

The Rectrix

A seasonal newsletter of the Missouri River Bird Observatory

Volume 3 No. 2 - July 2013



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

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ON THE COVER

**A Dickcissel nest at
Mora Conservation
Area photographed by
Brittney Cross.**



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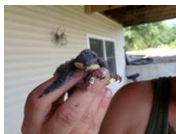
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Upcoming Events

July 6th: Guided bird hike led by Ethan Duke and Dana Ripper at the Arrow Rock State Historic Site. Meet at the contact station in the campground at 7 a.m.. Bring your own binoculars or we will provide them!

July 9th and 10th: Nature Unleashed and Nature Unbound teacher training with MDC Education Consultant Cynthia Green. Trainings in these outstanding middle- and high-school curricula will be held in Sedalia and at MRBO field sites in local prairies. Interested teachers should contact cynthia.green@mdc.mo.gov.

August 24th: Annual meeting of the Missouri Bird Conservation Initiative in Columbia. This year's topic is education and outreach, and MRBO will be presenting on using birds as a medium to get people excited about nature. Anyone interested in bird conservation is welcome to attend this meeting; for more information see: mobci.org.

September 10th: Gardening with Recyclable Materials, an educational program presented by MRBO educator Alie Mayes. 2 p.m. at the Trails Regional Library in Warrensburg.

September 14th: Wonders of Hummingbirds, 10 a.m. at the Arrow Rock State Historic Site Visitors Center. Presentations provided by MRBO staff and Missouri's own hummingbird bander, Lanny Chambers. Learn about the ecology of these tiny, amazing birds and view hummingbirds in the hand!

Turtles

Respecting Our Elders

By Brittney Cross

Though it is not about birds, MRBO would like to bring an issue that is very dear to our hearts to the forefront of our readers' minds. Summer is here and our friends the turtles have come out of their winter homes and are wandering around seeking many things. Some of the things they are seeking are nesting grounds, and a little piece of sunshine to keep their bodies warm. It is known that most turtle species can live to be very old; studies show that they can live from anywhere from 50 to even 100 years old on average. In Missouri, one box turtle was documented as living to be 138 years old. Scientists can tell the age of a turtle by the rings on the shell, much like the rings on a tree (Smith 2009). The larger the turtle, the older it is - so if you see a turtle that is 7 inches long, it is likely older than 40.



It is very important as stewards of the environment and lovers of nature that we keep our eyes out for these little guys while we are scurrying about our daily lives. Keep your eyes peeled on the road and try your best to avoid hitting them with your vehicle. This is very important because most turtle fatalities occur along roadways by people that just aren't paying close enough attention. If you are a more hands-on type of person you could even stop and give these guys a little helping hand across the road. If you come across a snapping turtle, just remember that you can grab their hind leg and tail and drag them to the other side of the road without any missing fingers. Do not take turtles too far away by trying to "relocate" them; bringing them out of their home range can confuse them and this can cause more harm than good. Just a little ride to the other side of the road is enough help on your part. Please tell your friends and neighbors to do their part as well. Working together we can help "Respect Our Elders" and keep a little part of Missouri wildlife alive and healthy for many generations to come!



Some Turtle Facts:

- ⇒ Missouri has 17 species of turtles.
- ⇒ Missouri's State Reptile is the Three-toed Box Turtle, designated in 2007.
- ⇒ Turtle eggs hatch either in late summer or in early fall, or the young turtles may remain in the egg or nest all winter and emerge in the spring.
- ⇒ Turtle Shells are thought to be used as a pH buffer while hibernating; trapped in mud or under ice, the shell will release carbonate buffers and uptake lactic acid (Jackson 2002).
- ⇒ Turtles are beneficial scavengers; they eat water plants, dead animals, snails, aquatic insects and crayfish.

References

- Jackson, D. (2002). Hibernation Without Oxygen Physiological Adaptations of the Painted Turtle. *Journal of Physiology*, 543.
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MRBO got its start in 2009 as a migration monitoring station at Grand Pass Conservation Area (CA), and this station has run every spring since. It is located in the 200-m wide riparian corridor along the banks of the Missouri River on the northwest side of the CA. Over the past five years, we have documented 110 species of migrants that use this corridor as stopover and, in the case of some individuals, breeding habitat. More than 4,000 individual birds have been banded at the Grand Pass station. We have had many returns of breeding birds that use the area year after year; for example, a Great-crested Flycatcher that was banded as an adult in 2009, recaptured in 2011, and recaptured once again in 2013.

