

The Rectrix

A seasonal newsletter of the Missouri River Bird Observatory

Volume 3 No. 1 - March 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 color-banded Tufted
Titmouse, "white-on-
right/metal on left"
poses for Jim Rathert at
the Birds-I-View store in
Jefferson City.

Dear MRBO members,

My job includes leading the Missouri Department of Conservation's Greater Prairie-Chicken (GPC) recovery program. It's an honor to be part of a body of work which really started over sixty years ago with the pioneering efforts of legendary biologist and wildlife artist Charles Schwarz. Our contemporary approach to saving this iconic prairie bird depends on teamwork; our Prairie-Chicken Recovery Team, comprised of

Department grassland managers and scientists, as well as partners and volunteers, has been responsible for a tremendous amount of work benefitting Missouri's grassland ecosystems over the past several years. I am proud to count MRBO as an increasingly important part of our team!

Our recently completed GPC translocation project reestablished a breeding population at Wah'Kon-Tah Prairie, near El Dorado Springs; a task that took five years and more than 150 people to carry out. Although a highly publicized aspect of GPC recovery, long-term success will depend less on translocation than on persistence with some less glamorous aspects of conservation work. The day-in, day-out, down-in-the-grass sweat equity required to manage our grasslands, as well as work behind the scenes helping interested landowners improve their habitat, are truly crucial to restoring GPC and helping other grassland birds.

Monitoring bird response is the best way to gauge the effectiveness of those efforts. Are we providing the best mix of vegetative structure? Is patch size appropriate for a diversity of species across our grasslands? Are our cooperative efforts with ranchers and farmers adding habitat that target species use? In short, what do the birds think of all this activity? Accurate bird monitoring helps inform and direct our future management efforts, and that's why I am so excited about our deepening partnership with Dana, Ethan and the MRBO team.

I met Dana and Ethan three years ago during a Hi Lonesome Missouri Master Naturalist Chapter meeting at Cole Camp. They were there to discuss upcoming grassland bird training for Chapter members. Since that time they have provided many hours of classroom and field training to these volunteers, who themselves form an invaluable corps for additive management and monitoring on our grasslands in west-central Missouri.

MRBO has since led efforts to help the Department understand the real-world impacts of our grassland bird management efforts. Key among ongoing projects is work to update a post-management evaluation of the intensive grassland habitat work done on Mora Conservation Area. MRBO is replicating a study originally conducted by past MDC ornithologist Andrew Forbes to characterize and compare the abundance and habitat use of grassland obligate birds on Mora with that on nearby Hi Lonesome Prairie. Banding and monitoring projects on recently acquired conservation areas in northern Benton and southern Pettis counties are also providing a better understanding of which birds use these public grasslands and where future management should focus.

A real milestone came last summer, when Dana and Ethan pioneered a new approach to monitoring bird use of private pastures as part of a cooperative project



between the National Audubon Society and the Department of Conservation. The “hybrid” transect/spot-mapping surveys worked out *extremely* well, providing a means to efficiently learn about fine-scale habitat associations. In addition, this approach produced an interesting map that helped participating landowners understand bird use in their pastures and fields. I foresee this approach becoming part-and-parcel of future programs aimed at benefitting our birds while maintaining farm profitability.

I have high hopes for a recently proposed project to characterize habitat use by migratory and wintering birds across our best grassland landscapes. We know very little about the species and numbers of birds that depend on our grasslands outside the breeding season, or how to help them through our management, and MRBO is set to help gather ground-breaking information to fill those gaps in our understanding. Back to prairie-chickens, we are excited about plans to test the effectiveness of simulated leks in documenting the presence of these birds in landscapes where they are occasionally reported but not officially documented during our annual lek census; I expect Ethan’s dual-expertise with technology and bird vocalization analysis will play a major role as that project moves forward.

I recall a particular morning last June spent running mist nets with the MRBO crew on Grandfather Prairie: It was the type of morning when your sweat and the morning dew have so thoroughly soaked your clothes by daybreak that even the ticks have a tough time getting traction. The expertise and enthusiasm among the crew that morning left me confident that this partnership is just getting started and that together we will do much to benefit the birds that depend on Missouri’s grasslands.

Joanna A. Klass

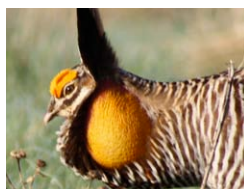
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Coordinator, Missouri Department of
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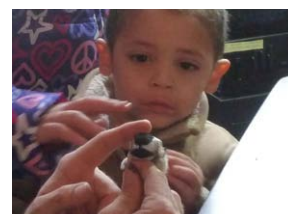
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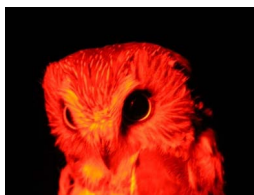
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Spring Migration Monitoring

The Greater Prairie-Chicken



By Ethan Duke

All photographs courtesy of Donnie Nichols

The Greater Prairie-Chicken (*Tympanuchus cupido pinnatus*) is large, colorful and dramatic performer. The males' haunting, booming sounds are a hallmark of a now fragile foothold in Missouri. This truly exquisite bird expresses the worth of its ancient lineage through song and dance perfection.

