to the Spoon River on the east side had Common Yellowthroats, Field Sparrows, Song Sparrows as well as Red-winged Blackbirds due to some emerging brushy areas and more structure with some weedy stems from last year. While there is a great deal of linear edge between the long fields and adjacent wooded areas, this type of very narrow edge has less use for savanna birds than a wider edge with shrubs and widely scattered trees would have. This does provide for savanna birds such as Eastern Wood Pewee, Great Crested Flycatchers, Eastern Towhees, Field Sparrows and Lark Sparrows together with the higher numbers of Indigo Buntings. Unfortunately, these narrow fields are also perfect habitat for the nest parasite Brown-headed Cowbirds affecting both the savanna birds and the woodland birds. The current very sharp edge (sometimes called a hard edge) is less useful for savanna birds than a soft edge, i.e. wider transition including shrubs and open trees would be.

# **ENDANGERED AND THREATENED SPECIES**

A Cerulean Warbler was heard singing on the leg between points 3 and 4 on May 18, 2004. It was not found again during the subsequent 3 surveys. The Cerulean Warbler was officially added to the Illinois threatened species list on Feb. 20, 2004.

# AREA SENSITIVE FOREST INTERIOR SPECIES

Table 5 on page 12 of the appendix shows the numbers of high and moderate area sensitive forest interior bird species found in the Spoon River State Forest survey. While 5 species of high area sensitive forest birds were found, some of these may have been late migrants. The Yellow-throated Vireos and Ovenbirds were found through out the breeding season. Fourteen species of moderate area sensitive forest birds were also found. Consolidation of some of the forest blocks into a larger unit may make the area more attractive to these forest birds. One caution is that this forest unit is still an island in the middle of a sea of cropland in central Illinois and some of these areas could become biological sinks which attract birds which can not sustain a local population. Monitoring the Brown-headed Cowbirds and the target bird reproduction success may indicate if the forest blocks are large enough to sustain local forest bird populations.

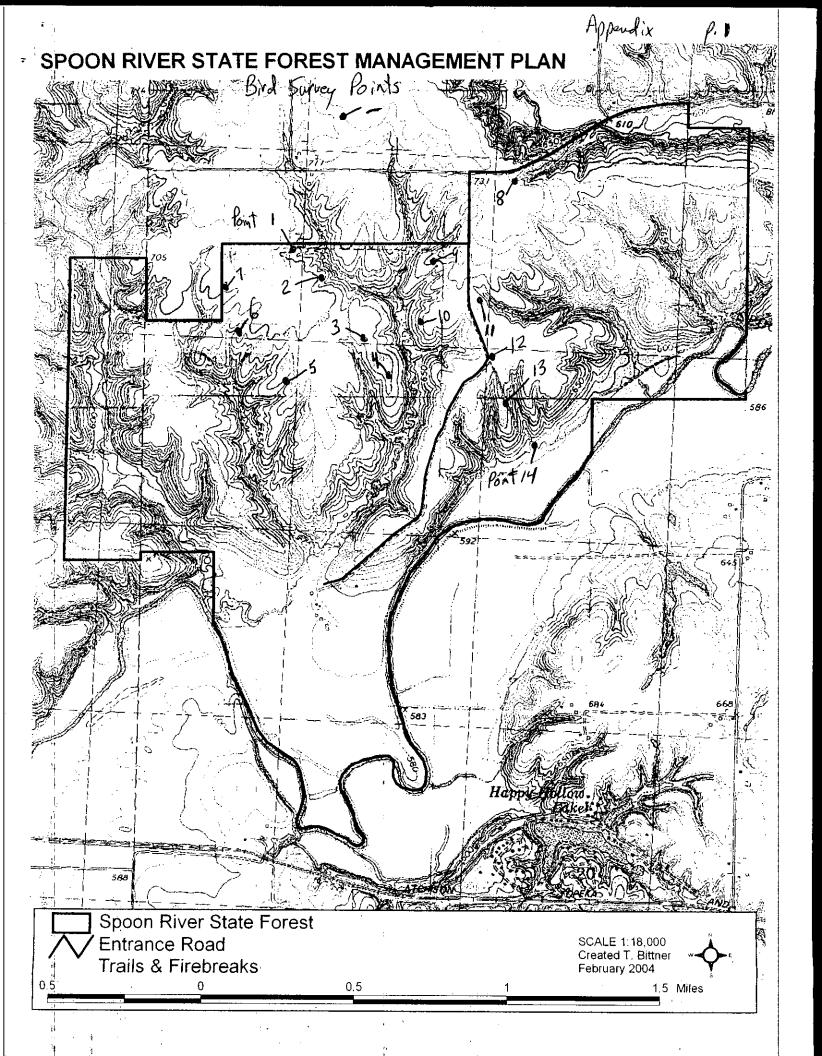
### HIGH PRIORITY SAVANNA BIRD SPECIES

Oak savanna, which ranges from open woodland to scattered trees in grasslands, has become better understood in Illinois in the last 15 years. Certain plants and animals appear to do better in this part sun and part shade habitat. Partners in Flight, a bird conservation group, has published a bird conservation plan for the "Prairie Peninsula" in 2000 which covers most of central Illinois. The cover page and two tables are included on pages 13, 14 and 15 in the appendix. The priority species the plan recommends include those birds showing significant declines in population over the last 20 years. The priority species are identified by habitat. Although there is some overlap of species in multiple types of habitat, the 5 priority species listed in our area in the plan for savannas are Northern Bobwhite, Red-headed Woodpecker, Eastern Wood Pewee, Great Crested Flycatcher and Field Sparrow. For the Spoon River State Forest survey, Pewees

averaged about 6 per count date and the Great-crested Flycatcher averaged just under 4 per count date with the other three species being present in small numbers. With some savanna habitat improvements, the populations of these high priority savanna birds could be greatly increased.

# RECOMMENDATIONS FOR BIRD HABITAT IMPROVEMENTS

- 1) A double objective of increasing habitat for forest birds and at the same time improving the habitat for savanna birds would increase the probability of a measurable improvement of significant birds using Spoon River State Forest.
- 2) Consolidate forest block size for area sensitive forest birds by planting trees on cropland and hayfields between wooded areas. This will take many years for the trees to become large enough to become forest bird habitat.
- 3) Soften the edges of field/woodland to increase the amount of savanna habitat and its usefulness for savanna birds. This could be accomplished two ways. Selectively removing Osage-orange and other pioneer trees leaving the remaining Oaks and Hickories in a more open, less dense state is one way. Or the borders of the wooded areas could be extended into some of the fields by planting widely spaced trees and shrubs into a pre-planted herbaceous border. I would caution against the quick fix of planting exotic shrubs such honeysuckles or autumn olive or even the native Grey Dogwood as these can quickly get out of hand and be impossible to remove later. This would fit in with the management of the area for Wild Turkey habitat.
- 4) Plan on follow up bird surveys as the habitat changes mature at Spoon River State Forest to monitor the impact on significant non-game bird species.



