



Title

Bird and Mammal Communities Associated with the Biocore
Prairie Restoration Site

Names of Project Director/Colleagues

Mara McDonald, Ph.D.	MASTER BANDER/PI
Jerry Simmons	SUBPERMITEE
Yushi Oguchi	SUBPERMITEE
STEPHANIE BEILKE	SUBPERMITEE
Jeff Lorch	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.
 - Dr. Janet Huie, Ithaca, NY, on collection of ticks associated with Lyme Disease

Dates Station Opened: April 9-November 5, 2011 (20 days opened for banding)

Results and Accomplishments (January 1-December 31, 2011)

We lost days because of the cold, wet weather. We pushed our season by banding at slightly lower temperatures in October and November.

Our banding summary is below (Appendix I):

Number of Birds Banded: 209 (banded-excludes recaps)
Number of species: 30
Number of sites: 2 (Old Prairie (Areas 1a, 1b, 2)/
New Prairie (Area 3)
Number of recaptures: 29
Total Number Birds Banded To Date: 2432

SPECIES NUMBERS

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 Phoebe 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 the last three years.

COMMON NAME	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
ACADIAN FLYCATCHER							1			2	
AMERICAN GOLDFINCH	20	18	30	22	13	8	18	73	5	2	16
AMERICAN REDSTART		2	6		3	1	1	1	1	2	
AMERICAN ROBIN		6		1			2	3	3	3	2
AMERICAN TREE SPARROW	14	3	3	10	4		1				2
BALTIMORE ORIOLE		9	5	2	13	4	6	5	3	13	12
BLACK-CAPPED CHICKADEE	6	3	7	3	9		4	3	3	6	4
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	
BROWN THRASHER		1	1	2	3	1	1	5		1	
CEDAR WAXWING		5		7	2	4		4		1	
CHESTNUT-SIDED WARBLER			1				1				
CHIPPING SPARROW		14	4	14	29	2	3	1		4	2
COMMON GRACKLE										1	
COMMON YELLOWTHROAT		5	11	10	15	3	13	12	18	22	10
CONNECTICUTT WARBLER	1										
DOWNY WOODPECKER		3	1	4				1	1		1
EASTERN BLUEBIRD			3	5	2	1		1	44	32	38
EASTERN KINGBIRD		3		1	1				1		
EASTERN PHOEBE	2	2	2	1	1	1	1		1	4	1
EAST. TOWHEE					1						

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COMMON NAME	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
EASTERN WOOD-PEWEE		1	2	4	1		1	2			
EUROPEAN STARLING		1				9					
FIELD SPARROW		2	1		3	1	9	2	1		1
FOX SPARROW	2		1	2					1		1
GOLDEN-CROWNED KINGLET		1									
GRAY CATBIRD	6	25	19	25	24	12	16	22	19	16	14
GRAY-CHEEKED THRUSH			2							1	
GREAT CRESTED FLYCATCHER		1	1	5							
HAIRY WOODPECKER		1									
HERMIT THRUSH	1			5			2			2	3
HOUSE FINCH		4	6	5		1	2	1			
HOUSE SPARROW		1		1		1		2			
HOUSE WREN		10	9	13	12	5	8	16	7	11	9
INDIGO BUNTING		14	6	8	7	6	8	4	3	1	1
KILLDEER		1									
LEAST FLYCATCHER		3	2		1	1	4			1	
LINCOLN SPARROW	2	1	7	5	5		2	2		5	
MAGNOLIA WARBLER		1	2	1	1	2	2	1	2		
MOURNING WARBLER			1		1						
MYRTLE WARBLER	1	2			2		1	1			
NASHVILLE WARBLER	2	14	3	1	3	3	4		1		
NORTHERN CARDINAL	3	4	2	5	4	2		3	5	2	2
NORTHERN ROUGH-WINGED SWALLOW		1	1								
NORTHERN WATERTHRUSH					1**						
ORANGE-CROWNED WARBLER		1	2		4				1		
ORCHARD ORIOLE											1

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COMMON NAME	2001	2002	2003	2004	1 2005	2006	2007	2008	2009	2010	2011
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
ROSE-BREASTED GROSBEAK			1	1							
RED-WINGED BLACKBIRD		4	2			2	8	2	1	6	8
RUBY-CROWNED KINGLET	3	5	3	14	5		1	1		2	1
SAVANNAH SPARROW		1	4	5	1		3			1	
SEDGE WREN							1				
SLATE-COLORED JUNCO	20	12	12	10	3						3
SONG SPARROW	5	31	29	40	48	21	50	29	29	28	28
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			
TRAILL'S FLYCATCHER									1		
TREE SWALLOW		2	4	5	4		4		4		1
WARBLING VIREO		1		1	4				1		
WESTERN PLAM WARBLER	2	9	1	1	5	1	4	1		1	2
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
WILLOW FLYCATCHER								1			
WILSON'S WARBLER			2	1	2		1				2
YELLOW-BELLIED FLYCATCHER			2				1				
YELLOW PALM WARBLER	2		2				3				
YELLOW-				1				1			