Since 2009, we have seen migrants come through in varying condition as measured by body weights, feather condition, and stopover time. In spring of 2012, for example, many migrants were documented as having low body weight, muscle score, and fat score upon arrival. We hypothesized that this was due to the extreme weather patterns occurring throughout the U.S. in mid-spring. However, plants were blooming, flowering, and fruiting so early in 2012 that there was a great deal of nutrition available to migrants stopping over at the Grand Pass site.

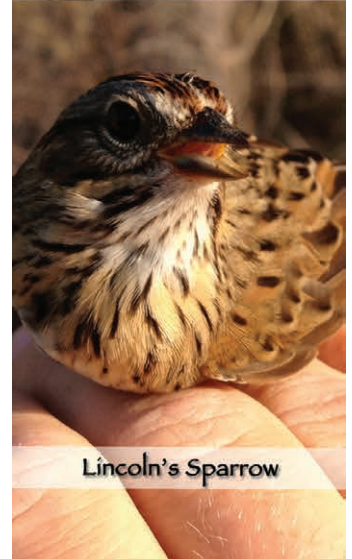
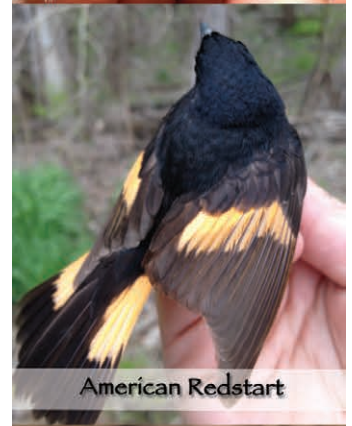
Spring of 2013 was an extremely unusual year due to abnormal weather conditions. A cool, wet spring gave way to snow (!) on May 3rd, followed by a cold weather front sustained just north of Grand Pass for several days. May 6th-10th at the Grand Pass banding station were marked by an event we hardly ever see in the center of the country: a true migrant fall-out. A fall-out occurs when there is a proverbial “perfect storm” of conditions having to do with geography and weather. For instance, such events are quite common on the Gulf Coast and the Great Lakes – if migrating birds hit a weather front as they are about to cross a large body of water, they will “fall out” of migration and simply pile up on the coast. There is little geography in Missouri to cause this, but in early May the weather front to our north caused just such an event. In just a few days, we banded more than 300 birds and observed several hundred more – as Ethan Duke, MRBO’s Assistant Director, observed, it appeared as though songbirds were “dripping from the trees”. As exciting as this event was to witness and as much of an honor as it was to be able to handle many beautiful warblers, in the interest of bird safety we at MRBO decided to close the Grand Pass station on May 10th. The difficult migration conditions meant that birds were experiencing a stressful journey, and we did not want to detain or stress them any further. On subsequent days, MRBO staff visited Grand Pass simply to take observational data.

The five years of data collected at Grand Pass indicate that the CA’s riparian zone is an extremely important migration corridor, and especially critical as stopover habitat during adverse conditions. The habitat provided at Grand Pass is doubly important given that the land surrounding the CA and on the other side of the Missouri River is almost completely deforested and devoted to agricultural uses, with the exception of a few well-managed private marshes located north of the River. Thanks to the Missouri Department of Conservation’s management practices, the Missouri River corridor at Grand Pass will always be available to our migrating songbirds.

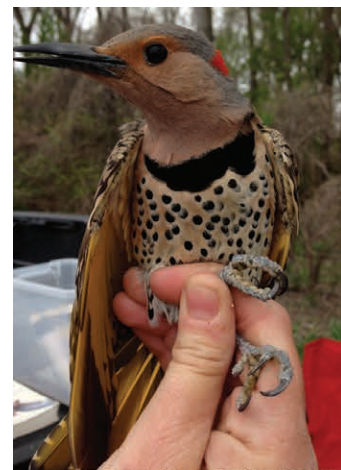
We would like to express our deepest appreciation to Manager Chris Freeman, Bryan Anderson, Robert Henry, and Gary Gorrell of Grand Pass CA for their support over the past five years.