Survey Counts		T	<u> </u>						
	1A	1B	2A	2B	3A	3B	4A	4B	
Great Blue Heron	1	0	0	0	0	0	0	0	1
Turkey Vulture	0	12	0	0	0	0	0	0	12
Canada Goose	1	0	0	22	0	0	0	0	23
Wood Duck	0	0	0	0	0	0	0	0	0
Red-tailed Hawk	0	0	1	0	0	0	0	0	1
Ring-necked Pheasant	ō	0	.0	0	0	1	0	0	1
Wild turkey	1	1	0	0	1	0	0	0	3
Northern Bobwhite	0	0	0	0	0	0	1	0	1
Mourning Dove	0	0	0	1	0	0	0	0	1
Black-billed Cuckoo	0	0	0	. 1	0	0	0	0	1
Yellow-billed cuckoo	1	3	3	2	4	2	1	2	18
Great Horned Owl	0	0	0	0	0	0	0	0	0
Barred Owl	0	0	0	0	0	0	1	0	1
Red-headed Woodp	3	0	Ö	0	0	0	3	0	6
Red-bellied Woodp	0	2	3	2	3	5	5	4	24
Downy Woodp.	Ö	0	14	2	1	1	3	2	13
Hairy Woodp.	T 0	0	0	1	0	1	0	0	2
Northern Flicker	Ō	1	0	2	2	0	0	2	7
Eastern Wood-Pewee	5	1	5	1	4	3	4	2	25
Acadian Flycatcher	O	0	1	0	0	0	2	0	3
Least Flycatcher	1	0	0	0	0	0	0	0	1
Eastern Phoebe	1	1	1	0	. 0	0	0	0	3
Great-crested Flycatch.	2	2	1	2	2	1	4	1	15
Eastern Kingbird	0	0	0	0	0	0	0	0	0
Yellow-throated Vireo	1	0	1	1	2	2	1	1	9
Warbling Vireo	0	0	0	0	0	1	0	0	1
Red-eyed Vireo	1	4	2	1	1	0	2	0	11
Blue Jay	2	2	3	1	3	5	4	1	21
Am. Crow	6	12	2	3	8	11	8	9	59
Barn Swallow	o	1	0	1	0	1	0	. 0	3
Black-capped Chick.	1	0	3	0	2	3	0	2	11
Tufted Titmouse	0	2	7	2	0	0	1	0	12
White-breasted Nut.	2	2	-2	3	2	5	7	6	29
Carolina wren	0	1	1	1	1	1	0	0	5
House Wren	2	4	7	7	6	4	4	6	40
Blue-gray Gnatcatch.	3	4	0	5	0	4	0	1	17
Eastern Bluebird	0	0	0	1	0	2	0	0	3
Swainson's Thrush	1	0	0	0	. 0	0	0	. 0	1
Wood Thrush	0	1	1	0	0	1	1	0	4
Am. Robin	Ö	3	1	0	: 0	0	0	0	4
Gray Catbird	3	0	1	1	3	1	6	4	19
Brown thrasher	2	2	0	1	1	0	1	0	7
European Starling	0	1	.0	2	0	0	0	0	3
Cedar Waxwing	0	1	3	0	0	0	0	0	4
Blue-winged Warbler	0	0	0	0	. 0	0	3	0	3
Tenn. Warbler	1	2	0	0	0	0	0	0	3
Northern Parula	0	0	0	0	0	1	0	0	1
Chestnut-sided War.	0	0	0	0	0	0	0	0	0
Yellow-rumped War	0	0	0	0	0	O	0	0	0
Blackpoll Warbler	1	0	0	0	0	0	0	0	1
Cerulean Warbler	0	0	0	0	0	0	Ö	0	0
Am. Redstart	0	2	. 0	0	0	0	0	0	2
Ovenbird	1	0	2	0	2	2	2	1	10
Kentucky Warbler	0	1	0	0	. 0	0	0	1	2

Common Yellowthroat	2	5		1	4		1	4		2	 5		24
Wilson's Warbler	1	Ō		0	0	-	0	0		0	0		1
Summer Tanager	1	0	1	.1	0		1	0		1	2		6
Scarlet Tanager	0	1		1	0	1	0	0		0	0		2
Eastern Towhee	2	1		1	1		0	2		1	1		9
Chipping Sparrow	0	1		0	 0		0	1		0	0		2
Field Sparrow	0	4		0	0	1	3	1		1	1		10
Vesper Sparrow	0	0		0	0		0	0		0	 0		0
Lark Sparrow	0	2	Ī	1	 1		1	1		0	0		6
Song Sparrow	0	2		1	1		1	3		1	2		11
Northern Cardinal	4	3		2	7		6	6	[	6	3		37
Rose-breasted Grosb.	1	2	T	0	4		3	 0		2	 2		14
Indigo Bunting	9	6		7	9		10	8		9	12		70
Red-winged Blackbird	0	5		•0	14		. 0	6		0	9		34
Eastern Meadowlark	0	1		0	 0		0	1		0	 0		. 2
Common Grackle	1	1		0	0		0	0		5	0		7
Brown-headed Cowbird	0	1		1	6		3	6		5	3		25
Baltimore Oriole	1	2	Τ	0	0		1	1		0	 0		5
Am. Goldfinch	0	4		1	4		0	 1		1	2		13
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Count per date		174		<b>-</b>	 189			 177			185		725

Survey Points/ time	552	1	610	ı	628	<del></del>	643	T	710	T	737		802	1	T
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Northern Flicker	Ļ			1							ļ	ļ			0
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Least Flycatcher	1														1
Eastern Phoebe	1														1
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Eastern Kingbird															0
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Warbling Vireo					L										0
Red-eyed Vireo						1			1		1				1
Blue Jay	2		,												2
Am. Crow	2		1		1				1		2				6
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Song Sparrow					<u> </u>									0
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Eastern Meadowlark						L								 0
Common Grackle					1									 1
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Yellow-billed cuckoo   2		-														
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Carolina wren         1         1         1         4           House Wren         1         1         1         4           Blue-gray Gnatcatch.         2         2         2         4           Eastern Bluebird         0         0         0         0           Swainson's Thrush         0         0         0         0         0           Wood Thrush         1 <td></td> <td><del>  '</del> </td> <td></td> <td>2</td>		<del>  '</del>														2
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Swainson's Thrush		$\vdash$														
Wood Thrush         1         1         1         1         1         1         1         1         1         1         1         3         6         0         0         0         0         2 <td< td=""><td></td><td><b> </b></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>		<b> </b>														
Am. Robin       1       2       1       1       3         Gray Catbird       0       0       0         Brown thrasher       1       1       2         European Starling       1       1       1         Cedar Waxwing       1       1       1         Blue-winged Warbler       0       0       0         Tenn. Warbler       1       1       1       2         Northern Parula       0       0       0       0         Chestnut-sided War.       1       0       0       0         Yellow-rumped War       1       0       0       0         Blackpoll Warbler       0       0       0       0         Cerulean Warbler       0       0       0       0         Am. Redstart       0       1       0       0												4				
Gray Catbird         0           Brown thrasher         1         1         2           European Starling         1         1         1           Cedar Waxwing         1         1         1           Blue-winged Warbler         0         0         0           Tenn. Warbler         1         1         1         2           Northern Parula         0         0         0         0           Chestnut-sided War.         1         0         0         0           Yellow-rumped War         1         0         0         0           Blackpoll Warbler         0         0         0         0         0           Cerulean Warbler         2         2         2         2         2         2         2           Ovenbird         1         0		┝╌┰┤	3	4			<del></del>			4				<del></del>		
European Starling         1         2         2         2         Northern Parula         0 <t< td=""><td></td><td><math>\vdash</math></td><td></td><td>1</td><td></td><td></td><td></td><td></td><td></td><td>; 1</td><td></td><td></td><td></td><td>-  </td><td></td><td>3</td></t<>		$\vdash$		1						; 1				-		3
European Starling         1         2         2         2         Northern Parula         0 <t< td=""><td></td><td>  </td><td></td><td></td><td></td><td>- 4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>- 2</td></t<>						- 4										- 2
Cedar Waxwing         1         1           Blue-winged Warbler         0         0           Tenn. Warbler         1         1         1         2           Northern Parula         0		1 1		4		1										
Blue-winged Warbler         0           Tenn. Warbler         1         1         1         2           Northern Parula         0 </td <td></td> <td><b>  </b></td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td> </td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u> </u></td> <td></td> <td></td>		<b>  </b>		1										<u> </u>		
Tenn. Warbler         1         1         1         2           Northern Parula         0         0         0           Chestnut-sided War.         1         0         0           Yellow-rumped War         1         0         0           Blackpoll Warbler         0         0         0           Cerulean Warbler         0         0         0           Am. Redstart         2         2         2           Ovenbird         1         0         0		igsquare				1					,					
Northern Parula         0           Chestnut-sided War.         1           Yellow-rumped War         1           Blackpoll Warbler         0           Cerulean Warbler         0           Am. Redstart         2           Ovenbird         1		ļ														潢
Chestnut-sided War.         1         0           Yellow-rumped War         1         0           Blackpoll Warbler         0         0           Cerulean Warbler         0         0           Am. Redstart         2         2           Ovenbird         1         0		-		1	1			1								
Yellow-rumped War         1         0           Blackpoll Warbler         0         0           Cerulean Warbler         0         0           Am. Redstart         2         2           Ovenbird         1         0		ļ:l														0
Blackpoll Warbler         0           Cerulean Warbler         0           Am. Redstart         2         2           Ovenbird         1         0		ļl	1													0
Cerulean Warbler         0           Am. Redstart         2         2           Ovenbird         1         0													1			0
Ovenbird 1 0																0
Ovenbird 1 0	Cerulean Warbler													ŀ		0
Ovenbird 1 0												_2				2
	Ovenbird												1			0
	Kentucky Warbler			1												_1

