

The Rectrix

A seasonal newsletter of the Missouri River Bird Observatory

Volume 5 No. 2 - July 2015



rectrix [rek-triks] noun. (pl. -trices) any of the larger feathers in a bird's tail, used for steering in flight.

Letter from a MRBO Field Technician



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On the cover

A Dickcissel
perches amidst
Ohio Spiderwort
and coreopsis at
Wah'Kon-Tah
Prairie. Photo by
Nic Salick.

All photos in the
Rectrix were taken
by MRBO staff
unless otherwise
noted.

Dear MRBO members,

It's been an amazing few months for this East Coast girl! After graduating with a B.S. in Biology this past December from West Chester University, the search began for my first post-graduation job. Up until graduation, I'd only spent summers bouncing up and down the east coast working various internships from Massachusetts down to Eastern Virginia, hoping to gather as much field experience as I could get in those 3-4 month jobs. When the posting for MRBO came up to work as a field assistant for 6 months on the grassland bird projects, I felt that it would be a perfect way for me to branch out and move off of the east coast into new and different ecosystems. Little did I know what an adventure it would be for me.

Needless to say, I felt a little out of my element when I arrived here in the Midwest, having never been out this way before and not knowing much about grassland birds before I came. But then I met Dana, Ethan, Veronica, and the rest of the MRBO summer crew, and everything changed for me. I was immediately struck by the passion of these people for the work that they do out here in Missouri and surrounding areas, and I couldn't help but get caught up in the excitement of learning new things. It seemed that every day included a new species or experience for me, and as of writing this letter I've either seen or heard 60 new bird species since arriving. I've had two incredible experiences that stand out in my mind. The first was a rare sighting on one of my surveys of a pair of Short-eared Owls, which don't usually nest in Missouri and are generally only seen here in the winter months. This was only the second time that I'd ever spotted an owl in the wild. The second was a very similar instance, only this time I found a pair of nesting northern harriers, another somewhat rare Missouri breeder and endangered in the state. I've had the opportunity to gain an insight into different land management practices that are utilized both by Missouri conservation organizations as well as private landowners to provide opportunities for precious grassland birds to gain valuable habitat. I've also had the chance to meet an amazing array of people that are concerned about the natural world and are doing their part for conservation.

Although I've always been aware of the importance of education in engaging the public to get involved with their natural world, I've never really had the opportunity to be a part of this aspect of conservation. As part of my job here at MRBO, working banding stations at different community events has been a real treat for me. I've enjoyed being involved with the educational side of this career path that I've chosen, seeing the excitement that comes from a child or even an adult getting to see a bird in-hand for the first time and enjoy nature up close. One instance comes to mind of a young boy that was eager to share his observations with us when we were showing a male common yellowthroat to the crowd. It was fun to see this young boy enthusiastically talking about the bird and its characteristics, and knowing that he might go on some day to be part of a future generation of conservationists.

While there have definitely been challenges for me out in the field, such as trying to figure out how to get through a particularly messy thicket of shrubs or conquering a steep and water-filled draw on a survey, this job has served to teach me how to problem solve in the field, and as such has been an invaluable experience for me. I have become more confident in my identification skills as well and I know that this job as a whole will just serve to help me to succeed in my future endeavors and for that I will always be grateful to MRBO for giving me this start on my journey.



Sincerely,

Andrea Ambrose

Upcoming Events

August 21st – 22nd in Columbia: Annual conference of the Missouri Bird Conservation Initiative. Join folks from all walks of life who are interested in the conservation of Missouri's birds. You don't have to be a professional scientist to attend! This year's line-up includes presentations on the many threats faced by our avian friends and what we can all do to help.

September 5th at Knob Noster State Park: All are welcome at MRBO's first public banding demonstration at KNSP. We will catch, band, measure and release forest birds near the campground from 7:30 – 11:30 a.m., weather permitting.

September 19th at Burr Oak Woods Conservation Area: Join MRBO hummingbird bander Veronica Meeko and Kansas City wild-life rehabilitator Leah Monteleone for hummingbird presentations, viewing, and banding!

September 24th in Arrow Rock: Arrow Rock CHILDREN'S Heritage Craft festival. Visit the MRBO booth and more than 20 other stations around town. Stations will be open from 10:00 a.m. – 2:00 p.m. and feature a variety of traditional crafts and hands-on activities. Schools, informal groups, and families welcomed! (Rain date: September 29th).

CHECK MRBO.ORG and our FACEBOOK PAGE for events as they are added to the calendar. On September 1st, we welcome the return of Educator Emily Wilmoth; please contact Emily at education@mrbo.org to discuss custom programs for your group this fall!

Inside This Issue of the Rectrix: Project Updates from Spring & Summer 2015!

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MRBO's Seasonal Staff

MRBO would like to recognize the seasonal staff that made possible all of the projects presented in this newsletter. These people worked tirelessly for the last three months, going many days without a break. Their days started pre-dawn and were filled with extreme heat, difficult terrain and brush, navigation around floodwaters, ticks, chiggers, mosquitoes, and snakes. In addition to field work, they cheerfully interacted with the public, agency staff, and school groups. They spent many days on the road, covering thousands of acres of Missouri's habitats and working 38 different educational events. End result: more than 25,000 bird detections and 1,200 Missourians attending events with a bird conservation message.