Grand Pass CA by the numbers

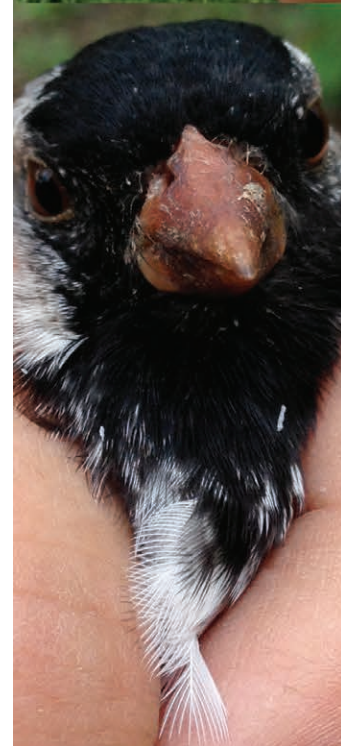
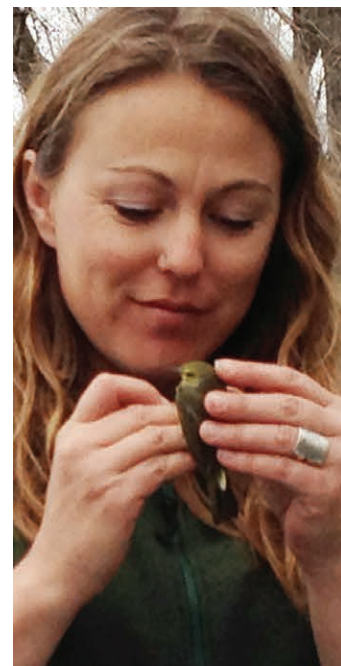
Species	Spring 2009	Spring 2010	Spring 2011	Spring 2012	Spring 2013
Acadian Flycatcher		2	5		
Alder Flycatcher		2			
American Goldfinch		4	21	4	3
American Redstart		27	19	5	4
American Robin	1	4	2	1	
Baltimore Oriole	3	16	17	5	1
Bell's Vireo	1				2
Black-and-White Warbler	3	21	16	8	10
Black-billed Cuckoo		1			
Black-capped Chickadee	3	8	2	1	4
Black-throated Green Warbler		1		1	
Blackpoll Warbler		2		1	4
Blue Jay	1	4	10	4	12
Blue-grey Gnatcatcher			2		3
Blue-headed Vireo		6	2		1
Blue-winged Warbler			1		
Brown Creeper	1				
Brown Thrasher	7	9	15	5	5
Brown-headed Cowbird	5	3	10	5	1
Canada Warbler		6	4	4	
Carolina Wren	9				
Chestnut-sided Warbler		5	1	4	
Chipping Sparrow	1		1		
Clay-colored Sparrow			1		
Common Yellowthroat	20	127	80	16	21
Dickcissel				1	
Downy Woodpecker		10	2	3	3
Eastern Bluebird					2
Eastern Kingbird					1
Eastern Phoebe	3				
Eastern Screech Owl		3			
Eastern Towhee	1			3	
Eastern Wood-Pewee		1	5	3	
Field Sparrow	1	2	1		1
Fox Sparrow	1				
Golden-crowned Kinglet	4				
Golden-winged Warbler		2	3		
Great-crested Flycatcher	4	6	4	1	1
Grey Catbird	28	73	66	23	33
Grey-cheeked Thrush	2	19	6	11	17
Harris' Sparrow					1