Common Yellowthroat								.:	1			4	5
Wilson's Warbler					1			. 1.					0
Summer Tanager					1			,					0
Scarlet Tanager					-		1						1
Eastern Towhee								:			1	1	1
Chipping Sparrow		2		1			1						1
Field Sparow					1		1		. 1			2	4
Vesper Sparrow													0
Lark Sparrow				1	,				2	 			2
Song Sparrow								1				2	2
Northern Cardinal			2		1								 3
Rose-breasted Grosb.							1			1			2
Indigo Bunting	2		1		1				1	1			6
Red-winged Blackbird								14	3			2	5
Eastern Meadowlark	1												1
Common Grackle			1										1
Brown-headed Cowbird	1												1
Baltimore Oriole			1		1								 2
Am. Goldfinch			•		· .	ŀ						4	4
												•	 
Totals *	26		15		15		13		11	9		20	109
* Totals for the points no	ot the	legs	; !		Γ.				Ĺ.,				 

· · · · · · · · · · · · · · · · · · ·	٠.									, j			
Survey Points/ time	9:22	9:08		3:35		8:50		8:16		7:45	7:30		
Α	1	2		3		4		5		6	 7	,	
Great Blue Heron													0
Turkey Vulture				,				·					0
Canada Goose				1									0
Wood Duck													0
Red-tailed Hawk				1									1
Ring-necked Pheasant												-	0
Wild turkey													0
Northern Bobwhite													0
Mourning Dove													0
Black-billed Cuckoo													0
Yellow-billed cuckoo				2		1							3
Great Horned Owl													0
Barred Owl									-				0
Red-headed Woodp	<del>                                     </del>												0
Red-bellied Woodp		1						1			1		3
. Downy Woodp.				1				1		1	1	·	4
Hairy Woodp.													0
Northern Flicker	<del>                                     </del>												0
Eastern Wood-Pewee		_		2		2			-		1		5
Acadian Flycatcher				_		1	· · · ·				 		1
Least Flycatcher	1										i		0
Eastern Phoebe	1		<del></del>						· · · · · · · · · · · · · · · · · · ·				1
Great-crested Flycatch.	<del>  '</del>	1	1				<del></del>						1
Eastern Kingbird	<del> </del>			<del></del>	-		-						0
Yellow-throated Vireo				•	1	1							1
Warbling Vireo	-					$\rightarrow$	<del></del> .				-		Ö
Red-eyed Vireo	1			1									2
Blue Jay	<del>  ' </del>	<del>   </del>		2									$\frac{\overline{3}}{3}$
Am. Crow	1		2	_	$\neg$	1		-			$\neg \neg$		3
Barn Swallow	<del>  ' </del>		<del></del> +										0
Black-capped Chick.	<del>                                     </del>			1						· 2	 		3
Tufted Titmouse	1	1		1	-		<del>-</del>			5			7
White-breasted Nut.	<del>                                     </del>					2					 		2
Carolina wren	<del>   </del>			-	_						1		1
House Wren	1	1						2		2	 1	-	7
Blue-gray Gnatcatch.	<del></del>		$\neg$										0
Eastern Bluebird								т					0
Swainson's Thrush	<del>                                     </del>					<del></del>	-		•				0
Wood Thrush		1 1						***					1
Am. Robin	1	<del>-   -  </del>		-		-			-,				1
Gray Catbird	<del> </del>			<u> </u>				1					1
Brown thrasher	<del>                                     </del>												Ö
European Starling		<del></del>						- 1			 		
Cedar Waxwing	3		-+			- , -	-				 		0 3 0
Blue-winged Warbler							<u>-</u> -						<u> </u>
			+							-+	-	-	0
Tenn. Warbler Northern Parula	+			-							 		0
Chestnut-sided War.	<del>                                     </del>										 		0
	<del>  </del>	-									$\dashv$		- 0
Yellow-rumped War	<del>  </del>		+	•			-				 		0
Blackpoll Warbler	+ +	<del></del>									 		0
Cerulean Warbler	1 +	<del></del>				<del></del>					 	$\longrightarrow$	$\dashv$
Am. Redstart						2					 		-
Ovenbird Kentucky Warbler	$\vdash$	<del></del>									 +		0 2 0
rentucky warbler	<u>i                                    </u>			-; 1		I	·				 1		

1 1		, , ,		
i	* 1	<u> </u>	1 1	1
				0
				1
1	1			1
	1	1		1
				0
		2		0
				0
	i			1
				1
	1		1	2
			1	0
	2	2	2	7
				0
				0
				0
				1
				0
	2			1
11	9	12	8	72
	11	2	2 2	2 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2