SHAFTED FLICKER											
YELLOW WARBLER		2	6		9	1	4	4		6	5

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

SPECIES	NUMBER OF RECAPTURES									
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
AMERICAN GOLDFINCH	1	1	1					1		1
AMERICAN TREE SPARROW*		2	1	1						
BALTIMORE ORIOLE**	1	1			1		2			3
BLACK-CAPPED CHICKADEE	1	6	1	3		1	1	2	3	
BROWN-HEADED COWBIRD	1									
COMMON YELLOWTHROAT* *	1	1		1		2	6 (1 recap 3X)	5 (1 recap 2X)	13	11
EASTERN BLUEBIRD**				1						
FIELD SPARROW	1									
GRAY CATBIRD**	3	7	1	2	1	1	1		1	3
HOUSE WREN**	1			1		1			5	
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
SWAMP SPARROW									1	
WHITE-BREASTED			1							

NUTHATCH*										
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 2011. Table 4 provides the distribution of ages of the recaptures. Common Yellowthroats (COYE) have 2 4-year old individuals in the sample. Highlighted data in Table 3 designates those individuals, which are more than 1 year old when recapped. Most of the recaps are from birds across years, which supports a fair survival term.

Table 3: Comparisons of Recap Records for 2011

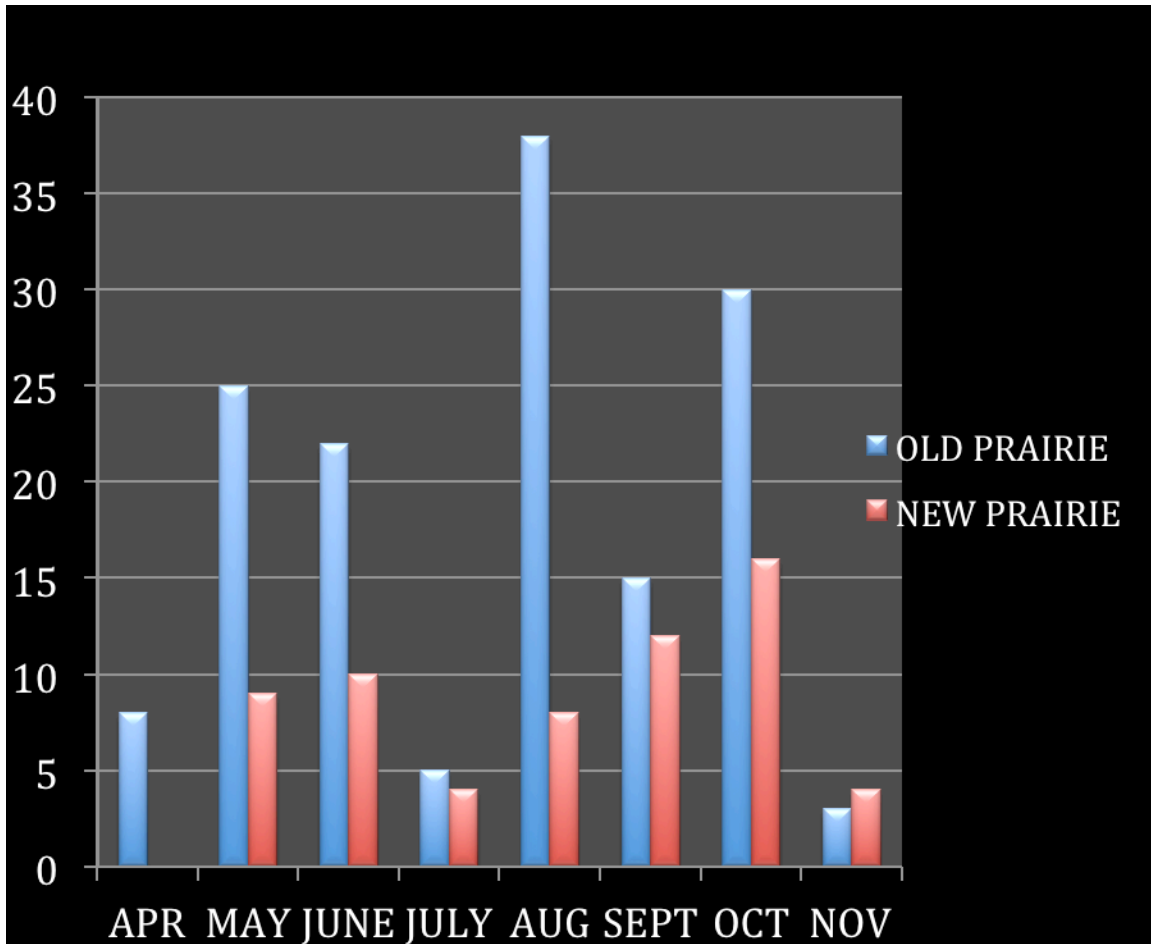
RECAP DATE	SPECIES	NUMBER	ORIGINAL CAP DATE	NET/AGE/SEX	RECAP NET/AGE/SEX	RECAP DATE	RECAP NET/AGE/SEX	RECAP NET/AGE/SEX
5/21/11	BAOR	1801-55719	5/15/10	A/SY/M	H/AHY/M			
5/21/11	COYE	2270-52384	7/10/10	A/AHY/M	I/AHY/M			
5/21/11	COYE	2280-72609	7/10/10	A/AHY/M	M2/ASY/M			
5/21/11	SOSP	1811-98557	6/21/08	G1/SY/M	M/AHY/M			
5/28/11	BAOR	1801-55719	5/15/10	A/SY/M	A/AHY/M			
5/28/11	COYE	2280-72703	5/21/11	A/SY/M	A/SY/M	5/28/11	A/M	
5/28/11	COYE	2280-72609	7/10/10	A/AHY/M	M/AHY/M			
5/28/11	COYE	2270-52384	7/10/10	A/AHY/M	G/AHY/M			
5/28/11	COYE	2280-72599	9/8/07	M1/HY/M	B2/AHY/M			
5/28/11	GRCA	0961-70274	5/28/11	D/ASY/F	A/AHY/M			
5/28/11	SOSP	1811-98753	8/7/10	A/SY/F	I/SY/F			
6/4/11	SOSP	1811-98574	7/11/09	D/SY/U	B2/AHY/M			
6/18/11	COYE	2280-72634	5/21/11	G1/AHY/M	B2/AHY/M			
6/18/11	COYE	2270-52384	7/10/10	A/AHY/M	A/AHY/M			
6/25/11	COYE	2260-74246	6/4/11	A/AHY/F	A/F			
7/9/11	COYE	1811-98766	9/8/07	M1/HY/M	B2/AHY/M			
7/30/11	SOSP	1811-98754	8/7/10	A/AHY/U	M/AHY/F			