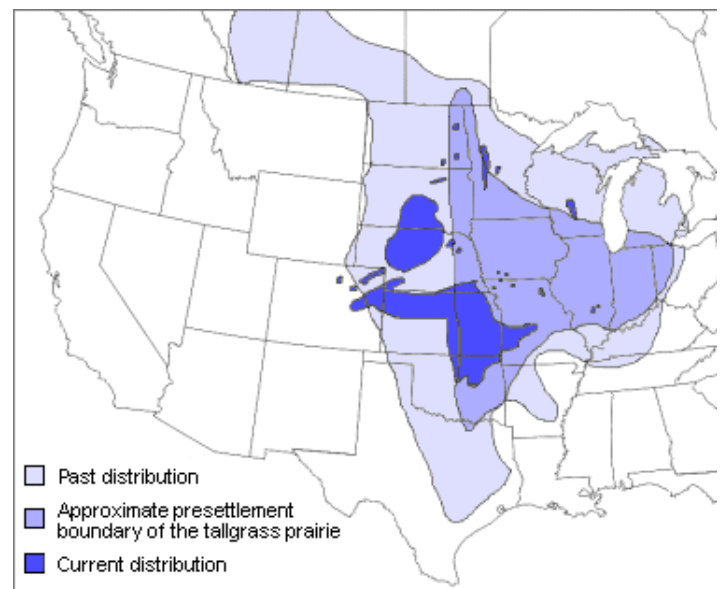
Bright yellow-orange superciliary combs (eyebrows) match bulging air sacs protruding in pulses from the neck. With wingtips fanned towards the flanks and shaking, it lowers a noble head as it extends horn-like rays of feathery pinnae. A cocked and sprayed tail balance the image as it stamps thick grouse feet on the cool spring prairie. All the while they utter a low, rhythmic boom.

The dramatic affect is heightened by the performance being done by not one, but many birds at once. This communal display is called a lek. The males form a lek in anticipation of and during the arrival of females. Females arrive to the lek when they are ready to breed. Although thrilling for us humans to witness, the purpose of the display is to impress these measuring female Prairie-Chickens.

With her scrutinizing eyes and ears, she assesses the performance of each male on stage at the communal lek. She is measuring those attractive eyebrows, feeling the stamps of his feet sending shockwaves of *love* to her heart, wooed like Juliet to Romeo with a prairie grass prose.

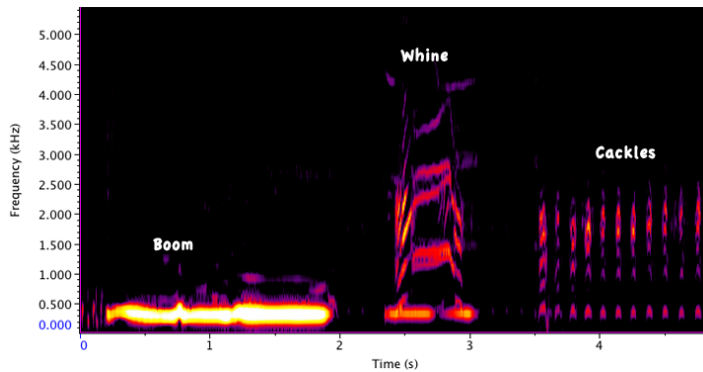
If these birds were human, we would undoubtedly refer to their behavior as art. Anthropomorphism aside, is it not art? Armed with science and reason, we may still need a bit of art to fully understand the function and significance of this wonderful ritual. What about that prose? What secret nothings is he whispering into her ear? Is there some clue hidden within that can be a key to helping conserve these birds? We can only try and with modern technology that is becoming increasingly available to the layperson, we can all begin the quest for understanding this.

Using Cornell Lab of Ornithology's software "Raven" to produce visual representations of the sounds, we can look at recordings of Prairie-Chicken vocalizations. We can also sift through some scholarly publications to start decoding this language of Greater Prairie-Chickens. In Figure 1 we can identify

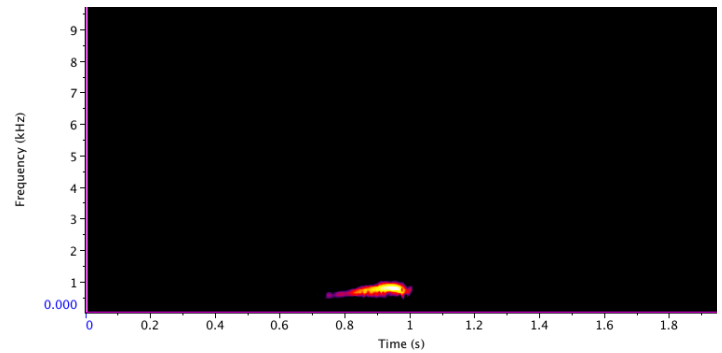


MAP FROM USGS

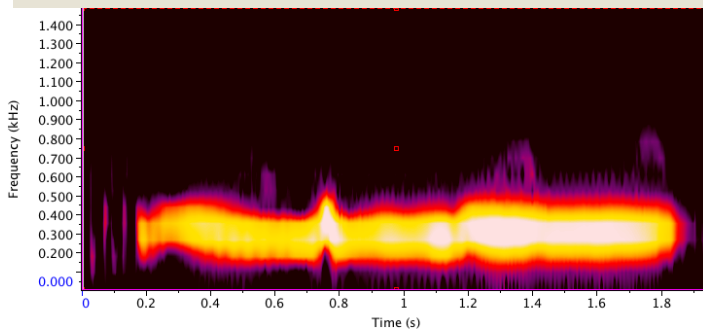
Above: Breeding distribution of Greater Prairie-Chicken in the United States and southern Canada. Past (light purple, adapted from Schroeder and Robb 1993) and current (blue, adapted from Westemeier and Gough 1999), distribution of the Greater Prairie-Chicken in North America. Dark purple delineates the approximate presettlement boundary of the tallgrass portion of the prairie biome (adapted from various sources).