Survey Points/ time	705		646		630		615		602	1	549		533	1	T
В	8		9		10		11		12		13		14		
Great Blue Heron					<u> </u>				1.					<b> </b>	0
Turkey Vulture						1		<u> </u>			·	,			0
Canada Goose	20							·		2			2		22
Wood Duck						$\vdash$		<u> </u>					<del>  -</del>	<del> </del>	0
Red-tailed Hawk					<u> </u>	<del> </del>	<del> </del>			<u> </u>	<b></b>		├──		ŏ
Ring-necked Pheasant								-					<u> </u>		0
Wild turkey		,				<del> </del>	<del> </del>					-	├	<del> </del>	0
						-								-	0
Northern Bobwhite					├	-	<del>  </del>		<u> </u>	ļ	ļ	<b> </b> -	-	ļ	
Mourning Dove			<u> </u>		ļ								1		1
Black-billed Cuckoo							<u> </u>						1	<u> </u>	1
Yellow-billed cuckoo							1						1	ļ	2
Great Horned Owl										i 					0
Barred Owl													İ	<u> </u>	0
Red-headed Woodp					:	}									0
Red-bellied Woodp											1		1		2
Downy Woodp.	i		1		-			i			1				2
Hairy Woodp.			1												1
Northern Flicker							1		1	1					2
Eastern Wood-Pewee											1	1		i	1
Acadian Flycatcher								- 1							0
Least Flycatcher									7					<del> </del>	0
Eastern Phoebe						<b></b>									0
Great-crested Flycatch.					11				1					_	2
Eastern Kingbird	<del>  </del>				_	-	H		- 1					<del> </del>	0
Yellow-throated Vireo					1									<u> </u>	1
					<u>-</u>		<del> </del>							<u> </u>	Ö
Warbling Vireo															
Red-eyed Vireo											1				1
Blue Jay	1				1		<u> </u>						2		1
Am. Crow	$\vdash$				1			2	4						3
Barn Swallow							ļ. <b></b>		1						1
Black-capped Chick.		2													0
Tufted Titmouse											1		1		2
White-breasted Nut.			2		1							2			3
Carolina wren				i	1										1
House Wren	1	2	_ 1		1		2		1				1		7
Blue-gray Gnatcatch.	2						2			]			1		5
Eastern Bluebird	1	2			·										1
Swainson's Thrush		,					.			i					0
Wood Thrush															0
Am. Robin		1			-										0
Gray Catbird			1	l											1
Brown thrasher	1														1
European Starling	2	4						-1							2
Cedar Waxwing															0
Blue-winged Warbler			+		•	· ·		-			$\dashv$				Ō
Tenn. Warbler				- 1	-				:-						ŏ
Northern Parula					•			- ; -			•				ō
Chestnut-sided War.	+														0
Yellow-rumped War															0
Blackpoll Warbler			$\dashv$										-		0
Cerulean Warbler			$\dashv$	$\dashv$				- /			$\dashv$				0
							-								
Am. Redstart							-				-	4			0
Ovenbird Variables			$\rightarrow$					<del> </del>				1			0
Kentucky Warbler								1							0

Wilson's Warbler         0           Summer Tanager         0           Scarlet Tanager         0           Eastern Towhee         1           Chipping Sparrow         0           Field Sparow         0           Vesper Sparrow         0           Lark Sparrow         1           Lark Sparrow         1           Northern Cardinal         2           Northern Cardinal         2           1         1           1         1           1         2           2         1           1         2           2         1           3         9           4         10           4         10           4         10           4         10           4         1           5         0           6         0           7         0           8         0           9         0           1         1           1         1           2         1           3         9           9         1					<del>,</del> .	, '	 			 	 		
Summer Tanager         0           Scarlet Tanager         0           Eastern Towhee         1           Chipping Sparrow         0           Field Sparow         0           Vesper Sparrow         0           Lark Sparrow         1           Song Sparrow         1           Northern Cardinal         2           Rose-breasted Grosb         2           Indigo Bunting         1           Red-winged Blackbird         4           Eastern Meadowlark         0           Common Grackle         0           Brown-headed Cowbird         4           Baltimore Oriole         0	Common Yellowthroat										4		
Scarlet Tanager         0           Eastern Towhee         1           Chipping Sparrow         0           Field Sparrow         0           Vesper Sparrow         0           Lark Sparrow         1           Lark Sparrow         1           Northern Cardinal         2           Rose-breasted Grosb.         2           Indigo Bunting         1           Red-winged Blackbird         4           Eastern Meadowlark         0           Common Grackle         0           Brown-headed Cowbird         4           Baltimore Oriole         0	Wilson's Warbler									 			
Eastern Towhee         1         1         1         1         1         1         1         1         1         1         1         1         1         1         0	Summer Tanager												
Chipping Sparrow         0           Field Sparow         0           Vesper Sparrow         0           Lark Sparrow         1           Song Sparrow         1           Northern Cardinal         2           Rose-breasted Grosb         2           Indigo Bunting         1           Red-winged Blackbird         2           Eastern Meadowlark         0           Common Grackle         0           Brown-headed Cowbird         1           Baltimore Oriole         0													0
Field Sparow         0           Vesper Sparrow         0           Lark Sparrow         1         2           Song Sparrow         1         1           Northern Cardinal         2         2         1         1         1           Rose-breasted Grosb         2         1         1         4           Indigo Bunting         1         2         2         1         3         9           Red-winged Blackbird         4         10         14           Eastern Meadowlark         0         0         0           Common Grackle         0         0         0           Brown-headed Cowbird         4         1         1         6           Baltimore Oriole         0         0         0         0						1		- 1					1
Vesper Sparrow         1         2         1	Chipping Sparrow												0
Lark Sparrow       1       2       1 <t< td=""><td>Field Sparow</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0</td></t<>	Field Sparow												0
Song Sparrow         1         1         1         1         1         1         1         7           Rose-breasted Grosb.         2         1         1         1         4         4         1         3         9           Red-winged Blackbird         2         2         1         3         9           Red-winged Blackbird         4         10         14           Eastern Meadowlark         0         0         0           Common Grackle         0         0         0           Brown-headed Cowbird         4         1         1         6           Baltimore Oriole         0         0         0													0
Northern Cardinal         2         2         1         1         1         7           Rose-breasted Grosb.         2         1         1         4           Indigo Bunting         1         2         2         1         3         9           Red-winged Blackbird         4         10         14           Eastern Meadowlark         0         0         0           Common Grackle         0         0         0           Brown-headed Cowbird         4         1         1         6           Baltimore Oriole         0         0         0		1	2			-		·					1
Rose-breasted Grosb.         2         1         1         4           Indigo Bunting         1         2         2         1         3         9           Red-winged Blackbird         4         10         14           Eastern Meadowlark         0         0         0           Common Grackle         0         0         0           Brown-headed Cowbird         4         1         1         6           Baltimore Oriole         0         0         0	Song Sparrow								•		1	1	
Indigo Bunting	Northern Cardinal			2		2	1			 1	1		
Red-winged Blackbird         4         10         14           Eastern Meadowlark         0         0           Common Grackle         0         0           Brown-headed Cowbird         4         1         1         6           Baltimore Oriole         0         0         0	Rose-breasted Grosb.						2			1			
Eastern Meadowlark         0           Common Grackle         0           Brown-headed Cowbird         4         1         1         6           Baltimore Oriole         0				1			2		2	1			
Common Grackle         0           Brown-headed Cowbird         4         1         1         6           Baltimore Oriole         0									4		10		14
Brown-headed Cowbird 4 1 1 1 6 Baltimore Oriole 0	Eastern Meadowlark												
Baltimore Oriole 0													
	Brown-headed Cowbird	4					1		1				6
Am Goldfinch 1 2 1 4	Baltimore Oriole												0
	Am. Goldfinch	1					2		1				4
Total * 34 9 9 14 13 8 30 117	Total *	34		9		9	14		13	8	30		117
									, ,,,,				
* Totals for the points not the legs	* Totals for the points n	ot the	e legs	3			 ]	]					