Species	Spring 2009	Spring 2010	Spring 2011	Spring 2012	Spring 2013
Hairy Woodpecker		1	2		3
Hermit Thrush	7	9	8	6	4
House Wren	1	16	9	2	9
Indigo Bunting	31	160	94	48	14
Kentucky Warbler		1	3		
Killdeer					
Least Flycatcher	1	29	14	1	12
Lincoln's Sparrow	6	3	6	2	15
Louisiana Waterthrush		1			
Magnolia Warbler		17	9	1	1
Marsh Wren			2		1
Mourning Warbler	1	16	11	7	
Myrtle Warbler	1	13	60	4	79
Nashville Warbler	1	13	6	8	12
Northern Cardinal	15	36	22	15	15
Northern Parula		3	1	2	1
Northern Rough-winged Swallow					
Northern Waterthrush	31	38	39	9	21
Orange-crowned Warbler	5	7	7	4	12
Orchard Oriole	3	16	7	3	
Ovenbird	14	25	13	11	4
Pileated Woodpecker	1	1			
Prothonotary Warbler		2			
Red-bellied Woodpecker		4	2	3	2
Red-eyed Vireo		7	4		2
Red-headed Woodpecker		2			2
Red-winged Blackbird	6	2		7	
Rose-breasted Grosbeak	3	12	26	6	5
Ruby-crowned Kinglet	24	29	36	5	40
Scarlet Tanager					
Sharp-shinned Hawk	1		2	2	
Slate-colored Junco	6	2	1	1	3
Solitary Sandpiper					
Song Sparrow	7	5	4		5
Summer Tanager	1		1	1	
Swainson's Thrush	25	85	83	29	27
Swamp Sparrow	5	17	27	2	18
Tennessee Warbler		1	6	17	2
Traill's Flycatcher		27	57	16	1
Tufted Titmouse	4	5	6	4	8
Veery	1		3	2	
Warbling Vireo	12	18	22	7	3
Western Palm Warbler			1		1
White-breasted Nuthatch		2			1



Species	Spring 2009	Spring 2010	Spring 2011	Spring 2012	Spring 2013
White-crowned Sparrow	4	5	5		7
White-eyed Vireo		2	1	1	1
White-throated Sparrow	87	91	115	59	125
Wilson's Warbler	3	34	17	8	5
Winter Wren	1	2	1		
Wood Thrush	8	11	10	6	1
Yellow Warbler	2	5	5		8
Yellow-bellied Flycatcher		9	5	3	
Yellow-bellied Sapsucker	1				
Yellow-billed Cuckoo				1	
Yellow-breasted Chat		3	2		
Yellow-shafted Flicker		2	2	1	3
Yellow-throated Vireo		1	1		
Total	418	1154	1054	413	604
Diversity (Number of Species)	53	72	70	57	58
Net Effort (hours)	1126	4117	3465	2684	1471
Banded Birds per 100 net hours	37	28	30	14	41



Monitoring Grasslands

Many of our members have read about our increasing involvement in grassland bird work with partners at National Audubon Society and the Missouri Department of Conservation. This year, grassland bird monitoring has surpassed all other projects to become MRBO's largest. Thanks to the MDC, National Audubon, Partners for Fish and Wildlife, and the Audubon Society of Missouri, we have expanded our grassland work to thousands of acres in the state of Missouri as well as eastern Kansas and Nebraska.

Grasslands Project History

In 2010, MRBO piloted a Monitoring Avian Productivity and Survivorship (MAPS) program to assess breeding grassland bird response to restoration and management on three different MDC properties near Cole Camp. The sites differ in size, floristic diversity, edge proximity, and, most importantly, time since restoration and current management regime. These sites offer the opportunity to compare grassland bird diversity and productivity between sites as well as over time as management activities are implemented. This project has also given us the opportunity to refine methods for studying breeding grassland birds and their productivity and survival. The MAPS project has contributed information to MDC managers and will continue as a long-term monitoring effort with 2011 and 2012 providing baseline data for breeders at each site. MAPS is a difficult but extremely valuable approach to studying breeding grassland birds.

MRBO became further involved with grassland bird conservation in May 2012 when we implemented surveys on private lands in Missouri, Kansas, and Nebraska as part of the Audubon Prairie Bird Initiative (PBI). With Audubon and MDC, we developed an innovative approach to grassland bird surveys that is both statistically robust and conducive to elucidating habitat associations of species that tend to be patchily distributed (e.g., Henslow's Sparrow). In June 2012, we covered more than 8,000 acres of private grassland, with resulting data on bird density and abundance as well as target species' locations within the habitat.

Throughout last winter, we prepared to take the Audubon PBI surveys to an even larger scale. The goal is to determine grassland bird populations throughout the entire state of Missouri, with a focus on the MDC's Conservation

Opportunity Areas (COAs). COAs are large geographic areas in which there is some land in ownership by the MDC, Missouri Prairie Foundation, The Nature Conservancy, or other conservation group, plus likely opportunities to work with private landowners to create landscape-level habitat conservation. COAs are Missouri's best prospect for providing habitat that supports large amounts of birds and other wildlife.