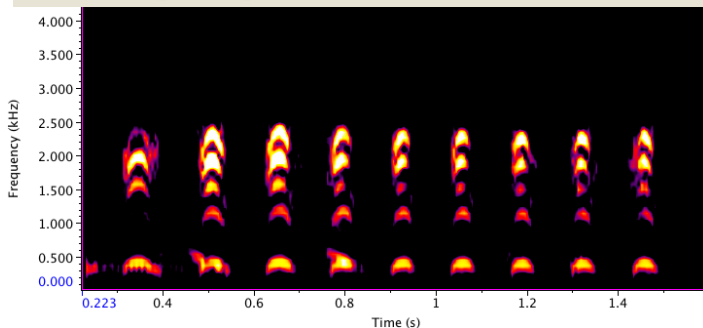
Above: Examples of a few Greater Prairie-Chicken vocalizations (boom, cackle, and whine).



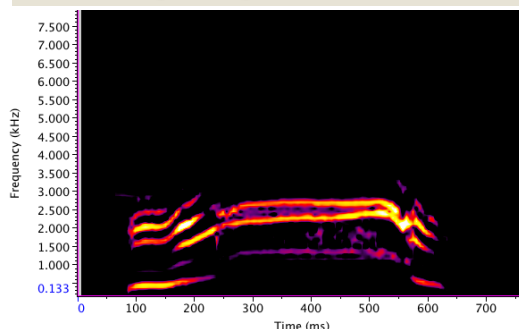
Above: A spectrogram view of the "whoop" vocalization.



Above: A spectrogram view of the ethereal "boom."



Above: A spectrogram view of a "cackle"



Above: A spectrogram view of a "whine"

Listen for yourself:

Boom: <http://www.mrbo.org/downloads/Sounds/GRPC/boom.wav>

Cackle: <http://www.mrbo.org/downloads/Sounds/GRPC/cackle.wav>

Whine: <http://www.mrbo.org/downloads/Sounds/GRPC/whine.wav>

Whoop: <http://www.mrbo.org/downloads/Sounds/GRPC/whoop.wav>

Here is a recording containing sounds from a lek in Nebraska made by Xeno-canto recordist Andrew Spencer: <http://www.mrbo.org/downloads/Sounds/GRPC/SpencerNE2008fromXC.wav>

several types of sounds. Many of them are repeated over and over again on the lek. Several sounds have been referred to specific terms in literature.

Booming: This sound is in a very low frequency below 500 Hz and last for approximately two seconds. It contains three parts, which are given an extra boost by the birds' inflatable air sacs of males. It has been described as *whhooo-doo-doooohh* (Gross 1930).

Whine: The whine carries over a higher frequency range up to approximately 1,000 Hz and last less than a second.

Cackle: Cackles consist of several short (.10 seconds) sound bursts reaching up to 2,000 Hz. A cackle series may last for 1.5 seconds.

Whoop: A brief call (.2 seconds), which sounds much like a "whoop." It's function is unknown.

Kuk, Kweer, and kweer: These variable and short call notes are presumed to be distress and contact calls.

Greater Prairie-Chicken recordings have been captured in various parts of their range since the 1960's. Imagine what they could tell us! Could we determine local dialects (or more aptly, "Dial-Leks")? Ornithologists have tackled this question and the most recent opinion is that the "Boom" does not show much variation (Bain and Farley 2002), even though vocalizations aimed at attracting females are those most likely to show regional variation. Bain and Farley were able to document a hybrid

All of these spectrograms were created using Cornell Lab of Ornithologies frees software "Ravenlite", available at <http://www.birds.cornell.edu/brp/RavenOverview.html>



The female Greater-Prairie Chichen is the ultimate judge of the song and dance competition on the lek.

“boom” that was ‘intermediate’ of those of Greater and Lesser Prairie-Chickens. Could we learn the measures of vocalization types that attract young dispersing birds and wandering females?

It may be useful to those reestablishing the species, as an audio lure could give that much needed edge.

This is just the tip of the iceberg and time is short for us to act on behalf of these amazing birds

Without active habitat management, the haunting booms of the prairie will fade into memory like “Booming Ben”, the last individual Heath Hen (*Tympanuchus cupido cupido*). Ben’s passing marked his species’ extinction in the 1930’s. Without our help, other organisms in the prairie ecosystem will become lost as well, forever dismantling the complex web of life. There is no mystery of how these birds came to be no longer found in twelve of the states they originally inhabited. Grassland habitat loss is a result of aggressive crop production for profit with no consideration for land. Prairie-Chickens are just one part of the ecosystem which has a fate tied to the wanton destruction of prairie habitat and the lack of a conservative land ethic. Fortunately, some hope remains as farmers, conservationists, and others work to save what remains and restore what is possible.