Survey Points/ time	7:45	7:59	8:16	8:30	8:46	9:14	9:29	-
A	1	2	3	4	5	6	7	<del></del>
Great Blue Heron	1 1	<del>                                     </del>		+ +	-   -	<del>-    </del>	<del></del>	0
Turkey Vulture						<del>-   -   -</del>	<del>  </del>	0
Canada Goose	1			+ +		<del></del>	<del></del>	0
Wood Duck								0
Red-tailed Hawk	<del>-  </del> -					<del></del>	<del></del>	0
							+ + +	0
Ring-necked Pheasant							<del></del>	1
Wild turkey		1				<del></del>		
Northern Bobwhite								0
Mourning Dove	1							0
Black-billed Cuckoo	ļl							0
Yellow-billed cuckoo	1		1	1		1		4
Great Horned Owl								0
Barred Owl								0
Red-headed Woodp								0
Red-bellied Woodp	1		1		1			3
Downy Woodp.						1		1
Hairy Woodp.					'		-	0
Northern Flicker		1		1				2
Eastern Wood-Pewee	11-	1	3		· · · · · ·			4
Acadian Flycatcher		<del>                                     </del>			1 1			0
Least Flycatcher				1 1				ő
Eastern Phoebe			<del>                                      </del>	+ +			-+	ő
Great-crested Flycatch.			1	1		<del></del>		2
Eastern Kingbird	+ +			<del></del>			+	0
Yellow-throated Vireo	<del>  </del>		1 -1		$\rightarrow$	-	+ + -	무
	<del>  </del>			1			+ +	2
Warbling Vireo								1 0
Red-eyed Vireo		1						1
Blue Jay	1 1	1				$\rightarrow$	1	3 8
Am. Crow	7						1	8
Barn Swallow								0
Black-capped Chick.			1	1 1				2
Tufted Titmouse								0
White-breasted Nut.			1				1	2
Carolina wren							1	1
House Wren	1	1		1	1	1	1	6
Blue-gray Gnatcatch.								0
Eastern Bluebird					1			0
Swainson's Thrush					- 1			0
Wood Thrush								0
Am. Robin			1.					0
Gray Catbird	1 1			<del></del>	2			3
Brown thrasher	<del>  '                                   </del>				1 1		+ + -	1
European Starling	<del>                                     </del>	<del></del>			1, 1	<del>-                                     </del>	<del>                                     </del>	0
Cedar Waxwing	<del>  </del>	<del>-   .   -</del>				-		0
	<del>  </del>		_				<del></del>	
Blue-winged Warbler	· · · · ·					++-	<del>                                     </del>	0
Tenn. Warbler		+ +	$\perp$	+ +	+			0
Northern Parula	<u> </u>			+		+		0
Chestnut-sided Warbler	<u> </u>		$\perp$	$\bot$	1.1	$\perp$		0
Yellow-rumped War		-  -					$\bot$	0
Blackpoll Warbler								0
Cerulean Warbler								0
Am. Redstart								0
Ovenbird				2				2
Kentucky Warbler								0

						 ,	<b>,</b>		 ,				
Common Yellowthroat	1			_						<u> </u>			1
Wilson's Warbler							ĺ						0
Summer Tanager						1							1
Scarlet Tanager					-								0
Eastern Towhee													0
Chipping Sparrow													0
Field Sparow			1				-				2		3
Vesper Sparrow			Ÿ		-								0
Lark Sparrow			1										1
Song Sparrow	1												1
Northern Cardinal	1		_ 1					2			2		6
Rose-breasted Grosb.	1		1		1								3
Indigo Bunting	3		1		1	1		2			2		10
Red-winged Blackbird									 				0
Eastern Meadowlark													0
Common Grackle					ı								0
Brown-headed Cowbird			1		,	1		1					3
Baltimore Oriole			1									·	1
Am. Goldfinch		`					i	•					0
Totals *	19		13		11	11		10	3		11		78
* Totals for the Points n	ot th	e Leg	js										

<b>D</b>	- 40		0.00		10:40		10.04		la :						
Survey Points/ time	5:40	<u> </u>	6:02	<u> </u>	6:19	<u> </u>	6:34	, ,	6:47		7:01	<u> </u>	7:18		
В	1	ļ	2		3	<u> </u>	4	'	5	<u> </u>	6		7		
Great Blue Heron	ļ	<u> </u>	Ľ.		,	<u> </u>					<u> </u>	<u> </u>			0
Turkey Vulture		1		<u> </u>	1						<u> </u>				0
Canada Goose			[	Ţ		1					T				0
Wood Duck	1								1	1					0
Red-tailed Hawk					<del> </del>	<b> </b>									0
Ring-necked Pheasant	1		1		<del> </del>	ļ	1			l .	<b>—</b>				1
Wild turkey	† ·					·	<del>                                     </del>	,			<del>                                     </del>				Ö
Northern Bobwhite	<del>                                     </del>	<u> </u>	····	-	<u>-</u>			-		<del> </del>		<del></del>		-	0
Mourning Dove	<del> </del>		<del> </del>	<del>                                     </del>	<u> </u>	<del>                                     </del>				ļ	-			-	0
Black-billed Cuckoo	<del> </del> -		<u> </u>		<u> </u>	-			<del></del>	<b> </b>					
		4	<u> </u>							<u> </u>					0
Yellow-billed cuckoo	ļ	1					<u> </u>		1				1		2
Great Horned Owl					<u> </u>		ļ					1			0
Barred Owl			<u> </u>	<u> </u>	ļ		ļ			<u> </u>					0
Red-headed Woodp	<u> </u>	<u> </u>													0
Red-bellied Woodp			1		1				1				2		5
Downy Woodp.	l			1	1										1
Hairy Woodp.											1	·			1
Northern Flicker					1			- :							0
Eastern Wood-Pewee			1		1						1		1	$\neg \uparrow$	3
Acadian Flycatcher								•			<del>                                     </del>			$\overline{}$	0
Least Flycatcher							<del>  </del>	,				$\rightarrow$	- +		ŏ
Eastern Phoebe											<del></del>			$\rightarrow$	0
Great-crested Flycatch.					1	-								$\longrightarrow$	1
					1			- 1							
Eastern Kingbird									4				<del></del>		0
Yellow-throated Vireo					ļ		<del>  </del>		1		1				2
Warbling Vireo													1		_ 1
Red-eyed Vireo															0
Blue Jay	1				1	2					1		2		5
Am. Crow	3	1	2		1		2				2		1		11
Barn Swallow									1						1
Black-capped Chick.			1	2	1			,			1				3
Tufted Titmouse															0
White-breasted Nut.			1		1		1				1		1		5
Carolina wren					1									$\dashv$	1
House Wren	1		1				1					<u> </u>	1	$\dashv$	4
Blue-gray Gnatcatch.			- 1				2				2		-+		4
Eastern Bluebird	2		-		7				.					$\dashv$	
Swainson's Thrush													$\rightarrow$	$\dashv$	2
Wood Thrush															0
													_ 1	<b></b> ∔	1
Am. Robin															0
Gray Catbird					,								1		1
Brown thrasher													[		0
European Starling										i	,				0
Cedar Waxwing									. 1						0
Blue-winged Warbler													. [		0
Tenn. Warbler	$\neg \neg$				•										0
Northern Parula													1		1
Chestnut-sided War.															0
Yellow-rumped War			<u> </u>							-		$\neg \dagger$		$\dashv$	0
Blackpoll Warbler					:	<del>-  </del>					-+	+	-	-	0
Cerulean Warbler											+		<del></del>		0
Am. Redstart		-			<del></del>	<del>  </del>	-+				$\rightarrow$	$\rightarrow$			0
Ovenbird		+	$\rightarrow$	-			1		-		4	$\dashv$			
Kentucky Warbler							_'+	∤			1	$\dashv$	+	$\dashv$	2
incritudity vvarbler				1	1	ــــــــــــــــــــــــــــــــــــــ									U