2013 Survey Project

In May and June 2013, MRBO staff and assistants conducted transect surveys on over 28,000 acres of grasslands in Missouri. This sample will allow us to directly describe bird populations on about 60,000 of land and clearly show which types of grassland habitat support the highest numbers of breeding species. This is especially important for birds like Henslow's Sparrow, Upland Sandpiper, and Bobolink that are showing population declines and are also good indicator species due to their specific habitat requirements. At the time of this writing, we have documented over 10,000 individual grassland birds in our target group of 12 species, and an additional 2,000 non-target birds on public and private lands in Missouri. MRBO has also conducted surveys on an additional 4,000 acres of private land in Nebraska and Kansas. Data analysis will occur in July – look for the results of the 2013 season in our August Annual Report!

~Target Species~ Grassland Obligates

Henslow's Sparrow
Grasshopper Sparrow
Bobolink
Dickcissel
Field Sparrow
Upland Sandpiper
Bell's Vireo
Yellow-breasted Chat
Northern Bobwhite
Eastern & Western Meadowlark
Greater Prairie-Chicken

for Conservation



Grassland surveys were conducted by two full-time surveyors, Nic Salick and Josh Smith (Right), and our Grassland Bander, Veronica Mecko (Left), with assistance from Bob Peterson (photo not available) of Missouri State University. We greatly appreciate their dedication to the project and their excellent survey skills.

PRAIRIE



Tickseed
Coreopsis



Indian
Paintbrush



Foxglove
Beardtongue



Green
Milkweed



Sensative
Brier



Moth Mullen



Spiderwort

Species Profile: American Kestrel



By Brittney Cross

The American kestrel (*Falco sparverius*) is the smallest of the North American falcons, and is found throughout the continent in both rural and urban environments. This bird is usually found in open country, often atop of a perch sitting and waiting for prey such as rodents and larger insects (Smithsonian Institution 2006). Next time you are going for a drive, see if you can spot one of these amazing birds of prey perching alongside the road way on power lines and telephone poles. Telling a male from a female from a distance can be a little challenging at first. If you can get a closer look and see if the Kestrel has blue wings and wing coverts then you have identified the bird as a male (Sibley 2009). If the blue in the wing is missing then you are more likely to be looking at the female.

The American kestrel is a monogamous species and a solitary (as opposed to colonial) nester. The courtship consist of the male bringing the female food and feeding her in midflight. Naturally the American Kestrel uses old woodpecker holes in trees, especially those excavated by Northern Flickers, as well as niches in walls that are between 12-80 feet above the ground (Smithsonian Institution 2006). Their average clutch size is between three to seven white or cream colored eggs. Both the male and female help in the incubation of the eggs and brooding of nestlings, though the female tends to spend more time at

the nest. The Kestrel incubation period lasts 29-31 days (Nice 1954). They usually have only one clutch a year, but in the more southerly portion of their range they have been to known to have up to two clutches. After the nesting season younger American Kestrels start to form hunting groups sometimes consisting of raptors of several species. The American Kestrel has been known to form such groups alongside Sharp-shinned Hawks and Merlins (Cade 1955).

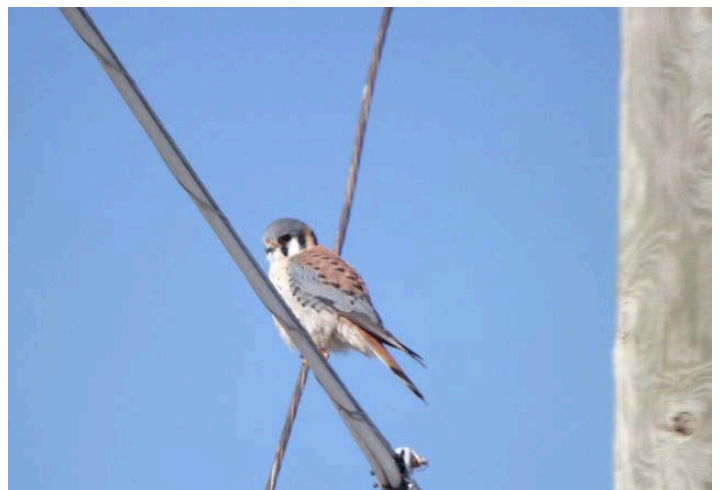


Photo by Ryan Steffens of Cole Camp, MO

Like many of our native bird species, numbers of American Kestrels are lower than they were before 1900. The decline of the American kestrel has been caused by a combination of many different factors such as habitat degradation and fragmentation, prey decline, wildlife-unfriendly farming practices, and pesticide use.