I’d be remiss not to mention the host of information about this bird provided by those who have been committed to prairie conservation. The Missouri Department of Conservation has launched several projects focused on prairie habitat, as well as



A screenshot of www.xeno-canto.org, which shows a map of recording locations of Greater Prairie-Chickens. Xeno-canto is an excellent resource for avian vocalization enthusiasts.



Master Naturalist and long-time Prairie Chicken Recovery Crewmember, Donnie Nichols, holds a translocated Prairie-Chicken to be released in Missouri.

Below: The future of the Greater Prairie-Chicken in Missouri is in our hands. Max Alleger's (Page 2-3) son Ben holds onto a Greater Prairie-Chicken.

implementing a translocation program, which brought birds from Kansas's populations to Missouri.

Others help in anyway they can. Missouri photographer Nappadol Paothong used his talents in a special way. Aside from the birds themselves, the most beautiful information composition available on grassland grouse is a photographic work by this award-winning photographer. It captures the story of grassland grouse through extraordinary photographs and well-chosen words in his book *Save the Last Dance*. This book is available at <http://www.savethelastdancebook.com/>. I'd also recommend taking a look at <http://mdc.mo.gov/discover-nature/wildlife-restoration/prairie-chicken-restoration> and <http://www.moprairie.org/> to see some of the work currently being done.

I hope we have more time to delve deeper into understanding more about such extraordinary performers. The birds could use any help they can get and their future rests solely in our hands.

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“There’s nothing new under the sun” is a cliché that can often apply to scientific study. There are very few research ideas that are truly novel, given that all of us in the 21st century are standing on the shoulders of naturalist, ecologist, and ornithologist giants. So it is not a new idea to study the movements and habitat use by birds during the migration and winter seasons, but in comparison to breeding ecology, very little is known about most species in these seasons. This is especially true of grassland birds.

As we continue to work with partners such as the Missouri Department of Conservation and the regional Joint Ventures to develop exemplary grassland bird monitoring projects, it has become clear that there are a lot of gaps in our knowledge of migratory and wintering ecology for this guild. At our “traditional” migration monitoring stations – those placed in forest or shrubland habitat – we so rarely observe or capture grassland-obligate species that it would be fair to say “never” (three individuals in five years of mist-netting over 9,000 birds). MRBO has therefore been busy developing and piloting non-breeding season studies for grassland birds. This group is currently displaying the most dramatic population declines in North America, with the possible exception of marsh birds. Here, we present some of our very preliminary results of fall and winter surveys and banding. We would also like to share our

MRBO takes prairie bird monitoring into migration and winter



A Northern Mockingbird banded on private land in the Cole Camp/Hi-Lonesome Conservation Opportunity Area during winter.

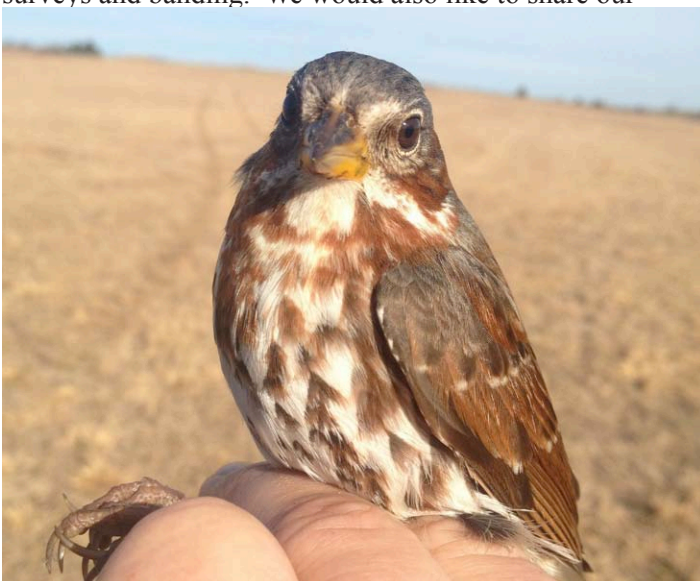
excitement about the increased involvement of the Missouri Master Naturalists with our work, since the Hi-Lonesome (Cole Camp) Chapter has become integral to our developing grassland bird projects.

2012-2013 Migration and Wintering Grassland Bird Assessment

In September 2012, we piloted a migration monitoring station at Hi-Lonesome Conservation Area (CA), located within the Cole Camp Prairies Conservation Opportunity Area in Benton County. This was the first effort by MRBO to conduct migration banding in a grassland setting. Our initial results indicate that migration monitoring in grasslands may be effectively conducted by banding (please see Table 1 for capture and effort comparisons with MRBO’s traditional banding stations, reprinted from our November issue). Some species that are elusive during migration were captured at Hi-Lonesome, including LeConte’s Sparrow, Grasshopper Sparrow, Marsh Wren, and Savannah Sparrow. Based on the success of Fall 2012, we will be operating two spring migration stations at grassland sites in the Cole Camp COA.

We also conducted transect surveys at Mora CA, Ionia Ridge CA, and Paintbrush Prairie during October and November. These migration/early winter surveys were very successful and indicated that transect methodology will be useful for assessing habitat use by grassland birds in the non-breeding season (please see Table 2). One of the most exciting findings was high concentrations of Smith’s Longspur, which were quite common during migration at these sites.