Survey Points/ time	7:35	7:22	6:43	6:57	6:21	5:56	5:41	<u> </u>
Α	1	2	3	4	5	<del></del>	-	<del>                                     </del>
Great Blue Heron	<del>                                     </del>			<u>-</u>	<del>                                     </del>	<del>                                     </del>	<del>                                     </del>	0
Turkey Vulture	<del>                                     </del>				1	<del>                                     </del>		0
Canada Goose	<del>                                     </del>					<del> </del>	-	0
Wood Duck	1	<del></del>			<del> </del>	<del>                                     </del>	<del>                                     </del>	0
Red-tailed Hawk	1	<del></del>	<del></del>	-		<del>                                     </del>	1	0
Ring-necked Pheasant						<del>  </del>	<del>                                     </del>	0
Wild turkey				<del></del>		<del>                                     </del>		0
Northern Bobwhite	<del>                                     </del>				<del></del>	1	<del></del>	1
Mourning Dove	1	<del></del>	<del></del>			<u> </u>	<del></del>	0
Black-billed Cuckoo				<del></del>		<del>  </del>		
Yellow-billed cuckoo	<del>├</del> ┈╌╌┠╌		1			<del>                                     </del>	<del></del>	0
Great Horned Owl		<del></del>		-		<del>                                     </del>		1
Barred Owl	<del>                                     </del>			<u> </u>		ļ. — — —		0
Red-headed Woodp	1	1	<del>-   -  </del>		4	1		1
Red-bellied Woodp	<del>  ' </del>	1	1		1	<del>                                     </del>		3
Downy Woodp.	<del>                                     </del>	1		1		1 1	1	5 3 0
Hairy Woodp.					2			3
Northern Flicker		<del></del>						
Eastern Wood-Pewee								0
	<b></b>	1	1	_ 1			1	4
Acadian Flycatcher				2				2
Least Flycatcher								0
Eastern Phoebe					3			0
Great-crested Flycatch.		1	1		1	1 1		4
Eastern Kingbird								0
Yellow-throated Vireo				1 1				1
Warbling Vireo								0
Red-eyed Vireo		1		1				2
Blue Jay		2	1				1	4
Am. Crow		1	1		2	2	2	8
Barn Swallow								0
Black-capped Chick.	·							0
Tufted Titmouse			1 1					1
White-breasted Nut.			1	3	_ 1	1	1	7
Carolina wren								0
House Wren		1			1	1	1	4
Blue-gray Gnatcatch.				1				0
Eastern Bluebird								0
Swainson's Thrush	[							0
Wood Thrush	.			1	*			1
Am. Robin			- I					0
Gray Catbird		1	1	1	1	1	1	6
Brown thrasher	1							1
European Starling								0
Cedar Waxwing								0
Blue-winged Warbler	2				1			3 0
Tenn. Warbler						<del>-   -  </del> -	<b>-   +</b>	0
Northern Parula		<del>     </del>			<del></del>		<del>    </del> -	0
Chestnut-sided War.								-   <del> </del>
Yellow-rumped War	$\neg \vdash$	<del></del>	<del>    </del>	<del>-    </del> -				0
Blackpoll Warbler		++	<del></del>			<del>-   -  </del>	<del></del>	0
Cerulean Warbler	-	<del></del>	<del></del>	-				0
Am. Redstart		<del></del>	<del></del>	<del></del>				<u> </u>
Ovenbird		-+		2		+		0 2
Kentucky Warbler	-	<del></del>	$\dashv$					0
e to monty training					!			U

Wilson's Warbler         0           Summer Tanager         1           Scarlet Tanager         0           Eastern Towhee         1           Chipping Sparrow         0           Field Sparow         1           Vesper Sparrow         0           Lark Sparrow         2           Song Sparrow         1           Northern Cardinal         1           Rose-breasted Grosb.         1           Indigo Bunting         1           1         2           Indigo Bunting         1           2         2           1         2           2         1           3         2           4         0           Common Grackle         1           5         1           6         1           7         1           8         2           1         3           5         5           8         1           8         1           9         1           1         3           1         3           1         3           3															
Summer Tanager	Common Yellowthroat	1	İ					· · ·	1	1		ļ			2
Scarlet Tanager	Wilson's Warbler					1	1								0
Eastern Towhee         1	Summer Tanager					1									1
Chipping Sparrow         0           Field Sparow         1           Vesper Sparrow         0           Lark Sparrow         2           Song Sparrow         1           Northern Cardinal         1           Rose-breasted Grosb         1           1         2           Indigo Bunting         1           1         2           2         1           2         2           1         2           2         1           2         2           2         1           2         1           3         1           4         1           5         3           1         3           4         1           5         3           5         3           6         1           7         3           8         1           9         1           1         3           1         3           1         3           1         3           1         3           3         4 <td>Scarlet Tanager</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Ö</td>	Scarlet Tanager							1							Ö
Field Sparow         1         1         1           Vesper Sparrow         0         0         0           Lark Sparrow         1         1         1           Song Sparrow         1         1         1         1           Northern Cardinal         1         2         1         1         1         6           Rose-breasted Grosb.         1         1         2         2         1         2         2         1         2         9           Red-winged Blackbird         1         2         2         1         2         9         2         9         2         9         3         5         3         5         5         5         3         1         3         5         5         5         3         1         5         5         3         1         3         1         5         5         3         1         3         1         5         5         3         1         3         1         3         1         3         1         3         1         3         1         3         1         3         1         3         1         3         1         3         1 <td>Eastern Towhee</td> <td>1</td> <td></td> <td>1</td>	Eastern Towhee	1													1
Vesper Sparrow         2         0           Lark Sparrow         1         2         1         2         1         2         2         1         2         9         1         1         2         2         1         2         9         1         2         1         2         1         2         9         1         2         1         2         1         2         9         1         3         1         3         1         3         1         3         1         3         1         3         1         3         1         3         1         3         1         3         1         3         1         3         1         3         1         3         1         3         1         3         1         3         1         3         1         3 <td>Chipping Sparrow</td> <td></td> <td>-</td> <td>0</td>	Chipping Sparrow													-	0
Lark Sparrow       1       0         Song Sparrow       1       1         Northern Cardinal       1       2       1       1       1         Rose-breasted Grosb.       1       1       2       2       2       2         Indigo Bunting       1       1       2       2       1       2       9         Red-winged Blackbird       2       1       2       9       0	Field Sparow										1				1
Song Sparrow         1         2         2         1         2         2         1         2         9         1         2         9         1         2         9         1         2         9         1         2         1         2         9         1         2         9         1         2         9         1         2         9         1         2         9         1         3         1         3         1         3         1         3         1         3         1         3         1         3         3         5         3         1         3         3         1         3         3         1         3         3         1         3         1         3         1         3         1         3         1         3         1         3         1         3         1         3         1         3         1         3 <t< td=""><td>Vesper Sparrow</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0</td></t<>	Vesper Sparrow														0
Northern Cardinal         1         2         1         1         1         6           Rose-breasted Grosb.         1         1         2         2         2         2         2         1         2         9         2         1         2         9	Lark Sparrow									2					0
Rose-breasted Grosb.   1	Song Sparrow	1				_		,		1					1
Indigo Bunting	Northern Cardinal	1				2	 1		1		1				6
Red-winged Blackbird         0           Eastern Meadowlark         0           Common Grackle         1         1         3         5           Brown-headed Cowbird         2         1         3         1         5           Baltimore Oriole         0<	Rose-breasted Grosb.	1		1				5.		2					2
Eastern Meadowlark         0           Common Grackle         1         1         3         5           Brown-headed Cowbird         2         1         3         1         5           Baltimore Oriole         0<	Indigo Bunting	1		1		. 2	·		2		1		2		9
Common Grackle         1         1         3         5           Brown-headed Cowbird         2         1         3         1         5           Baltimore Oriole         0															0
Brown-headed Cowbird   2	Eastern Meadowlark														0
Baltimore Oriole         0           Am. Goldfinch         2         1         1           Fotals *         12         14         14         14         18         16         10         98	Common Grackle			1					1		3				5
Am. Goldfinch       .       2       1       1         Fotals *       12       14       14       14       18       16       10       98	Brown-headed Cowbird	2			1				3	1					5
Totals * 12 14 14 14 18 16 10 98	Baltimore Oriole					,									0
	Am. Goldfinch									2	1				1
* Totals for the Points not the Legs	Totals *	12		14		14	14		18		16		10		98
* Totals for the Points not the Legs							 								
	* Totals for the Points r	not th	ie Le	gs											