Zeb Yoko
Wetland & Grassland
Surveys
GIS Support
Data Analysis



Emily Wilmoth
Education Coordination
Grassland Surveys



Andrea Ambrose
Grassland Surveys
Education Support



Nic Salick
Wetland & Grassland Surveys
Landowner Outreach
Data Analysis

Spring 2015 Education & Outreach



From April to June this year, MRBO was extremely fortunate to have a dedicated educator on staff, **Emily Wilmoth**. Emily joined us with several years' experience in environmental education. She not only conducted all of the education events listed here, she independently developed new programs with a variety of new partners. We are pleased to report that Emily will be back at MRBO this fall from September to mid-November!



April 9th in Columbia. MRBO Educator Emily Wilmoth talked with Jill Rockett's young Ornithology students at the Center for Gifted Education about possible careers in the field and discussed the basics of bird identification then took a bird walk around the schoolyard.

April 11th in Warrensburg. MRBO staff and volunteers set up a bird banding station for the UCM Bio-blitz at Pertle Springs City Park. The event was well attended by college students and the general public. We banded a Northern Cardinal, a Swamp Sparrow, and a Northern Parula. Leah Monteleone, a volunteer avian rehabilitator at Lakeside Nature Center in Kansas City and her educational hummingbird named Tuck made an appearance at the event.

April 14th in Arrow Rock. Twenty-nine 1st-3rd graders from David Barton Elementary attended the first Natural and Cultural History of Arrow Rock program. Emily led the students on a nature hike through Arrow Rock and discussed the area's natural history. Long-time resident and member of Friends of Arrow Rock Kathy Borgman led the cultural history portion of the program.

April 15th at Knob Noster State Park. MRBO educator Emily joined Cynthia Green, MDC Education Consultant, for a 5th grade field trip that was part of the MDC's Discover Nature Schools program. They led the "adopt a tree" station, which was just one of the many outdoor education stations that students visited.

April 16th in Marshall. Emily led multiple programs on Missouri's natural resources at Butterfield's Youth Services. We discussed the value of a variety of natural resources in past and present Missouri. Students were able to examine some animal pelts and arrowheads as examples. We also discussed career opportunities related to natural resources.

First grade students greatly enjoyed a program at Arrow Rock State Historic Site.



April 17th in Arrow Rock. Cynthia Green and Emily assisted with a Hardeman School field trip to Arrow Rock. We assisted Kindergarteners and 1st-3rd graders in catching macro-invertebrates, frogs, and other creatures in a fresh water spring and taught students about the great biodiversity existing in the water.

April 18th at Columbia Bottoms Conservation Area. MRBO staff set up a banding station at The Wildlife Society's conclave

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event. College students who are studying wildlife were able to see the banding operation in action and the group also discussed bird banding as one type of method used to monitor birds. We banded a Northern Cardinal and a White-throated Sparrow. Students were excited for the chance to see the birds in hand.

April 22nd in Moberly. Emily presented at an Earth Day event at Rothwell Park. She was joined by falconer Amber Vanstrien and her American Kestrel. The event was attended by 210 4th graders and their teachers. Despite the chilly weather, the event was a great success. Students learned all about kestrel adaptations and conservation.

April 23rd and 24th in Columbia. MRBO staff members set up a banding station for the Banding with Nature event at Columbia Audubon Nature Sanctuary. A few hundred 2nd graders attended the two-day event which had been rescheduled after being rained out in October. Students and teachers were able to learn about bird banding by observing it first-hand. Some of the species that were banded included a Brown Thrasher, a Northern Parula, and a Summer Tanager!



600 Columbia second-graders viewed birds in hand at the Banding With Nature event hosted by the Columbia Audubon Society.

April 27th at Mora Conservation Area. Ten Calhoun High School students from Jennifer Chamber's Freshman Ecology Class took a field trip to MRBO's spring banding station at Mora CA. We looked and listened for a variety of grassland species and other migratory species. Several American Goldfinches and a Field Sparrow were caught and used to demonstrate banding techniques to the students.

April 30th in Arrow Rock. Twenty-four 3rd and 4th grade students from Northwestern Elementary enjoyed an educational morning in Arrow Rock. The beautiful weather was perfect for exploring nature. We identified a variety of colorful wildflowers and found a Ribbon Snake!

May 1st at Van Meter State Park. Thirty-six Higbee High School students took a field trip to the state park. Cynthia Green and Emily led the macroinvertebrate sampling portion of the trip. Students enjoyed getting a little muddy while searching for creatures in the marsh. Our sampling proved the marsh to be rich in biodiversity.

Students from Calhoun High School enjoyed a morning of prairie bird-banding at Mora Conservation Area north of Cole Camp.



Students at Butterfield Youth Services enjoyed many programs throughout the spring and early summer.

May 3rd at Montauk State Park. MRBO staff were lucky to attend a hummingbird banding event led by hummingbird bander and researcher, Lanny Chambers. Leah Monteleone was also present with her educational hummingbird, Tuck. 32 Ruby-throated hummingbirds were caught and banded in only three hours! The event was well attended by visitors to the park.

May 4th at Prairie Fork Conservation Area. MRBO staff assisted with a field trip of 15 students from the Center for Gifted Education. Following the field trip, Dana, Ethan and Emily were fortunate enough to visit with Pat Jones, who lives on the

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property. She is an incredible woman who has made many important contributions to conservation in Missouri.

May 5th at Prairie Fork Conservation Area. Sixty students from the Center for Gifted Education visited the area for a field experience day. Emily took Jill Rockett's Ornithology class on a bird walk through the prairie and woods. We observed an impressive variety of birds, and the students practiced taking field notes.

