Title

Bird and Mammal Communities Associated with the Biocore Prairie Restoration Site

Names of Project Director/Colleagues

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Matt Hayes SUBPERMITEE AND CO-COORDINATOR
Jackie Edmunds SUBPERMITEE

Primary Objectives of Project

- To follow changes in the bird and mammal species composition with changes in stages of prairie restoration

- To provide a research and teaching resource for natural history studies utilizing live animals to the University, the Madison community, the State of Wisconsin, and the United States Geological Society.

- To promote outreach to the University and Madison community by teaching workshops, leading field trips to the site, helping on the site, and presenting to K-12 schools and community groups.

- To train volunteers in bird banding, species identification, field techniques, data collection and entry, and data analyses.

- To collaborate with
- Dr. Janet Batzli et al., UW-Biocore Program, by training/showing students about bird research.

Dates Station Opened: April 27-September 28, 2013 (15 days opened for banding)

Additional sites:

Lewis Park, McFarland WI Bird Fest

Results and Accomplishments (January 1-December 31, 2013)

Again the weather was often not cooperative, especially in the fall (October).

Our banding summary is below

Number of Birds Banded:
Biocore Prairie 73 (OP) +20(NP)
Lewis Park 25
Number of species:
Biocore Prairie (15 days) 18 species
Lewis Park 6 species
Number of sites: 5
Biocore Prairie(Old Prairie (Areas 1a, 1b, 2)/
New Prairie (Area 3);
Lewis Park
Number of recaptures:
BPBO 20
SPECIES NUMBERS 21

Table 1 shows the number of individuals banded (excluding recaps) across the years for each species. Some, like the American Goldfinch, are consistently high in our banding numbers, although the number of recaptures is low (Table 2). Chipping Sparrows are consistently present across years, as are Baltimore Orioles and Black-capped Chickadees. Northern Cardinals, Red-eyed Vireos, Indigo Buntings, and several other species are consistent in the prairies, probably coming from the adjacent woodland. House Wrens are consistent breeders in the prairies; Common Yellowthroats started breeding in the prairies around 2005, and are the most frequently recaptured species. Many of the recaptures are Hatch Year birds. Eastern Phoebes and Eastern Wood-Pewees are few, but show up consistently in our banding from year-to-year. The same trend is true for Red-eyed Vireos, Northern Cardinals, Ruby-crowned Kinglets, and Swamp Sparrows.

Table 1. Species numbers across years. Note: Bluebird numbers include fledglings banded on Pope Farm for 2009-2011.

BIOCORE PRAIRIE

COMMON NAME	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
ACADIAN FLYCATCHER							1			2			
AMERICAN GOLDFINCH	20	18	30	22	13	8	18	73	5	2	16	52	12
AMERICAN REDSTART		2	6		3	1	1	1	1	2		1	
AMERICAN ROBIN		6		1			2	3	3	3	2	2	4
AMERICAN TREE SPARROW	14	3	3	10	4		1				2	2	14

SPECIES	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
BALTIMORE ORIOLE		9	5	2	13	4	6	5	3	13	12	7	4
BLACK-CAPPED CHICKADEE	6	3	7	3	9		4	3	3	6	4	15	3
BLUE JAY			1				1			2			
BLACK-AND-WHITE WARBLER							1	1		2			
BLUE-GRAY GNATCATCHER									1				
BLUE WINGED WARBLER							1			1			
BROWN CREEPER	1			1									
BROWN-HEADED COWBIRD		5	3	2	3	1	3	1		1		1	
BROWN THRASHER		1	1	2	3	1	1	5		1			
CEDAR WAXWING		5		7	2	4		4		1			1
CHESTNUT-SIDED WARBLER			1				1						
CHIPPING SPARROW		14	4	14	29	2	3	1		4	2	2	1
COMMON GRACKLE										1			
COMMON YELLOWTHROAT		5	11	10	15	3	13	12	18	22	10	10	8
CONNECTICUTT WARBLER	1												
DOWNY WOODPECKER		3	1	4				1	1		1		3
EASTERN BLUEBIRD			3	5	2	1		1	44	32	38	2	1
EASTERN KINGBIRD		3		1	1				1				
EASTERN PHOEBE	2	2	2	1	1	1	1		1	4	1	2	
EAST. TOWHEE					1								
EASTERN WOOD-PEWEE		1	2	4	1		1	2				1	
EUROPEAN STARLING		1				9							
FIELD SPARROW		2	1		3	1	9	2	1		1	1	
FOX SPARROW	2		1	2					1		1		