Survey Points/ time	9:38		9:19	) I	9:02	1	8:02	,,	8:35	1	8:20	ı!	8:02	1	7
R	8	<u> </u>	9	_	10		11		12		13		14	1	+
Great Blue Heron	⊢∸	<del>                                     </del>	<del>  </del>	┼─	1.0	╁	· · · · · ·	<del></del>	12		+ 13	+	<del>  '-</del>	<del> </del>	0
Turkey Vulture		<u> </u>	<u> </u>		+	1		-	-		+-	<del> </del>	<del> </del>	├	0
Canada Goose	<del>[</del>				+					-	<del>                                     </del>	<del> </del>		-	0
	<u> </u>		-	+		-	<u> </u>	<del></del>		ļ	<del></del>	ļ	-	-	1 0
Wood Duck	<del>                                     </del>		-	1	-	ļ				ļ	<u> </u>		<u> </u>		0
Red-tailed Hawk	<u> </u>		ļ	-	ļ				ļ	<del> </del>	1				0
Ring-necked Pheasant	ļ		ļ	_	<u> </u>	ļ				<u> </u>			<u> </u>		0
Wild turkey	ļ			ļ.,		ļ							<u> </u>	ļ	0
Northern Bobwhite	<u> </u>		<b> </b>	ļ	ļ	L						<u> </u>	<u> </u>		0
Mourning Dove				<u> </u>				•				<u></u>	ļ		0
Black-billed Cuckoo	<u>L</u>										<u>L</u>	ļ.,			0
Yellow-billed cuckoo			1				1	•							2
Great Horned Owl						Ì									0
Barred Owl					T .										0
Red-headed Woodp											T				0
Red-bellied Woodp							1	-	1		1		1		4
Downy Woodp.				1	1		1				<del>                                     </del>		1	-	2
Hairy Woodp.				†	<del>                                     </del>	<b></b>				<u> </u>			<u> </u>		ō
Northern Flicker	1		-		1		1	- :		-	-				1
Eastern Wood-Pewee	<u> </u>		<del>                                     </del>		1				1		1				2
Acadian Flycatcher				-	+ -				<u>-</u>	<b> </b>	<del> </del>				0
Least Flycatcher				ļ <u>-</u>	<del> </del>						-				0
				-	-						-				
Eastern Phoebe				ļ	ļ										0
Great-crested Flycatch.	ļ			ļ	ļ				-				1		1
Eastern Kingbird	ļ		<u> </u>												0
Yellow-throated Vireo					ļ						1				1
Warbling Vireo				L	<u> </u>										0
Red-eyed Vireo					1										0
Blue Jay	1				<u> </u>										1
Am. Crow	1		3		1								4	·	9
Barn Swallow															0
Black-capped Chick.									1		1				2
Tufted Titmouse															0
White-breasted Nut.		<del></del>	1		1		1		1		1	1	1		6
Carolina wren								- 1							0
House Wren	1		1				2						2		6
Blue-gray Gnatcatch.	-			1			1			2					1
Eastern Bluebird		2			<del> </del>		<b>─</b> ⁺		-	-					Ö
Swainson's Thrush															ŏ
Wood Thrush	$\dashv$														
							-								0
Am. Robin															0
Gray Catbird			1		1		_1		1						4
Brown thrasher										•					0
European Starling															0
Cedar Waxwing														,	0
Blue-winged Warbler				<u> </u>											0
Tenn. Warbler												ļ			0
Northern Parula									-						0
Chestnut-sided War.															0
Yellow-rumped War						1	1	1							0
Biackpoll Warbler	-		·					1							ō
Cerulean Warbler	$\dashv$												+	.	Ö
Am. Redstart	$\dashv$	1											+	,	Ö
Ovenbird	-+	$\dashv$					-	-			<del>- 1</del>			·	1
Kentucky Warbler	$\rightarrow$	-+	-		1		-+	+				$\dashv$	-+		1
INCITUONY VVOIDICI	1										1		1		

Wilson's Warbler 0 Summer Tanager 2 2	<u> </u>	<del></del>												
Summer Tanager         2         2           Scarlet Tanager         0           Eastern Towhee         1         1           Chipping Sparrow         0         1           Field Sparow         1         0           Field Sparrow         1         0           Lark Sparrow         0         0           Song Sparrow         2         2           Northern Cardinal         1         2           Rose-breasted Grosb         1         1         2           Indigo Bunting         3         3         2         2         1         1         12           Red-winged Blackbird         3         2         6         9           Eastern Meadowlark         1         0         0           Common Grackle         0         0           Brown-headed Cowbird         1         3         1         1         1         3           Baltimore Oriole         0         0         0         0         0         0         0					<u></u>					1			4	5
Scarlet Tanager         0           Eastern Towhee         1           Chipping Sparrow         0           Field Sparow         1           Vesper Sparrow         1           Lark Sparrow         0           Song Sparrow         2           Northern Cardinal         1           Rose-breasted Grosb.         1           Indigo Bunting         3           3         2           Eastern Meadowlark         1           Common Grackle         0           Brown-headed Cowbird         1           Baltimore Oriole         0	Wilson's Warbler													
Eastern Towhee         1         1         1           Chipping Sparrow         0         0           Field Sparow         1         1         1           Vesper Sparrow         1         0         0           Lark Sparrow         0         0         0           Song Sparrow         2         2         2           Northern Cardinal         1         2         3           Rose-breasted Grosb         1         1         2           Indigo Bunting         3         3         2         2         1         1         12           Red-winged Blackbird         3         2         2         1         1         1         1         2           Eastern Meadowlark         1         0         0         0         0         0         0           Brown-headed Cowbird         1         3         1         1         1         3         3         3         1         1         1         3         3         3         3         2         0         0         0         0         0         0         0         0         0         0         0         0         0         0 </td <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2</td>		1						2						2
Chipping Sparrow         1         0           Field Sparow         1         1         1           Vesper Sparrow         1         0         0           Lark Sparrow         0         0         0           Song Sparrow         2         2         2           Northern Cardinal         1         2         3           Rose-breasted Grosb         1         1         1         2           Indigo Bunting         3         3         2         2         1         1         12           Red-winged Blackbird         3         2         2         1         1         12           Eastern Meadowlark         1         0         0         0           Brown-headed Cowbird         1         3         1         1         1         3           Baltimore Oriole         0         0         0         0         0         0														0
Field Sparow         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         0 <t< td=""><td></td><td></td><td></td><td></td><td></td><td>1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>1</td></t<>						1								1
Vesper Sparrow         1         0           Lark Sparrow         0           Song Sparrow         2         2           Northern Cardinal         1         2         3           Rose-breasted Grosb         1         1         1         2           Indigo Bunting         3         3         2         2         1         1         12           Red-winged Blackbird         3         2         6         9           Eastern Meadowlark         1         0         0           Common Grackle         0         0           Brown-headed Cowbird         1         3         1         1         3           Baltimore Oriole         0         0         0         0         0							-							0
Lark Sparrow       0         Song Sparrow       2         Northern Cardinal       1         Rose-breasted Grosb       1         Indigo Bunting       3         3       2         Red-winged Blackbird       3         Eastern Meadowlark       1         Common Grackle       0         Brown-headed Cowbird       1         Baltimore Oriole       0			1	l									1	1
Song Sparrow         2         2           Northern Cardinal         1         2         3           Rose-breasted Grosb         1         1         2         3           Indigo Bunting         3         3         2         2         1         1         12           Red-winged Blackbird         3         2         6         9           Eastern Meadowlark         1         0         0           Common Grackle         0         0         0           Brown-headed Cowbird         1         3         1         1         1         3           Baltimore Oriole         0         0         0         0         0         0         0	Vesper Sparrow		1											0
Northern Cardinal         1         2         3           Rose-breasted Grosb.         1         1         1         2           Indigo Bunting         3         3         2         2         1         1         12           Red-winged Blackbird         3         2         6         9           Eastern Meadowlark         1         0         0           Common Grackle         0         0           Brown-headed Cowbird         1         3         1         1         1         3           Baltimore Oriole         0         0         0         0         0         0         0														
Rose-breasted Grosb.         1         1         1         2           Indigo Bunting         3         3         2         2         1         1         12           Red-winged Blackbird         3         2         6         9           Eastern Meadowlark         1         0         0           Common Grackle         0         0           Brown-headed Cowbird         1         3         1         1         1         3           Baltimore Oriole         0         0         0         0         0         0	Song Sparrow					**							2	
Indigo Bunting   3   3   2   2   1   1   12   Red-winged Blackbird   3   2   6   9	Northern Cardinal			-						1			2	
Red-winged Blackbird         3 2 6 9           Eastern Meadowlark         1           Common Grackle         0           Brown-headed Cowbird         1 3 1 1 1 1 3           Baltimore Oriole         0	Rose-breasted Grosb.									1		1		2
Eastern Meadowlark         1         0           Common Grackle         0           Brown-headed Cowbird         1         3         1         1         1         3           Baltimore Oriole         0         0         0         0         0		3		3				2		2		1	1	12
Common Grackle         0           Brown-headed Cowbird         1         3         1         1         1         3           Baltimore Oriole         0         0         0         0	Red-winged Blackbird	П								3	2		6	9
Brown-headed Cowbird         1         3         1         1         1         3           Baltimore Oriole         0         0         0         0	Eastern Meadowlark		1											0
Baltimore Oriole 0	Common Grackle													 0
	Brown-headed Cowbird	1	3		1	1		1						3
Am. Goldfinch 1 2	Baltimore Oriole													0
	Am. Goldfinch					1							1	2
Totals * 8 10 7 14 13 8 27 87	Totals *	8		10		7		14		13		8	27	 87
									1					
* Totals are for the Points and not the Legs	* Totals are for the Poin	ts an	d no	t the	Legs	_	•							