Past success in operating banding activities at a



A Fox Sparrow banded on private land in the Cole Camp/Hi-Lonesome Conservation Opportunity Area during winter.

native prairie near Hi-Lonesome CA encouraged us to pilot winter work at this site in November 2012. We established a 10-net array in an area where we had previously captured a high diversity of sparrows and other migrants in October 2012 and 2013. Our initial results from several attempts throughout Winter 2012-2013 suggested that either the site is not suitable for wintering birds, or our methodology requires adjustments for future winter monitoring attempts. Few birds were captured via nets or recorded by sight and sound during morning sessions at this site in November, December, February, and March. Notable species observed Eastern and Western Meadowlark, Northern Harrier, and on one occasion, Sandhill Crane. On the positive side, our pilot work at this site allowed us to adjust and improve our winter banding protocol and provided a good overall learning experience for winter mist-netting in grasslands. This is an activity that, to our knowledge, has been attempted on very few occasions in the past, most notably by the Institute for Bird Populations at various Department of Defense sites in the southeastern US.

Involvement of the Missouri Master Naturalists – Hi-Lonesome Chapter

The expansion of both banding and survey work in the Cole Camp COA has allowed us to dramatically increase the involvement of Missouri Master Naturalists (MMN) in MRBO's grassland projects. Fall and winter work in the Cole Camp area afforded many opportunities to conduct training for the MMN Hi-Lonesome Chapter, members of which will be an integral part of these projects in the coming seasons. To date, members of the Hi-Lonesome Chapter have attended a collective 200+ hours of survey and mist-netting trainings with MRBO. Trained MMN volunteer assistance will allow us to reduce the costs of projects without sacrificing data integrity, as certified Master Naturalists come from an extensive background in Missouri ecology and conservation. We are very thankful for the dedicated volunteers of the Hi-Lonesome Chapter and are excited to continue working with them.

Future Development of Grassland Bird Monitoring and Research

To date, our grassland projects have largely been funded by the MDC Wildlife Division and MRBO's members and Board. This funding has not only allowed MRBO to expand our grassland bird monitoring activities, it has also given us the capacity to develop new partnerships and projects. In May and June 2013-2014, we will be conducting transect surveys for grassland birds on all public grasslands and a sample of private lands throughout northern and western Missouri. These surveys will result in more precise population estimates of Missouri's grassland birds than are currently available, and will also indicate the management regimes and habitat types that support the greatest



Above: Master Naturalist and MRBO volunteer, Donnie Nichols, releases a Sharp-shinned Hawk during Prairie Days at Dr. Wayne Morton's prairie.

diversity of grassland birds. Additionally, in collaboration with the MDC and the Audubon Society of Missouri, we have developed an extensive proposal to replicate the state-wide surveys during the migration and wintering seasons over the next two years. We will also continue expansion and further testing of migration and winter monitoring via banding.

Acknowledgements

The past and future operation of our grassland projects would not be possible without MRBO assistants Brittney Cross and Veronica Mecko. Intern Joanna Klass was instrumental in the piloting of migration and early winter transect surveys. Tom Thompson, Brad Jacobs, Dennis Figg, and Steve Cooper of the MDC and Todd Jones-Farrand of the Central Hardwoods Joint Venture provide continual input and assistance with various aspects of MRBO's grassland projects. We would also like to express our deep appreciation to Max Alleger of the MDC and Justin Pepper of the National Audubon Society for their frequent and patient guidance on grassland management issues and

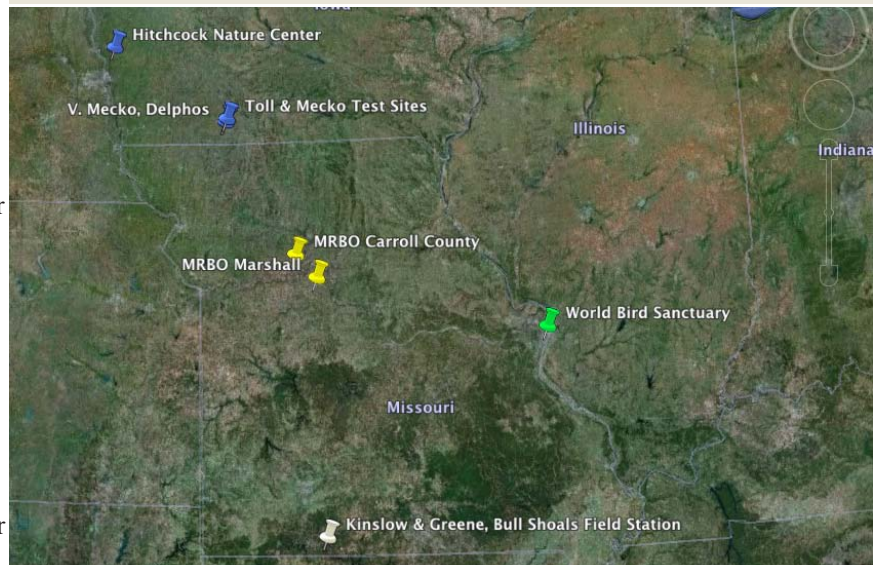
Monitoring Northern Saw-whet Owls in Missouri and Iowa in 2012



Readers of our previous newsletters will know that we at MRBO learned our Northern Saw-whet Owl (NSWO) capture techniques from Jerry Toll of Hitchcock Nature Center in Iowa. Since that autumn of 2010, we have passed on this knowledge to others in Missouri who have been conducting their own NSWO trials. These folks include southern Missouri banders Janice Green and Andrew Kinslow, as well as many good friends from the World Bird Sanctuary in St. Louis. Meanwhile, Iowa resident and sometime-MRBO bander Veronica Mecko has been operating her own NWSO banding station at Delphos in southern Iowa. All of these folks together have formed an important NSWO occupancy and migration monitoring network in our region.