In January 2013, MRBO and Birds-I-View of Jefferson City had a nest box building seminar led by the American Kestrel Partnership Director Matt Giovanni. Here we learned how to make kestrel boxes and when and how to place them through the landscapes of Missouri. You can visit their website at www.kestrel.peregrinefund.org to get more information on how to make a box yourself. Population numbers have started to increase in some areas directly related to the placement of Kestrel boxes. I decided to take the workshop a step farther and make a father-daughter project out of it. My father and I decided to built and placed five Kestrel boxes around the countryside near Sumner, Missouri. This is a great project to get your kids and family outside to enjoy wonderful Missouri wildlife at its finest.

References

Alsop III, F. J. ((2006).). *Birds of North America: Life Histories of More Than 930 Species*. Covent Garden Books, New York, NY in association with the Smithsonian Institute, Washington, DC.

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Sibley, D. A. (2009). *The SIBLEY: Guide to Birds*. Alfred A. Knopf, New York.



For more information about American Kestrel conservation, visit <http://kestrel.peregrinefund.org/>





Purple Martins – “America’s Most Wanted Bird”. Certainly the Martin landlords we work with here at MRBO have achieved this dream. Our many landlords have colonies with 12 pairs, 50 pairs, 80 pairs...and collectively they produce over 2,000 fledgling Purple Martins every year. Not bad for a species that underwent a steep decline during the 20th century and was extirpated from many parts of its range by 1980.

The Purple Martin is a cavity-nesting bird that was threatened by loss of nest sites (historically, cavities in dead trees) and intense competition from European Starlings and House Sparrows. Though the huge increase in the amount of nest sites provided by humans in the form of compartmentalized houses and gourds has helped enormously, there is still an overall decline in Purple Martin populations in the eastern U.S.. [Data from the Smithsonian Migratory Bird Center](#) indicate that the Martin’s overall numbers are about 10% of what they were in the early 1800’s.

MRBO became involved in specialized banding of Purple Martins in order to help Missouri landlords gather data on their birds’ return rates, dispersal, and nesting ecology. Each Martin is banded with a standard federal USGS band and then a special, custom-made band reading “MO” and a unique number in black lettering on yellow metal. This number can be read using a spotting scope on a perched bird, though that is more easily said than done! Many of our Missouri landlords spend tens or even hundreds of hours observing their own colonies and other nearby housing to get band readings. Here are some of the highlights of the band re-sighting efforts:

- Two Purple Martins banded as nestlings in Platte City, MO were resighted in Kingsville, MO and St. Louis, dispersals of 73 and 272 miles, respectively. What’s even more amazing is that these birds ended up at colonies where the landlords work with MRBO and were scoping their birds for bands.
- Several birds banded as nestlings have “disappeared” for a year and then returned to their natal colonies, a surprising observation that raises questions about where they had been in the meantime. Did they try to breed at a lower-quality colony (such as one overrun with House Sparrows) and then choose to return to their higher quality natal colonies? Questions such as this could be answered with intensive monitoring of colonies surrounding banding sites.
- 63 banded Martins have been resighted to date. Most have been resighted at the colonies where they were originally banded, but several have been resighted at nearby colonies in St. Louis and Marshall, and one, unfortunately, was found dead in Tennessee a couple of months after fledging.



Above: The Platte City Purple Martin colony. **Below:** Two 11-day-old nestlings just after banding at Birds-I-View in Jefferson City (photo from Steve & Regina Garr).



Right: A USGS Bird Banding Laboratory certificate of appreciation issued to Platte City Purple Martin Landlord Jack Duncan for resighting a bird originally banded in Mexico, Missouri.

- An adult female banded, but not by MRBO, was recaptured at the Duncans' colony in Platte City this year. She had originally been banded as a nestling by MDC employee Julie Lundsted in Mexico, Missouri on June 23rd, 2007!