SPECIES	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
GOLDEN-CROWNED KINGLET		1											
GRAY CATBIRD	6	25	19	25	24	12	16	22	19	16	14	10	7
GRAY-CHEEKED THRUSH			2							1			
GREAT CRESTED FLYCATCHER		1	1	5									
HAIRY WOODPECKER		1										1	
HERMIT THRUSH	1			5			2			2	3		
HOUSE FINCH		4	6	5		1	2	1					
HOUSE SPARROW		1		1		1		2					1
HOUSE WREN		10	9	13	12	5	8	16	7	11	9	4	4
INDIGO BUNTING		14	6	8	7	6	8	4	3	1	1	1	1
KILLDEER		1											
LEAST FLYCATCHER		3	2		1	1	4			1		1	
LINCOLN SPARROW	2	1	7	5	5		2	2		5			
MAGNOLIA WARBLER		1	2	1	1	2	2	1	2			2	
MOURNING WARBLER			1		1								
MYRTLE WARBLER	1	2			2		1	1				3	
NASHVILLE WARBLER	2	14	3	1	3	3	4		1				
NORTHERN CARDINAL	3	4	2	5	4	2		3	5	2	2	3	
NORTHERN ROUGH-WINGED SWALLOW		1	1									1	
NORTHERN WATERTHRUSH					1**								
ORANGE-CROWNED WARBLER		1	2		4				1				
ORCHARD ORIOLE											1		
OVENBIRD				1**	1								
PHILADELPHIA VIREO		1			1								
RED-BELLIED WOODPECKER		1			1	1							
RED-EYED VIREO		2	2	4	3	1	1	2	3	1	1	2	1

COMMON NAME	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
ROSE-BREASTED GROSBEAK			1	1									2
RED-WINGED BLACKBIRD		4	2			2	8	2	1	6	8	1	4
RUBY-CROWNED KINGLET	3	5	3	14	5		1	1		2	1	1	
SAVANNAH SPARROW		1	4	5	1		3			1		2	
SEDGE WREN							1						
SLATE-COLORED JUNCO	20	12	12	10	3						3		1
SONG SPARROW	5	31	29	40	48	21	50	29	29	28	28	15	15
SWAINSON'S THRUSH					1**			2		1			
SWAMP SPARROW	1	1	6		1	1	23	5	1	4	11		
SWAINSON'S THRUSH							1						
TENNESSEE WARBLER	1	17		5	2		1	2				1	
TRAILL'S FLYCATCHER									1				
TREE SWALLOW		2	4	5	4		4		4		1	2	1
WARBLING VIREO		1		1	4				1			1	1
WESTERN PLAM WARBLER	2	9	1	1	5	1	4	1		1	2	5	
WHITE-BREASTED NUTHATCH		1		2							1		
WHITE-CROWNED SPARROW		1	3	1									
WHITE-THROATED SPARROW	18	13	49	37	29		14	5	1	2	7	1	
WILLOW FLYCATCHER								1				1	
WILSON'S WARBLER			2	1	2		1				2	1	
YELLOW-BELLIED FLYCATCHER			2										
YELLOW PALM WARBLER	2		2				3						
YELLOW-SHAFTED FLICKER				1				1					
YELLOW WARBLER		2	6		9	1	4	4		6	5	1	

RECAPTURES

Table 2 shows the number of recaptures for each species across banding years. American Goldfinches have low recapture rates, while Song Sparrows and Common Yellowthroats are somewhat consistently higher over years. White-throated Sparrows (WTSP), which pass through in the fall, had a remarkable recapture rate. These data suggest that wintering sites, where species stopover, are important for migrants. The number of WTSP banded after 2005 falls off as do their numbers. The Old and the New Prairies were both coming of maturity and offered a more diverse habitat. WTSP prefer low grassy areas.