Survey Cou	ints		May 18		May 29		Jun 12		Jun 25	
High Area	l Sensitivity		<u> </u>				- <del> </del>			
1.1.3.1.1.1.0.0	Least Flyca	tcher	1	<b>†</b>	0	<del> </del>	0		0	
	Yellow-throa		1	<del> </del>	3	*	4		2	<del>                                     </del>
	Cerulean W		1	*	0		Ö			
	American R		2		0	<u> </u>	Ō		0	
	Ovenbird		2		3	*	4		3	<u> </u>
			· · · · ·	<del></del>	1		<u> </u>			
Moderate A	rea Sensitiv	ity	j							
	Black-billed		0		1	<u> </u>	0		0	<u> </u>
	Yellow-billed		5	*	5	ļ ——	7	*	3	
	Hairy Wood		0		1		1		0	
	Acadian Fly		0		1		0		2	
	Red-eyed V		9		3	<u> </u>	1		2	
	<b>Tufted Titm</b>		2	i .	9		0		2	*
		sted Nuthato			7		7		14	*
	Blue-gray G			*	5		4		5	***
	Wood Thrus		1		1		1		1	
	Northern Pa	arula	0		0		1		0	
	Kentucky W	/arbler	1	ï	0		.0		1	
	Summer Ta	ınager	1		1		1		2	
	Scarlet Tan	ager	1		1		0		0	
	* one see	n on leg								
	** two seer									
, , ,	*** Three s									

# Partners in Flight Bird Conservation Plan for The Prairie Peninsula (Physiographic Area 31)

Version 1.0 4 February 2000

by

Jane A. Fitzgerald, James R. Herkert and Jeffrey D. Brawn

Please address comments to:



Jane Fitzgerald PIF Midwest Regional Coordinator 8816 Manchester, suite 135 Brentwood, MO 63144

314-918-8505 e-mail: fitzgj@mail.conservation.state.mo.us



Table 1. Partners in Flight Priority Species for Physiographic Area 31: The Prairie Peninsula.

Species	Criteria	Total Score	Αľ	PT	BBS Trend	% Pop.
Greater Prairie-Chicken	lb	27	2	3	na	<1
Black Rail	lb	26	. 3	3	na	na
Henslow's Sparrow	lb	26	3	3	-18.3	4.0
Cerulean Warbler	lb	, 25	2	3	-9.4	<1
Dickcissel	lb	24	4	.5	-3.8**	5.1
Red-headed Woodpecker	lb	23	5	5	-2.0**	,9.2
Bell's Vireo	lb	23	2	3	-2.9	<1
N. Bobwhite	lla <sub>.</sub>	21	4	5	-2,1**	5.7
Chimney Swift	lla	21	4	5	-1.9**	6.9
Field Sparrow	lla	21	4	. 5	-3.2**	6.4
Yellow-billed Cuckoo	lla	20	3	5	-4.0**	2.2
Eastern Wood Pewee	lla	. 20	3	5	-1.1*	3.4
Great Crested Flycatcher	lla	19	3	5	-1.8**	1.8
Grasshopper Sparrow	lla	19	3	5	-7.0**	3.1

Criteria: see Appendix 1.

Total score: see Appendix 1.

At = area importance score; see Appendix 1.

PT = population trend score; see Appendix 1.

BBS = Breeding Bird Survey trend, measured as mean % change per year for the years 1966-1996, for this physiographic area.

\* = significant at 0.10; \*\* = significant at 0.05; na = not available.

% pop = percentage of the species population residing in the planning unit.

# Section 3: Habitats and objectives

# Habitat-species suites:

Priority species are grouped by suites into habitat types as shown in Table 2.

Table 2: Priority species by habitat type in Physiographic Area 31: The Prairie Peninsula.

Species	Habitat	Total Score	AI	PT	ТВ	
Greater Prairie-Chicken	GR	27	2	3	4	
Henslow's Sparrow	GR	26	3	. 3	4	
Dickcissel	GR	24	4	5	4	
Grasshopper Sparrow	GR	. 19	3	5	3	
Bell's Vireo	GR - SH	· 23	2	3	4	
N. Bobwhite	GR - SH	21	4	5	3	
Field Sparrow	GR - SH	. 21	4	5	3	
Black Rail	WE	26	3	3	4	
Cerulean Warbler	RDF	25	2	3	4	
Red-headed Woodpecker	RDF	23	5	5	3	
Chimney Swift	RDF	21	4	5	3	
Cerulean Warbler ·	DF	25	2	3	4	
Yellow-billed Cuckoo	DF	20	3	5	3	
Eastern Wood Pewee	DF	20	3	5	3	
Great Crested Flycatcher	DF	19 '	3	5	2	
Red-headed Woodpecker	SA	23	5	5	3	
Eastern Wood Pewee	SA	20	3	5	3	
N. Bobwhite	SA	21	4 ·	.5	3	
Field Sparrow	· SA	21	4	5	3	
Great Crested Flycatcher	SA	19	3	5	2	
Chimney Swift	U	21	4	5	3	,

Habitat codes: GR = grassland; GR-SH = grasslands with a shrubby component; WE = wetlands; RDF = riparian deciduous forest; DF = deciduous forest; SA = savanna/woodland; U = urban.

Total score: see Appendix 1.

Al = area importance score; see appendix 1.

PT = population trend score; see Appendix 1.

TB = threats breeding score; see Appendix 1.