In addition to the information gathered and further questions being raised by the monitoring part of the Missouri Purple Martin Banding Project, with the help of our landlords, we also couple Purple Martin banding with a great deal of education and outreach. Often during banding sessions at each colony there are visitors who are able to see the Martin nestlings up close and learn (mostly from the landlords!) how to provide the high-quality housing that aids dramatically in this species' conservation. MRBO has also been lucky enough to work with several of the landlords on public events, most notably a recent seminar at the Birds-I-View store in Jefferson City and a public event at the Lakeside Bar & Grill at Creve Coeur Lake Park in St. Louis. For a news piece on MRBO's involvement with Purple Martins, please see: <http://kplr11.com/2013/06/26/conservationist-help-purple-martins-make-comeback-to-st-louis/>

Our thanks goes to the excellent Purple Martin landlords we work with in Missouri. We simply band and compile data, they do all the hard work!!

Dave & Anita Hartwig, Kingsville
Don & Danielle Ruis, Dardenne Prairie
Jack Duncan & Family, Platte City
John Miller, St. Louis
Kathy Freeze, Licking
Paul Frerking, Concordia
Randy Harlin, Marshall
Ron & Susie Cobb, St. Louis
Steve & Regina Garr, Jefferson City
The St. Louis Audubon Society

We would also like to thank our banders, Brittney Cross and Veronica Mecko, and interns Cassie Ziegler and Kalen Brady for their valuable assistance on the Purple Martin Project.

USGS science for a changing world		CERTIFICATE OF APPRECIATION AWARDED TO		CANADIAN WILDLIFE SERVICE SERVICE CANADIEN DE LA FAUNE	
JACK DUNCAN					
Banding Data					
Band Number	1212-07909	Banded	06/23/2007	Sex	UNKNOWN
Species	PURPLE MARTIN	Age of Bird	WAS TOO YOUNG TO FLY WHEN Banded IN 2007		
Location	GOLD CREST DISTRIBUTING; MEXICO, AUDRAIN COUNTY, MISSOURI, USA (COORDINATES: LAT: 39.15833; LON: -91.90833)				
Bander	JULIE LUNDSTED STATE OF MISSOURI-NONGAME RUNGE NATURE CENTER P O BOX 180 JEFFERSON CITY MO 65102				
Encounter Data					
Location	PLATTE CITY, PLATTE COUNTY, MISSOURI, UNITED STATES	Encountered	June (Unknown Day) 2013		

~Education & Outreach~



Since the publication of our last newsletter, MRBO staff have been busy with the following education and public outreach events:

Master Naturalist Banding Training/MAWS, March: Fellow Master Naturalists of the Hi-Lonesome Chapter endured days of thorough training in preparation for volunteering during the field season.

Marsh Bird Workshops at Duck Creek CA on March, Eagle Bluffs CA, Squaw Creek NWR, and Grand Pass CA, March through April: The Audubon Society of Missouri co-hosted a stellar, but nearly weathered-out!, weekend marsh bird workshop premiere at Duck Creek Conservation Area. Trainings included presentations and discussions with land managers and volunteers. For more information: <http://www.mrbo.org/Pages/marshbirds.html>

Rolla Truman Elementary, March 13th: Teachers working with Master Naturalists Bob and Pat Perry invited us to band birds at their outdoor classroom in Rolla. Several classes were able to experience the birds which benefit from the habitat they provide onsite at Truman Elementary. This event included an afterschool presentation for teachers wishing to add bird knowledge to their teaching tool-sets.

Arrow Rock Conservation History & Hike, April 6th: MRBO spoke on the conservation history of Missouri Birds at Arrow Rock State Historic Site for their First Saturday Lecture Series. After the presentation, attendees enjoyed birds in and around this beautiful Historic Town, including its adjacent Jameson Island Trail. <http://www.marshallnews.com/story/1957274.html>





River Bluffs Audubon Presentation, April 11th: We had the honor of presenting to the River Bluffs Audubon Society in Jefferson City (<https://sites.google.com/site/riverbluffsaudubonsociety/>), where we all shared in understanding more about monitoring, conservation, and the wonder of birds.

The Wildlife Society Conclave at Prairie Fork, April 20th: The Midwest Wildlife Society Conclave (<http://www.wildlife.org/professional-development/student-conclaves>) was held at Prairie Fork this year and MRBO was there to demonstrate bird banding and its uses for research and monitoring.