May 6th in Arrow Rock. Eight 4th grade students from Clarksburg Elementary School participated in an Arrow Rock natural and cultural history program. Despite a little drizzle, we had a pleasant walk and great conversations about nature. Kayla Nilges, a reporter with the Marshall Democrat-News newspaper, joined the group to write about MRBO's involvement in Arrow Rock school programs

May 7th in Arrow Rock. A group of 120 students from Chester Boren Middle School visited Arrow Rock. Emily led four rotations of nature walks on what started out as a beautiful day. We observed a variety of plants and animals as we discussed the natural history of the area. The final group got a little wet when a sudden downpour surprised us!



Eight fourth-grade classes took part in the annual Wings Over Weston special Friday event for school groups.

May 9th at Weston Bend State Park. Our fifth time at the Wings Over Weston bird festival! Approximately 600 visitors attended this celebration of birds, and we were thrilled to be a part of it. We had a steady flow of birds to band all day, and lots of people with whom to share our love of birds.

May 11th in Marshall. Emily visited Butterfields Youth Services and took students on bird/nature walks near their school. They were able to practice using binoculars and identifying some birds by sight and sound. Along with 20 species of birds, we were excited to find a crayfish, a frog, and a coyote!

May 12th in Arrow Rock. Eight 4th grade students from Clarksburg came to Arrow Rock to learn about its natural and cultural history. We spent some time discovering the life that exists in Arrow Rock's "Big Spring"

and also had some great discussions about how Native Americans and the European Settlers used the many natural resources that Arrow Rock had to offer.

May 15th at Knob Noster State Park. Thirty students from Green Ridge Elementary School took a field trip to the state park and MRBO staff were there to share with the students about birds and the banding process. A beautiful, male Indigo Bunting was singing and showing off all morning. We banded five birds, including that Indigo Bunting and a Mourning Warbler!

May 16th in Lexington. Emily visited Battle of Lexington State Historic Site for Kids in the Park Day. Several families came to the park to build bird houses, go on a nature hike, and play a migration challenge game! Even with some rain showers, it was a wonderful event.

May 16th in Arrow Rock. As part of Kids in the Park Day, MRBO staff member Veronica Mecko and Leah Monteleone presented on Ruby-throated Hummingbirds and the diversity of hummingbirds. The highlight of the event was Tuck the hummingbird. Visitors also had the chance to make origami hummingbirds.

Campers at the Marshall Parks summer day camp enjoyed a variety of different organisms, including this toad.



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May 22nd in Arrow Rock.

Seventy-four 3rd grade students from Our Lady of Lourdes came to Arrow Rock for the last school program of the season. Students were thrilled to find crayfish, frogs, birds, and a snake during the natural history portion of the program. We discussed how plant and animal life has changed in the area over that last few hundred years.

May 23rd in Arrow Rock.

Emily led six outgoing campers on a bird walk along the trails near the Arrow Rock State Historic Site campground. Our group members were a mix of ages and were visiting from a variety of locations. We identified 25 bird species on our adventure.



Many Jefferson City Cub Scouts went on bird hikes.

May 27th in Marshall. Emily visited Butterfield Youth Services to educate students about the trees of Missouri. We started with a discussion about the history of forests in the state. We practiced identifying trees with a dichotomous key, and took some measurements of trees using a Biltmore stick. Lastly, we brainstormed a variety of different products that are made with the trees that we identified.

June 4th in Marshall. Emily led a program about birds at Marshall Day Camp. Camp was attended by about 25 kids of different ages. We discussed bird identification and listened to our favorite bird songs. Then of course, we did some bird watching. We had a lot of fun observing the Barn Swallows that were nesting on the outside of the building!

June 5th in Marshall. Emily returned to Butterfield Youth Services to play a nature bingo game with the students on a rainy day. They were challenged to answer nature related trivia questions in order to mark squares on their bingo cards. All of the questions were related to the wildlife and natural history of Missouri.

June 7th near Bolivar. MRBO staff led a morning bird walk at a Missouri Prairie Foundation Bio-blitz held at La Petite Gemme Prairie. We had about 20 participants join us on our walk. We observed an impressive amount of Dickcissels, and we were able to get some good looks at a few Henslow's Sparrows. It was great to spend time with so many fellow nature lovers.

June 8th in Jefferson City. Emily went to Cub Scout Camp at the fairgrounds. Throughout the day, about 120 scouts attended the bird walks! They learned how to use field guides and binoculars. Three Bald Eagles soared over us for much of the afternoon, which was a highlight. Scouts also enjoyed observing some families of Canada Geese.

June 9th in Marshall. Emily went to Butterfield Youth Services to collect insects with the students. First, we discussed key characteristics and adaptations of insects. We also thought about some of the ways that insects are beneficial to humans. We then collected a variety of butterflies, beetles, and even some arachnids to observe under magnification!

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June 10th in Jefferson City. Emily's second day at Cub Scout Camp was all about migration! Scouts were able to compare their "flapping" rate to that of some migrating birds. They were also able to calculate how many hamburgers they would need to eat each day to store up enough fat for migration. Finally, they got to become their favorite bird and play the Great Migration Challenge game.

June 11th in Marshall. Emily took Marshall Day Campers on a birds and bugs nature hike. The 20 young campers observed and identified a variety of birds, insects, and other wildlife. There was an abundance of toads in the woods! We discussed some of the ecological relationships between birds and bugs. The bird behavior of "anting" was a favorite example.