Table 2. Number of recaptures by species across years

			NUMBER OF RECAPTURES									
SPECIES	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
AMERICAN GOLDFINCH	1	1	1					1		1		4
AMERICAN TREE SPARROW*		2	1	1								
BALTIMORE ORIOLE**	1	1			1		2			3		
BLACK-CAPPED CHICKADEE	1	6	1	3		1	1	2	3			2
BROWN-HEADED COWBIRD	1											
CEDAR WAXWING												1
COMMON YELLOWTHROAT**	1	1		1		2	6 (1 recap 3X)	5 (1 recap 2X)	13	11		6
EASTERN BLUEBIRD**				1								
FIELD SPARROW	1											
GRAY CATBIRD**	3	7	1	2	1	1	1		1	3		3
HOUSE WREN**	1			1		1			5			1
INDIGO BUNTING**	1		1					2 (1 recap 2X)				
NORTHERN CARDINAL	1				1							
RED-BELLIED WOODPECKER			1									
RED-EYED VIREO**				1								
RED-WINGED BLACKBIRD**						1						

SLATE-COLORED JUNCO	2	2										
SONG SPARROW**	7	6	3	4	2	4	1	5	6	7		1
SWAMP SPARROW									1			
WHITE-BREASTED NUTHATCH*			1									
WHITE-THROATED SPARROW*	1	10	1	4								
TREE SWALLOW**						1						
YELLOW WARBLER									3			
* migrant species ** summer breeder	22	36	11	18	5	11	11	15	32	25		

Table 3 provides all the recapture dates for each bird recaptured in 2013. The highlighted data indicates individuals recaptured in more than 1 year. Table 4 provides the distribution of ages of the recaptures. Highlighted data in Table 3 designates those individuals, which are more than 1 year old when recaptured.

Table 3: Comparisons of Recap Records for 2013

			BIOCORE	PRAIRIE				
RECAP DATE	**SPECIES**	**NUMBER**	**ORIGINAL CAP DATE**	**NET/AGE/ SEX**	**RECAP NET/AGE/SEX**	**RECAP DATE**	**RECAP NET/ AGE/ SEX**	**RECAP NET/ AGE/ SEX**
4/27/`13	**SOSP**	**1811-98631**	**5/18/13**	**M/AHY/F**	**I/SY/M**			
4/27/13	**AMGO**	**2410-77762**	**9/15/12**	**G1/HY/M**	**A/AHY/M**	**5/18/13**	**B2/SY/M**	
5/18/13	**GRCA**	**0961-70254**	**7/10/10**	**A/AHY/U**	**D/SY/M**			
6/1/13	**COYE**	**2410-77761**	**5/18/13**	**M2/AHY/F**	**M2/AHY/F**			

6/8/13	COYE	2280-72703	5/21/11	A/SY/M	A/AHY/M			
6/8/13	COYE	2280-72653	6/23/12	I/HY/M	F/AHY/M			
7/20/13	GRCA	0961-70229	7/5/08	A/HY/F	D/AHY/F			
7/27/13	HOWR	2280-72771	7/13/13	M/HY/M	D/AHY/F			
7/27/13	SOSP	1811-98633	6/25/11	M2/SY/M	B2/U/U			
8/3/13	COYE	2280-72609	7/10/10	A/AHY/M	G1/AHY/M			
8/24/13	AMGO	2410-77768	8/3/13	G1/AHY/M	G1/AHY/M			
8/31/13	REVI	1821-34143	8/29/09	M/AHY/U	M/AHY/U			
8/31/13	WAVI	2280-72678	8/24/13	M/AHY/F	M/AHY/U			
9/7/13	GRCA	1801-05756	6/1/13	A/AHY/M	A/AHY/F			
9/7/13	BCCH	2660-84561			A/U/U			FOREIGN
9/14/13	CEDW	1811-98806	4/7/13	FLWC/HY/U	M/HY/F			
9/21/13	COYE	2410-77765	5/18/13	M2/AHY/F	B2/AHY/F			
9/21/13	SOSP	1821-54286	7/25/09	A/HY/U	G1/AHY/F			
9/28/13	AMGO	2280-72776	8/24/13	M2/HY/M	M2/AHY/F			
9/28/13	BCCH	2280-72681	9/7/13	A/HY/U	D/AHY/U			