Though we all use similar capture techniques, the various stations operated at different times during the migration season and at their own pace according to staff or volunteer availability. You can observe very different capture rates and capture timing across all the stations (Chart 1). However, taken together, the data collected across the region show that we do have a concrete migration season for NWSOs, and that they are more common throughout

Northern Saw-whet Owl banding locations in Missouri and Iowa. Banders across the state are collaborating to provide cumulative understandings of where and when this previously overlooked species occurs in the region.



both southern Iowa and Missouri than was ever thought!

Dan Curran of the World Bird Sanctuary banding team compiled the data for all stations in the region.

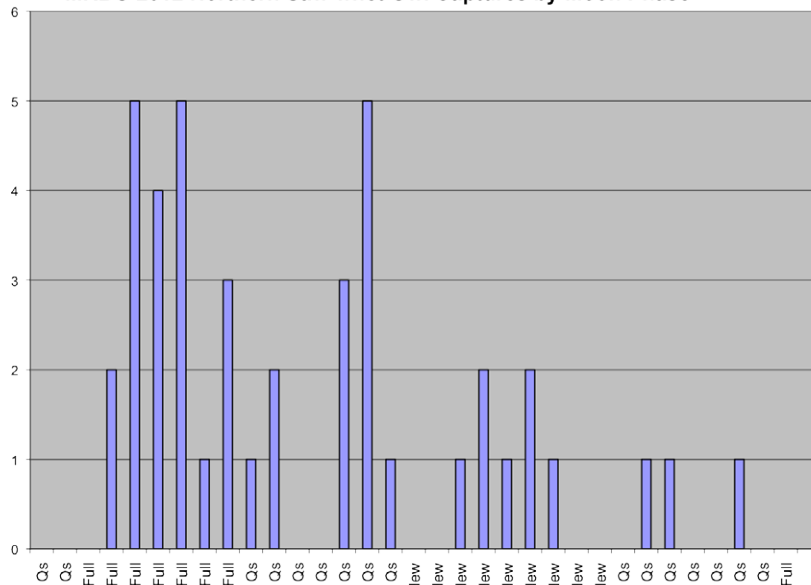
He used these data not only to chart differences in capture and timing

for each station that operated in 2012, but also to test several hypotheses. One of these was the commonly-held theory that NSWO migration is closely correlated with moon phase, with the owls preferring to move on moonless nights. While this may be supported in other places, such as the northeastern US where hundreds of NSWO move through certain areas each fall season, you can see by the graph opposite that this was not displayed at MRBO's stations in Missouri.

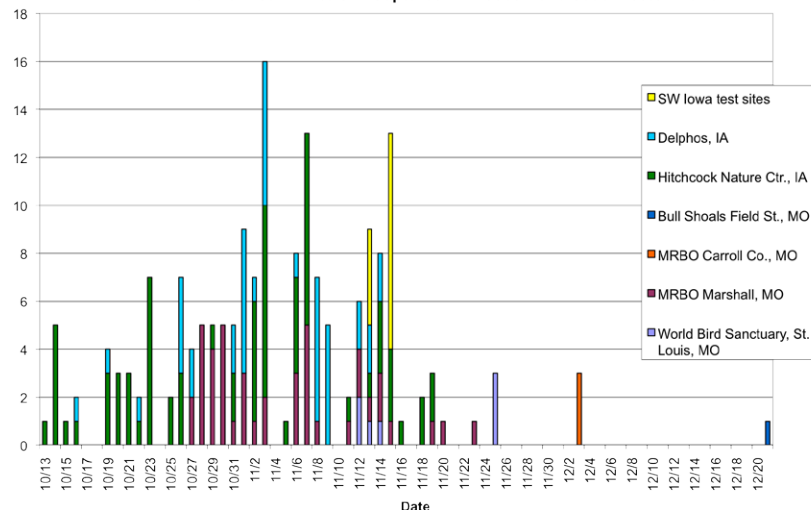
In 2013, MRBO station operation next year will commence earlier than usual, beginning by October 20th.

Northern Saw-whet Owl captures by moon phase and date.

MRBO 2012 Northern Saw-whet Owl Captures by Moon Phase



2012 Northern Saw-whet Owl Captures in Missouri and southwestern Iowa



Four generations of the Castner family enjoy an owl with Dana Ripper at their home in Carroll County.

Bird Art Contest



Judging our Kids' Art Contest was very fun, but very difficult! We had great entries. MRBO staff, interns, and volunteers all got involved in the judging. **And the winners are....**

Ages 5-8

1st Place: Ainsley Rankin (7) "Greater Prairie-Chicken"
1st Runner-up: Makenna Bernard (8) "Northern Cardinal"

Ages 9-11

1st Place Co-winners: Tyler Bernard (9) "Greater Prairie-Chicken" and Caroline Tremen (9) "Junco Eating Seeds"
1st Runner-up: AJ Bone (11) "Eastern Screech-Owl"



Above: Tyler Bernard's (9) "Greater Prairie-Chicken" won 1st place in the 9-11 age group.