Visitors to Dunn Ranch's first Prairie Day learned about many kinds of wildlife as well as management of grasslands.

June 16th in Arrow Rock. Emily met with about a dozen lovely members of the Daughters of the American Revolution in Arrow Rock to speak with them about the natural history of the area. They were excited to hear about all of the different birds seen in Arrow Rock, and we were even able to do a little birding from the pavilion that we were in.

June 18th in Marshall. Emily returned to Marshall Day Camp to do a program all about nests. 25 campers learned about how much work it really is to build a nest, by trying to build some of their own! They were able to observe a variety of real bird nests and play a matching game. We also went on a short hike to look for some nests in the wild.

June 23rd in Marshall. Emily organized an event at Butterfield Youth Service's summer camp. About 50 students were able to participate in the event. Emily assisted them in making bird houses and some fun bird treats! Andrew Mothershead, Conservation Agent with the MDC, brought animal pelts and information on the furbearers of Missouri. Master Naturalist Roxanne Stockdall discussed macro-invertebrates with the students down by a stream on the Butterfield's property and Master Naturalist Elizabeth Stockdall and her reptile friends were a big hit! Thank you to everyone who helped out!

June 25th in Marshall. Emily made her last visit to Marshall Day Camp. Campers were able to learn about birds while playing a couple of fun, outdoor games. The Great Migration Challenge game demonstrated the difficulty of the long journeys that so many birds make every year. The Feeding Frenzy game showed the campers that it is a full time job for mom and dad birds to feed their hungry babies!

June 27th at Dunn Ranch Prairie. MRBO staff provided a banding demonstration to attendees of the first ever Prairie Days event organized by The Nature Conservancy and Missouri Department of Conservation. We had about 70 visitors to our stations throughout the morning.

All of us at MRBO would like to extend our enormous appreciation to conservationist Pat Jones, who provided comprehensive funding for Emily's work this spring. Without Mrs. Jones' support, MRBO would not have been able to employ Emily and this Education & Outreach report would be a great deal shorter! With environmental education funding always in short supply, Missouri is incredibly fortunate to have Pat Jones. She and her late husband Ted instituted the famous Katy Trail, and Mrs. Jones has continued to be a vast force behind conservation and environmental education in Missouri. Thank you so much, Mrs. Jones, for your generous support of MRBO!!

Photo of Pat Jones from Mizzou, the University of Missouri Alumni Magazine.



Grasslands Project Update: Spring Migration



2015 was the third year for the grassland spring migration site at Mora Conservation Area, north of Cole Camp, and the second year for Bruns Tract Conservation Area, west of Green Ridge. Early April 2015 began similar to early April 2014: wet and cool. From April 7 through May 12 MRBO had nets open on 12 mornings at each site.

During the first week of operation of both banding stations we heard a few familiar, expected songs. While setting up nets at **Bruns Tract CA** on April 6, we didn't hear any Henslow's Sparrows (HESP) but the next morning during operation we heard five different HESP throughout the area! Over the course of spring migration

we observed that the HESPs had moved into vegetation where they had not been observed last year—an area that had been burned in the spring of 2014. Field Sparrows (FISP) and Swamp Sparrows (SWSP) were observed at **Mora CA** from the first day of operation and SWSP were also observed at **Bruns Tract CA** from the first. Several other species were observed earlier than in previous years, including Savanna Sparrow and Sedge Wren.

Also during the first week of operation at each site we noticed the absence of certain species at both sites. At **Mora CA**, we had observed and banded LeConte's Sparrows in the first week of operation in both 2013 and 2014, but these birds were not observed in 2015. At **Bruns Tract CA** in 2014, American Tree Sparrows were some of the first birds we observed and captured, but they were absent at the site this year. There are several potential explanations for this: these species had already migrated through the area, passed through the sites on days that we didn't operate, didn't use these sites for migration this year, or we simply didn't detect the them.

Other species that were absent throughout spring migration were the Upland Sandpiper at **Bruns Tract CA** and, for the second year in a row, HESP at **Mora CA**. Grasshopper Sparrows were barely detected with none at **Mora CA** and only one being at **Bruns Tract CA** on April 30. Neither site had been burned in fall or winter of 2014 or in 2015 and this may explain the absence of this grassland obligate species that favors shorter vegetation with little dry litter.

At each site we had some unexpected and exciting observations or captures. At **Bruns Tract CA** we observed an American Bittern on 6 different mornings, from April 16 through May 7. On most mornings we would hear the deep “onk-a-chunk” song before sunrise as we were opening nets. On April 16 there were two Bitterns observed together and a third calling in a different location! We also captured a male Northern Bobwhite, the first of this species ever to be captured and banded by MRBO. Another unexpected visitor was a Ruby-crowned Kinglet banded on April 30, the second of this species at this site with the first being banded on Sept. 30 during fall migration in 2014.

At **Mora CA** we observed a Sora on three different days and on April 23 we captured and banded a female Sora, also the first of this species to be captured and banded by MRBO. On May 6 we found a ping-pong ball-sized white egg lying in one of the net lanes. This egg turned out to be a Barn Owl egg and during that week Barn Owls and Barn Owl eggs were observed in the nest boxes at Mora. While opening nets before sunrise on May 11, we observed a Barn Owl flying over the site. In the treeline south of the gravel road at Mora we heard and/or observed the following neotropical migrant wood warblers: Nashville, Prairie, Myrtle Yellow-Rumped; and we captured a Northern Waterthrush.