Table 4. Recaptures by species and age for 2013 (Total banded=20)

SPECIES	SAME YEAR	1 YEAR	1.5 YEARS	2 YEARS	2.5 YEARS	3 YEARS	4 YEARS	5 YEARS	UNK
AMGO	2	1							
BCCH	1								1
CEDW	1								
COYE	2			1		1			
GRCA	1					1		1	
HOWR	1								
REVI							1		
SOSP	1				1	1	1		
WAVI	1								
TOTAL	10	1		1	1	3	2	1	1

Research/teaching resource

We volunteered for the McFarland Bird Festival April 13, 2013, organized by Andy Paulios, DNR. Although it was chilly, and we just had three nets up, we netted 25 birds (6 species) in about 3.5 hours. The banding operation was a success.

We will start working with Dr. Susan Paskewitz, UW-Madison Entomology Department, to collect ticks for the study of diseases.

We continue to look for students/others who would like to do detailed analyses of the bird communities. To date, two censuses have been done-2004 and 2007- revealing some very interesting patterns. The in-depth censuses help us understand better how the community evolves.

We are also looking for someone who would like to analyze our data over the last thirteen years to compare our morphological measurements to east and west coast populations. We have noted that some of the morphometrics reported in Tabular Pyle, based on West Coast populations, are quite different from ours.

With Matt Hayes, Ph.D. student in Animal Sciences, we are analyzing the recapture data from the last 12 years for Song Sparrows (SOSP) and Common Yellowthroats (COYE). We noted that SOSP were the most frequently banded species, but had the lowest recapture rates. COYE did not start breeding in the prairie until about 2007, but have the highest recapture rates. Using MARK, a software program developed for analyzing population dynamics using recapture data, the data suggested that COYE young stayed in the prairie and returned, whereas SOSP disappeared. We don't believe SOSP are dying at high rates, but are likely moving to other sites. We'd like to study this more closely by color banding the two species and following them about.

Outreach, Teaching and Research

May 18, 2013 Field Day	Madison Audubon Field Trip; Friends of the Lakeshore Nature Preserve Eleventh Anniversary celebration
September 14, 2013 Field Day	

Personnel Involved

Volunteers at the station (Bold-face type designates permitee).

Rose Alvarez
Pat Becker
Damon Christenson
Marie Dallapiazza
Walt Dietrich
Alison Dirr
John Daugherty
Jackie Edmunds
Sam Emmerich
Matt Hayes
Lauren Hennelly
Grace Johns
Kim Kelly
Stephanie Kowalczyk
Chris Latimer
Kate Maley
Alex Marks
Mara McDonald
Josh Mjaanes
Jake Mjaanes
Lucy Nepstad
Barbara Neuser
Marty Pfeiffer
Josh Seibel
Jerry Simmons
Win Sim Tan
Barry Stamm
Rowan Stamm
Sawyer Stamm
Hillary Thompson
Karen Vanderloo
Christopher Warnake

Amy Whillock

Lakeshore Nature Preserve Sites Involved

Biocore Prairie Restoration Site Area 1a, 1b, and 2 (Old Prairie) and Area 3 (New Prairie).

Future Directions of Project

We intend to continue collecting data on species diversity in the prairies when we can, train and mentor students, and band birds that come through our site. We also intend to begin to analyze our recapture data for population dynamics of several species.