7/30/11	SOSP	1811-98769	7/30/11	B2/HY/U	M//			
8/6/11	GRCA	0961-70282	8/6/11	A/HY/U	A/HY/F	8/6/11	M//	
8/13/11	BAOR	0961-70284	8/6/11	A/HY/U	A//M			
8/13/11	COYE	2270-52364	8/22/09	A/HY/F	A/AHY/F			
8/21/11	GRCA	1801-55740	8/6/11	A/HY/F	M/HY/U			
8/21/11	SOSP	1811-98662	8/6/11	G1/HY/F	A/HY/U			
7/30/11	SOSP	1811-98631	6/4/11	M/SY/M	G1/AHY/M	8/21/11	A/HY/U	I/HY/M (8/21/11)
8/21/11	AMGO	2580-53937	9/26/10	H/AHY/M				

Table 4. 2011 Recaptures by species and age for 2011 (Total banded=209)

SPECIES	SAME YEAR	1 YEAR	1.5 YEARS	2 YEARS	2.5 YEARS	3 YEARS	4 YEARS
AMGO		1					
BAOR	1	2					
COYE	3	5		1			2
GRCA	3						
SOSP	3	2		1	1		
TOTAL		10		2	2		2

Figure 1. Number of birds per 100 net-hours gives us a slightly different pattern from earlier years. We expected to see a high pulse of birds in the spring, and another higher pulse in the fall. We did not see the high spring pulse, most likely because migration was sporadic due to weather, and banding was not even. The New Prairie still lags behind the Old Prairie, even though the apparent structure of the two prairies is similar. It is conceivable that the higher number of birds banded in the Old Prairie is due to the adjacent woodlands providing some of the diversity. (Blue= Old Prairie; Red=New Prairie)



Research/teaching resource

We continue to work with Dr. Janet Huie, Ithaca, NY, to collect ticks for the study of Lyme Disease virulence across Wisconsin.

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 have two entomology grads who are working up data on insect diversity patterns from this summer.

We intend to analyze the recapture data from the last 10 years, where there are enough data.

Outreach, Teaching and Research

May Field Day

Cancelled due to wet and cold

September 10, 2011

Madison Audubon Field Trip;
Friends of the Lakeshore Nature
Preserve
Tenth Anniversary celebration

Posters by Yushi Oguchi on Golden-winged Warbler work and Mara McDonald on the process of banding.

Personnel Involved

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

The Louis-Bauch family (John, Michelle Louis, Alex, and Evan)

Patricia Becker

Jake Behrens

Stephanie Beilke

Marcos Bermudez

Liz Beyler

Deanna Byrnes

Forrest East

Brittany Ederer

Javier Garay

Britanny Gylles

Matt Hayes

Darren Irwin

Grace Johns

Jodi Kreuser

Jeff Lorch

John Magnuson

Mara McDonald

Charlotte Meyer

Dan Miller (Ely nd Serene)

Mark Nofsinger

Yushi Oguchi

Matthew Nechuatal

John Pfender
Katie Roehl
Brenda Schilke
Josh Seibel
Annie Shao
Jason Shao
Jerry Simmons
Crystal Sitheimer
Ben Spaier
Dennis Sullivan
Annika Swenson
Will Taylor
Miranda Torkelson
Melani Trine (Curt, Jansen, Gavin, Zion Hefty)
Chris Warneke
Sarah Warner
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 versus old field 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 several abundant species.