At both sites, 2015 was the “Year of the American Goldfinch” and this species had the highest number of individuals banded at both sites. At Mora only two individuals of this species were banded in 2013 and zero banded in 2014 but in 2015 we banded 32 American Goldfinches at Mora alone, 36% of all captures at Mora for the season!



The spring migration banding stations continue to provide MRBO and the MDC with important information about bird habitat use. Some of the most significant findings of this year include the detection and banding of birds normally associated with marshes (such as the observed American Bittern and banded Sora). With all the rain Missouri had this spring, it is probable that marsh-dwellers used wet or flooded prairies as migration and breeding habitat. This shows our grasslands are important not just for grassland-obligate birds but for other species during years with unusual weather.



BY THE NUMBERS

Birds banded

Mora: 90 birds of
12 species
Bruns: 99 birds
of
12 species

Birds recorded by sight & sound

Mora: 689 birds
of
68 species
Bruns: 595 birds
of
53 species...plus
over 500
Red-winged
Blackbirds!



Grasslands Project Update: Breeding Season Surveys

All members of the MRBO staff engaged in grassland bird surveys in 2015, including the three permanent staff, three seasonal technicians and the MRBO educator. Surveys began on May 16 in the south and were completed on June 29 in northern Missouri. We had 40 target sites managed by the Missouri Department of Conservation, selected by MDC Area Managers for their importance to grassland conservation. The sites were located across western Missouri, from the Joplin area up to the Iowa border. MRBO and MDC focused on the conservation landscapes known as the Diamond Conservation Opportunity Area (COA) in the south, Osage Plains on the Missouri/Kansas border, Hi-Lonesome COA south of Sedalia, and the Grand River Grasslands in Harrison County. On public lands alone, our 2015 study design called for surveyors to complete 580 transects on 32,000 acres of grassland!



BY THE NUMBERS

Public sites:
40

Private sites:
11

Transects completed:
582

Miles walked:
145.5

Total bird detections:
18,351

Target species detections:
10,393

As with any form of ecological management, prairie managers strive to restore the integrity of a complex system. Missouri's prairies require fire and grazing to maintain their integrity. Missing from the majority of today's prairies and unlikely to ever return to historic numbers is the American Bison, our primary prairie herbivore. Fortunately, with low to moderate stocking rates, cattle can act as a surrogate, providing a key management tool for prairie maintenance. MRBO is monitoring bird response to grazed areas in tandem with 10 year MDC Resource Science investigation on grazing, stocking rates, and vegetation response.



Nine MDC properties were given a double-survey effort—Wah-Kon-Tah, Taberville, Diamond Grove, Kickapoo, Providence, Hi-Lonesome and Paintbrush Prairies, as well as Mora and Ionia Ridge Conservation Areas. This addition of a second round of surveys was due to these sites' inclusion in a long-term investigation of the effects of grazing on grasslands by the MDC's Resource Science Division. Since cattle have replaced bison as the primary herbivore on Missouri prairies, it is important to understand the impact of cattle on native flora and fauna (*see sidebar, left*).

As in previous years, MRBO also conducted grassland bird surveys on private lands through the Audubon Prairie Bird Initiative (PBI). The PBI is a partnership between Audubon, the MDC, and conservation organizations throughout the Great Plains to encourage bird-friendly management practices by private landowners. Most landowners engaged in the PBI are cattle ranchers; all participants are interested in managing their properties using an ecosystem-friendly approach that results in healthy rangeland.

Unlike 2014 in which we had very few “rain or wind out” days, conducting surveys was often a challenge this year. The staff traveled throughout the state during 6-week breeding survey period and sometimes had to travel en masse to complete surveys in another part of the state during the few days where weather was not a hindrance.

In 2015 we had two MRBO field houses with “the guys” (Nic and Zeb) working out of El Dorado Springs to do the surveys in the southern part of the state and “the gals” (Veronica, Andrea and Emily) working out of Sedalia to cover surveys in the Cole Camp/Green Ridge area. The gals also worked out of the Iowa home of a friend and MRBO supporter to do Grand River Grasslands surveys.

Grassland bird surveys are a favorite part of the job for MRBO staff! It is the anticipation that no matter if you

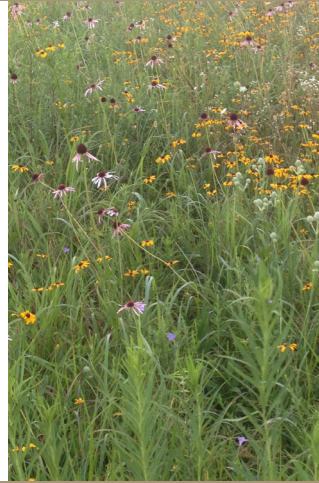
Left to right: Henslow's Sparrow, Dickcissel, and Grasshopper Sparrow, three of the primary target species for the grassland bird surveys.



Grasslands: Breeding Season Continued



get caught in a lightning storm or you know that ahead of you this morning is an eight-foot wide and five-foot deep draw with a muddy bottom that you have to figure out how to cross, or you have to veer of transect because of a skunk in the middle of the transect, that there will be birds singing all around you throughout the morning and there might be a surprise waiting up ahead such as a Greater Prairie Chicken, Northern Harrier or a fawn or a field bursting with a colorful array of prairie wildflowers.



At the time of this writing, Zeb and Nic are engaged in (or should we say buried in) the data analysis portion of the project. With thousands of bird detections over thousands of acres, the challenge now is to identify trends in bird populations over the past three breeding seasons, the habitats and management practices that produce the highest density of grassland birds, and the properties that support the highest populations of our grassland birds. Stay tuned – the full report will be out this fall!