Above: Ainsley Rankin's (Age 7) "Duck" amazingly stylized wins 1st place.
Below: Makenna Bernard's (Age 8) "Northern Cardinal" captures the birds character and the eyes of the judges to win 1st Runner-up.



Bird Art Contest Winners

kids' corner



Above: Young artist, Caroline Tieman (age 9), produced a dazzling “Dark-eyed Junco” to tie as 1st place winner in the 9-11 age group.

Below: Owl affectionado, AJ Bone (age 11), earned 1st runner-up with his “Eastern Screech-Owl.”



Bird Art Contest Winners

Kids' Corner



Kids' photo Contest



The entries of our Kids' Art Contest were so excellent and so much fun to judge, we at MRBO have decided to present another contest this season: a kids' PHOTO CONTEST! One grand prize winner will receive a high-quality, fully assembled nest box! The top ten photographs will be published in the next issue of The Rectrix.

How to enter:

- ☐ Photograph a wild bird - any bird!
- ☐ Send us the photograph by mail or email by May 1st 2013.
- ☐ Note where the photo was taken, what time of day, and why you liked taking a picture of that particular bird.
- ☐ Don't forget to tell us your name, address, and age!
- ☐ Let us know what type of habitat YOU live in - this will help us find the right nest-box for a species in your habitat. For example, if you live in open country, you may receive a Bluebird box. If you live in the woods, you might get an Eastern Screech Owl box.

Education and Outreach



Above: Matt Giovanni (Right) looks on as citizens construct Kestrel boxes at Birds-I-View in Jefferson City. Boxes will be placed and monitored throughout the state as part of national citizen science project spearheaded by the Peregrine Fund.

Since our November newsletter, we at MRBO have been largely occupied with education and outreach work. In the past four months, we have hosted or assisted with 32 education events that have reached more than 800 people around the state. We feel most fortunate to be able to work with many wonderful educators and other conservation organizations in this capacity.

In addition to doing “traditional” banding demonstrations, guided bird walks, and identification workshops, this season we expanded into new educational territory by offering a three-day training for banders and aspiring banders. Our first attempt at such a training event was a learning experience not only for the attendees but also for MRBO staff! We hope that the participants learned a lot and, most importantly, that we contributed to growing contingent of researchers and educators that are committed first and foremost to the safety of birds.

Here are some other highlights of the Winter 2012-2013 education season:

- **Burroughs Audubon Library, Blue Springs:** Over the course of the winter, over 100 adults and children attended banding demonstrations and bird-watching at the Library. The Library always provides a pleasant setting for people of all ages to observe, discuss, and enjoy birds.
- **Birds-I-View, Jefferson City:** Our friends at BIV hosted three MRBO banding events and an evening seminar in the midst of their own extensive education programs. <http://www.birds-i-view.biz/> BIV, MRBO, and the Columbia Audubon Society also hosted Peregrine Fund biologist Matt Giovanni for an American Kestrel Project workshop. This event established partnerships with several citizen scientists who will be engaged in nest-box monitoring. <http://www.mrbo.org/Pages/AMKEpartnership.html>

Education & Outreach

- **Missouri River Relief Speaker Series, Rochestport:** We were so pleased to be invited once again by MO River Relief to present on MRBO's monitoring projects on the Big Muddy. MRBO Assistant Director Ethan Duke presented to a packed house at Les Bourgeois Winery on January 8th. <http://www.riverrelief.org/>
- **Sacred Heart School, Sedalia:** We were invited back to the Sacred Heart School to teach 2nd graders and the mixed-age after-school Project WILD club about Missouri's birds, and work with the students to build feeders and nest-boxes.
- **Burr Oak Woods Big Year Kick-Off Festival:** MRBO's banding demonstrations were a hit with the large crowd that gathered for Burr Oak's Kick-off event on January 8th. This event was the first of many at BOW throughout this Big Year.
- **Educator's Workshop, Clinton:** Clinton residents always seem to be up for learning about nature. At another well-attended event held at the MDC office, participants learned basic bird identification, saw a banding demonstration, and went on a field trip to a nearby wetland.
- **Indian Foothills Park, Marshall:** The site of our Northern Saw-whet Owl occupancy studies became a forum for community outreach when the Foothills Park staff invited us to present to their weekly Lunch Bunch. Twenty local ladies heard about the Saw-whet Owl and other Missouri birds.
- **Hillerman Nursery and Florist, Washington:** We were incredibly pleased with the large turn-out at this event, which had to be rescheduled due to the early-March snowstorms! Even though we

changed dates, about 40 adults and kids attended a presentation on how to ID Missouri birds and ways to attract them to the backyard with gardening. This was followed by a fun banding demonstration.

- **Flying WILD Workshop for Homeschoolers, Joplin:** MRBO and Wildcat Glades Audubon Center staff became certified facilitators of Flying WILD together last August. The Wildcat folks then invited us to help with their first WILD training, which was a smashing success. Eleven parents and 22 students of homeschooled families attended this workshop, which will help boost their science curriculum with critical thinking activities about birds and conservation.