Columbia Audubon “Banding With Nature,” April 25th: Teachers and partners hosted yet another amazing event for over 300 students of area schools at The Columbia Audubon Nature Sanctuary. The birds captivated the kids seemingly on cue again this year (<http://youtube/HJj0siIG-cE>). For more information visit <http://columbia-audubon.org/>.

Wings Over Weston, May 10th-11th: Celebrating the Important Bird Area (IBA) designation of the Weston Bend area is taken seriously by a dedicated contingent of people. Each year MRBO serves as one booth in this huge event presented by naturalists and educators serving busloads of kids one day and the general public the next. What an amazing event!

Missouri Prairie Foundation Bioblitz, June 1st: As MPF Executive Director Carol Davit explains, “Our purpose [for the BioBlitz] is to engage people, to provide a really rich experience that includes an afternoon, an evening, a night and a morning, along with interpretation of what they’re seeing.” MRBO was very pleased play a part in providing this experience, which included camping at Denison Prairie (see photo below)! For more information visit <http://www.moprairie.org>.

Burroughs Audubon Presentation: June 4th: Our friends of the Burroughs Audubon Society of the Greater Kansas City area invited to speak at their June meeting. It is a pleasure to engage this contingent of the birding community every time! For more information on all the happenings with Burroughs Audubon, visit <http://www.burroughs.org/>.

Purple Martin Presentation and Banding Demonstration at Birds-I-View in Jefferson City, June 23rd: Steve and Regina Garr, use there store, “Birds-I-View” (<http://www.birds-i-view.biz/>) to provide to those who love and care for birds. They host MRBO regularly at various events to supplement their many educational offerings.

Father/Son Banquet at St. Peters Evangelical Lutheran Church, June 23rd: The kind folks of this church in Lohman, MO invited MRBO to share the appreciation of birds and what parents can do with their kids in the outdoors.

Purple Martin Banding and Demonstration in Licking, MO, June 24th: Kathy Freeze, Purple Martin Landlord Extraordinaire, hosted and all day workshop and banding event at her impressive colony site in Licking, Missouri. See it in pictures at <http://purplemartin.org/forum/viewtopic.php?t=25931>.

St. Louis Audubon Purple Martin Banding Event at Creve Coeur Park in Maryland Heights, June 26th: John Miller, a Purple Martin expert and landlord in the St. Louis area, invited us once again to take part in banding one of the colonies helps manage. St. Louis Audubon folks helped us with the banding and with the press. <http://kplr11.com/2013/06/26/conservationist-help-purple-martins-make-comeback-to-st-louis/>



Please join the Missouri River Bird Observatory in conserving Missouri's birds and their habitats.

Your membership is a direct contribution to MRBO's avian conservation projects, environmental education program, and internship opportunities for young biologists in Missouri. MRBO membership provided the majority of funding for our education and outreach work, fall migration monitoring, and Northern Saw-whet Owl research in 2012, and allowed us to run at full capacity in all other projects.

Membership Level

- ☐ Student \$20
- ☐ Individual or Family \$50
- ☐ Supporter \$100
- ☐ Contributor \$250
- ☐ Steward \$500+

Includes

MRBO e-newsletter & water bottle

MRBO e-newsletter & hat or mug

MRBO printed newsletter
your choice of T-shirt, mug or hat

MRBO printed newsletter
your choice of MRBO item

all above gifts, plus custom field program
tailored to your interest.

Name: _____

Address: _____

Email: _____ Choice of MRBO item: _____

*Please send this sheet with check addressed to: Missouri River Bird Observatory
27331 Highway WW, Marshall MO 65340. Or join via Paypal at <http://www.mrbo.org/Pages/membership.html>*

Thank you to our new members! The following individuals have joined or renewed their membership with MRBO since the publication of our spring newsletter:

Stewards

Steve & Regina Garr, Jefferson City MO
Wings Over Weston

Contributors

Jack Duncan, Platte City MO
Kathy Freeze, Licking MO
The Friends of Arrow Rock, Arrow Rock MO

Supporters

Jack Hilsabeck, St. Joseph MO
Rachel Ann Wykes, Washington MO
Val Vreeland & Charlie Yazak, Wellsville NY
June Newman, Carrollton MO
Jeff Cantrell, Neosho MO

Individuals & Families

Katie Koch, Negaunee MI