Grasslands Project Update: MAPS

2015 is MRBO's fifth year of running the MAPS banding project on three different prairie sites south of Sedalia: Grandfather Prairie (GRPR), Paintbrush Prairie (PAPR) and Ionia Ridge (IONA). MAPS stands for Monitoring Avian Productivity and Survivorship and is a project coordinated by the Institute for Bird Populations to monitor breeding birds from mid-May through the first week of August.

With the MAPS project, nets are opened at each site once in every 10-day period and along with banding birds, observations of different species are recorded as well as bird activities that suggest nesting.

With only two periods left to operate MAPS at the time of this writing, MRBO has banded 25 different bird species at the three MAPS sites with 15 species at GRPR, 16 species at PAPR and 10 species at IONA for a total of 123 birds banded. About 32 of the birds banded have been Second-Year birds and 21 have been juvenile or Hatch-year birds.

The first juvenile bird to be banded for the season was a Henslow's Sparrow at GRPR on June 11. Other Hatch-year birds banded so far are Dickcissel, Field Sparrow, Yellow-breasted Chat, Eastern Meadowlark, Barn Swallow, Eastern Phoebe, Common Yellowthroat, Orchard Oriole and Ruby-throated Hummingbird.

Each morning when we are out there monitoring and observing, we hear singing males all around us and occasionally will observe courtship or mating but these activities alone are not proof of a nest. If we observe a bird carrying nesting material, food or a fecal sac or if we actually find a nest, then we can document nesting activity. This year we have observed direct evidence of species of conservation concern nesting at each of the sites. At Grandfather Prairie we have observed Dickcissels carrying food (usually large, fat caterpillars) and a Henslow's Sparrow nest was found with three eggs in it. At Paintbrush Prairie a Dickcissel nest was found earlier and more recently a Dickcissel and a Gray Catbird were observed carrying food. At Ionia Ridge while setting up nets in May a single Northern Bobwhite egg was found in a nest that had been abandoned.

It is always exciting to capture a bird that already has a bird band, especially a band that appears worn and has faded numbers because then it may be a bird that was banded in a previous year. After five years of the project we are still recapturing birds that were banded in 2011! Two of these birds, an adult Indigo Bunting banded at Paintbrush Prairie and a Common Yellowthroat that was banded as a Hatch-Year bird at Grandfather Prairie, had never been previously recaptured.

Look for the full results of our fifth year of MAPS in the October issue of the *Rectrix*!

From left: Willow Flycatcher, Dickcissel, and a Henslow's Sparrow who decided to taunt us during a MAPS mist-netting session.



Wetlands Project Update



2015 marked the third year of MRBO's wetland bird survey project. As our members may recall, the Missouri Marsh Bird Survey Project began as part of a larger regional program in 2012. That year, surveyors followed a point count protocol and surveyed randomly selected points on public and private properties throughout the state. In 2013, we developed a very different approach to wetland surveys based on the successful study design of the grasslands project. These line-transect surveys with full property coverage (as opposed to a few random points within a property) were piloted in 2014 with support from the Audubon Society of Missouri.

We are pleased to report that the Natural Resources Conservation Service (NRCS) and Missouri Department of Conservation (MDC) Private Lands Division accepted our proposal for 2015 and the wetland survey project has gained a great deal of momentum! A sample of 40 private wetlands were chosen by MDC/NRCS wetland biologists for potential inclusion in the final study design. MRBO staff attempted to narrow the sites down to 20, but we ended up surveying 30 this year. The sites were located in four NRCS management regions: northeast, south west, and north central Missouri as well as the Bootheel. Our current survey protocol calls for visiting each property twice, once during spring migration and once during the breeding season. Once we finalized site selection at the end of March, MRBO surveyors Nic and Zeb hit the ground running in the Bootheel.

Though "the boys" had returned to MRBO in April for their second year of grassland surveys, they did the majority of wetland migration surveys and many of the breeding season surveys also. We are very thankful for their great work on wetlands this year! By far the biggest challenge in completing the 2015 wetland survey project was finding the right people for the job once the boys were needed elsewhere. In many ways, wetland work is more challenging than grasslands. Sometimes it is difficult or even impossible to get to a site in the first place due to road conditions and flooding. Most of the private wetlands we survey are established by duck-hunting clubs, and are therefore meant to be accessed during the fall and winter hunting seasons. Once a surveyor gets to a site, any number of factors can make surveys challenging. First and foremost, there may be water that is simply too deep to cross, such as in the form of an oxbow slough running through the center of a property. If a surveyor has already slogged half a mile into a property and then finds head-deep water between and the rest of their transect, it can be disheartening! There are also several different vegetation types on a wetland, ranging from short grasses to thick shrubs. The latter can slow down a survey and make it very difficult to detect any birds present.

Everyone in Missouri was treated to high rainfall this spring and summer. This presented an additional challenge on all our projects, but the wetlands project was one of the two most significantly affected (the other was the bottomland forest project, please see page 14). Still, all of the current MRBO staff members have spent enough time in Missouri to appreciate high water far more than drought. The challenge of accessing sites, constant revisions of logistics, and difficulties encountered on almost every survey made the whole

Left to right: Pied-billed Grebe, American Coot, and Prothonotary Warbler, all important species for determining the health of wetland ecosystems.