Our Thanks

We would like to extend special appreciation to Burroughs Audubon Society of Greater Kansas City for hosting us at their Library on five occasions this winter, Birds-I-View of Jefferson City for their support, encouragement, and sponsorship of MRBO events, and the many private landowners who graciously hosted our work on their properties: Mary Ann Keeney of Sweet Springs, the Casner family of Carroll County, Bob and Pat Perry of Rolla, the Bones of Jefferson City, and the Freys and the Joneses of Washington (special thanks to Ginny Frey for facilitating the event at Hillerman!). We would also like to thank MDC Education Consultants Cynthia Green, Carol Mahan, and Betsy Blake, Burr Oak Woods manager Lisa Lacombe, the staff of Hillerman Nursery, and the staff and volunteers of Wildcat Glades Audubon Center for inviting us to assist with their excellent education events.



Above: Citizen Scientist Mary Ann Keeney hangs with MRBO staff Brittney Cross, Dana Ripper, and Ethan Duke during a backyard banding session in Sweet Springs.



Marsh Bird survey training for volunteers:

- *Duck Creek Conservation Area:* March 23-24 in conjunction with the MRBO/Audubon Society of Missouri March Marshbird Madness!
- *Clarence Cannon NWR:* April 3-4
- *Eagle Bluffs CA:* April 10-11
- *Squaw Creek NWR:* April 17-18
- *Grand Pass CA:* TBD, late March or early April

Arrow Rock – April 6th: “The History of Missouri’s Birds” presented by Ethan Duke as part of the Village of Arrow Rock’s First Saturdays Lecture Series. Presentation at 10:00 a.m. followed by a bird hike around the Arrow Rock State Historic Site.

Grand Pass Conservation Area - April 20th: MRBO’s premier spring [migration banding](#) station opens for the season! Individuals, families, and student groups welcome. Please call 660-886-8788 to schedule a date and/or a custom field program!

Columbia Audubon Nature Sanctuary – April 23rd and 25th: The Columbia Audubon Society will host over 500 elementary school students from all over the city of Columbia at the second Banding With Nature event. Students will attend various stations including educational activities presented by the Missouri Master Naturalists, raptor-viewing with the MU Raptor Rehab Project, and bird-banding with MRBO.

University of Central Missouri’s Bio-Blitz – April 27th: All are welcome at UCM’s third annual Bio-blitz. Join students, faculty, and visitors as we take stock of not only birds, but plants, mammals, fish, and invertebrates at Pertle Springs Park in Warrensburg.

Weston Bend State Park - May 11th: The fourth annual **Wings Over Weston** festival. Join us as we celebrate International Migratory Bird Day at this outstanding public festival open that has something birdy for everyone.

Call for Volunteers



Hi-Lonesome Master Naturalists train in GPS navigation and transect survey methodology.

In 2013 many of MRBO's projects will require volunteer help. Simply put, there is more bird monitoring to be done than there is funding to do it. We are putting out a call for volunteers to help with our two largest projects – Secretive Marsh Bird Surveys and Grassland Bird Surveys. Both of these projects are conservation-focused and are statewide in scope, with survey sites still available in nearly every Missouri region. We provide equipment and training for dedicated volunteers.

Marsh Bird Surveys involve committing to at least one route of 5-10 points. Each route gets surveyed once a month in April, May, and June. At each point, a period of silent listening is followed by broadcasting a series of marsh bird vocalizations from a portable speaker and listening for responses. Points are located 400 meters apart, and this often involves slogging through water and sometimes thick vegetation. But the rewards are limitless for folks who would thrive on having solitary moments in a wetland at sunrise. Primary target species are Rails and Bitterns.

Please see the Upcoming Events below for training dates, and contact Ethan at ethan.duke@mrbo.org if you'd like to get involved.

Grassland Bird Surveys involve walking transect lines through prairies and marking on an aerial photograph the locations of target species you see and hear, such as Dickcissel, Henslow's and Grasshopper Sparrows, Bell's Vireo, and Yellow-breasted Chat. Non-target species are also recorded along with their distance from the transect line, but they are not marked on the aerial image. It is easy to learn the transect methodology; what these surveys really take are excellent skills in grassland bird ID! This survey project runs from 1 May – 15 June. Please contact Dana at dana.ripper@mrbo.org if you are interested.

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>*

Our great appreciation goes out to the following people who have joined MRBO, renewed their membership, or won a student membership since last season!

Stewards

The Audubon Society of Missouri
Tom and Margaret Hall, Arrow Rock, MO
River Bluffs Audubon Society, Jefferson City, MO
Steve and Regina Garr, Jefferson City, MO

Individuals or Families

Sherry Leonardo, Grandview, MO
Sandi Hillerman McDonald, Washington, MO
Marsha Richeson, Jefferson City, MO

Contributors

Linda Williams, Kansas City, MO

Students

Tyler Bernard, Sweet Springs, MO
Makenna Bernard, Sweet Springs, MO
A.J. Bone, Jefferson City, MO
Ainsley Rankin, Independence, MO
Caroline Tieman, Lee's Summit, MO

Supporters

Mary Ann Keeney, Sweet Springs, MO
Susan Dyer, Lee's Summit, MO