Wetlands Project Update



Ethan surveys a wetland in Carroll County in mid-June; the portion of the property shown here usually has about 6" of water in June.

project that much more interesting and appealing.

Once Nic and Zeb returned to El Dorado Springs to focus on grassland surveys, Dana and Ethan, along with two short-term contractors, finished the remaining wetland breeding season surveys. Unlike any other season we have witnessed since MRBO's establishment in 2010, water levels were even higher in late May and June than during migration! In fact, some of the breeding season surveys were done from a canoe because several properties were essentially lakes in mid-June. While canoe-transects were certainly pleasant, the high water levels meant that nesting attempts by most marsh-dwelling species were flooded out. Consider the body and leg height of an American Bittern or Sora. They can only conduct their nesting and foraging business in water they can traverse by foot.

The incredibly high water levels resulted in fewer detections of breeding birds than expected,

but elicited many interesting questions about marsh bird life history and habitat use. We hypothesize that the species requiring emergent marsh habitat moved nesting and foraging activities to nearby uplands and possibly prairies. After all, in a very wet year like 2015, an inundated prairie would function very much like a marsh. Historically, with undammed and un-leveed river systems, marsh bird species likely used a variety of areas based on water levels. With little true marsh remaining in Missouri, we are concerned about the amount of nesting habitat available during very wet or very dry years.

Overall, the wetland survey project was a great success this year and we have a large amount of information to provide to MDC/NRCS biologists and the landowners of all 30 properties. We have documented the hydrology of these important wetlands during a flood year and the associated habitat they provide for nesting marsh birds. We have also identified extensive migrant use of each site, or portions of sites, during the spring migration season which allows us to advise on the management practices that result in the highest densities of migrants. This year's surveys also laid a foundation for next year's study design, which will incorporate a sub-sample of nearby grasslands should 2016 turn out to be another high-water year.

One of the greatest pleasures this year was witnessing firsthand Missouri's wetlands doing what they're made to do: take on water. Biologists and conservationists speak often about the "ecological services" provided by wetlands in terms of water cleaning and recycling, as well as acting as a catch-basin for watersheds. If private landowners, with assistance from the NRCS, had not restored thousands of acres of wetlands, this year's flooding of roads, towns, and farmland throughout Missouri would have been far more severe.



BY THE NUMBERS

Study sites: 30

Study sites above flood stage during breeding season: 28

Number of transects completed: 312

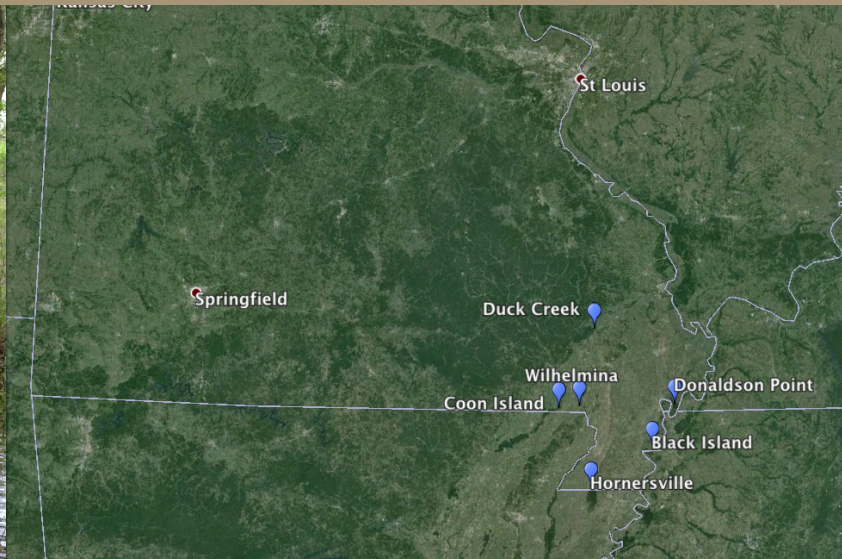
Spring migration bird detections: 10,243

Breeding season bird detections: 2,277

Pectoral Sandpipers during migration.



Bottomland Forest Project Update



Left: Coon Island Conservation Area in late April. Right: the six study sites in the Bootheel where MRBO conducted breeding season surveys.

When biologists or conservationists think about the most imperiled habitats in Missouri, prairies and marshes usually come to mind. We have lost more than 99% of our native prairies and about 85% of our native wetlands. However, there is another habitat type that is also undergone enormous losses, and that is the bottomland hardwood forest community. After the majority of our river floodplains were logged in the 1800's and early 1900's, the remaining land was found to contain extremely rich, fertile soil – perfect for farming. Today, less than 20% of the original 4 million acres of bottomland hardwood forest remains in Missouri (for a great read on this ecosystem see the article “[Lowland Treasures](#)” in the *Missouri Conservationist*).

The Missouri Department of Conservation has been working hard to conserve and restore what is left. MDC Foresters have made great strides in improving forest management in Missouri's riverine areas. They are now implementing many complex practices to restore natural hydrology, tree species composition, and ecosystem function to bottomlands throughout the state. Progressive forestry practices in the Bootheel, based on [Lower Mississippi Valley Joint Venture](#) (LMVJV) guidelines and the many years of experience of local MDC Foresters, have been put in place to dramatically improve the health of our public bottomlands.

The MDC's Natural Areas Coordinator Mike Leahy approached MRBO in 2014 with a proposal for bird surveys in the forests of the Bootheel. We very much welcomed this idea due to the conservation value of bottomland forests as well as our general affinity for the habitat type. Several MRBO staff members have spent field seasons in bottomlands, and the project is a unique opportunity to become engaged in this habitat type in Missouri. Additionally, it afforded MRBO a new way to contribute to conservation in the state. Since MDC forest practices in the Bootheel have incorporated LMVJV's management guidelines, MRBO and the MDC wanted to also use the its bird survey protocol. By doing so, we will not only be able to follow well-tested data analysis procedures, we can also contribute Missouri's data to the regional forest conservation effort.

The protocol used on the bottomlands project is quite different than other MRBO survey projects. We usually employ transect surveys as opposed to point counts; transects work very well in open country and a great deal of ground can be covered while detecting birds. Therefore, this method is great for grassland and wetland surveys. While transects can be used in a few types of forest (for example,



BY THE NUMBERS

Study sites: 6

Number of count points: 85

Days rained out: 23

Study sites flooded out: 5

Cottonmouth encounters: 28

Total bird detections: 1,760

Target species detections: 588



Bottomland Forest Project Update

mature upland pine forest with little to no understory), in the bottomlands point counts are definitely the method of choice. This is why the LMVJV bird survey protocol involves a strictly timed point count session conducted at randomly selected points within each forest unit. For 2015 surveys, six forested CAs (please see map, top right of previous page) were selected that each contained recently managed units and “control” units consisting of mature forest that had not undergone any recent management actions. Many of the sites, especially Hornersville Swamp and Black Island CAs, were designed to take on floodwaters from rivers and agricultural ditches.

Similar to the wetlands project, enormous amounts of rain in the Bootheel not only cancelled a lot of survey days, it resulted in regular flooding all sites except Duck Creek CA. As May began drawing to a close, we became extremely concerned that we would not be able to cover the sites during the short breeding season window! Fortunately, a good friend of Dana’s, Kristina Mitchell, lives near the Bootheel and was available as a survey contractor just when we needed the most help. Dana and Kristina had worked on several jobs together in the past, including the 2004-2005 Ivory-billed Woodpecker Search in the bottomland forests of Arkansas. Dana, Ethan and Veronica of MRBO worked with Kristina on surveys at Coon Island and Donaldson Point CAs. Then, engaging both excellent bird ID skills and amazing perseverance (for example, a two-hour walk through high water just to get to the first survey point at Hornersville Swamp), Kristina was able to complete the forest surveys by mid-June.



Kristina Mitchell (center) with Dana (left) and Veronica (right) near Donaldson Point CA. Kristina has been a friend and colleague since 2001, and completed most of the bottomland forest surveys for MRBO this year. She is an outstanding field biologist who swept in to save the day when constant rain in the Bootheel almost cancelled the project this year. Thanks K!



MRBO staff learned about forest management practices from MDC staff during a late-April visit to the study sites. Here, Ethan is pictured with MDC Natural Areas Coordinator Mike Leahy, Natural History Biologist Bruce Henry, and Forester Mark Pelton as they discuss management at Wilhelmina CA.

While every bird seen and heard on survey was recorded, the LMVJV has identified a set of priority species that are of highest conservation concern. Of this list of 16 species, MRBO point counts documented 12, many of them in large numbers. Acadian Flycatcher and Prothonotary Warbler alone comprised 273 individual bird detections. A big highlight was several Swainson’s Warblers recorded at Donaldson Point CA. Numbers of Swainson’s Warbler have diminished throughout the species’ range because it is reliant on extensive cane thickets for nesting. While cane has grown quite scarce throughout the southeast as a result of logging, the Bootheel forests still have several cane thickets. As Forester Mark Pelton said, “right now we have a lot more available cane than we do Swainson’s Warblers!” As Mark and his colleague Ross Glenn continue to improve forest conditions, we expect to see associated increases in the Swainson’s Warbler population as well as other species of conservation concern.

Left to right: Prothonotary Warbler, Acadian Flycatcher, and Swainson’s Warbler, three of the target species for the bottomland forest project. Photos from Wikimedia Commons.



Join us in conserving Missouri's birds.

You are cordially invited to become a member of the Missouri River Bird Observatory.

Your membership is a direct contribution to avian conservation projects and environmental education in Missouri. MRBO members will be recognized on our website and in annual reports, and will be provided with unique field opportunities and special event invitations in addition to the membership benefits detailed below.

Membership dues are considered a donation and are tax deductible.

Membership Level	Includes
____ Student \$20	our seasonal e-newsletter MRBO water bottle
____ Individual \$50	our seasonal e-newsletter choice of MRBO hat or travel mug
____ Sponsor \$100	option of printed or e-newsletter choice of MRBO T-shirt, travel mug, or hat
____ Contributor \$250	option of a printed or e-newsletter choice of any one MRBO merchandise item
____ Steward \$500+	option of a printed or e-newsletter choice of any one MRBO merchandise item a custom field program tailored to your interest

To join, please fill out, detach, and send this page along with your personal check to: MRBO
Membership, 27331 Highway WW, Marshall, MO 65340.

Please circle your choice of MRBO item and newsletter format where appropriate.

Or visit our website to join on-line!

Name _____

Address _____

Phone _____ Email _____

MRBO's Newest Members

We are pleased to welcome the following folks to MRBO membership!
Thank you all for your meaningful support.

Steve Byers, Nevada MO
Mark Belwood, Marshall MO
Day & Whitney Kerr, Prairie Village KS
Norm & Beth Stucky, Jefferson City MO