Volume 10 No. 4. Winter 2020

The Rectrix

A seasonal newsletter of the Missouri River Bird Observatory

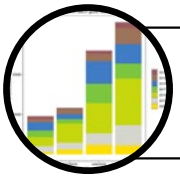
Celebrating Ten Years

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

Our Mission

Conservation

To contribute to the conservation of Missouri's migratory and resident birds through scientific research, community outreach, and education.



Science

To gather information about avian communities and habitat use that will assist state, federal, and private natural resource managers in their efforts to implement conservation programs.

Education & Outreach

To provide opportunities for Missourians of all ages to learn about species and their habitats.

Advocacy

To advocate for sound, science-based conservation policy that benefit birds, other wildlife and environmental quality.

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In this Issue of the *Rectrix*

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On the cover: *Optical Illusion* by Paul Moffett. A close-up view of Snowy Owl plumage.

Letter from Director Dana Duke

Holiday Greetings MRBO supporters, partners and friends!

Here's what I'm not going to do: I'm not going to write this letter using the words *unprecedented times*, *uncertainty*, *divided*, or even *Covid*. What I am going to do is let our readers know how thankful we are, which is what the *Rectrix* Volume 4 is about every year. As I write this the week before Thanksgiving, it has become apparent that this is a *very* birdy fall and winter for Missouri. Check out the article on page 8 – it is an irruption year for many species that don't always visit Missouri, and usually not in big numbers. This fall we are seeing Red-breasted Nuthatches, many Pine Siskins and Purple Finches, a big year for Northern Saw-whet Owls, and Evening Grosbeaks in some parts of Missouri! These are in addition to the wonderful wintering species that we have each year, such as White-crowned, White-throated and Fox Sparrows. I am hoping to see a Harris' Sparrow or two once there is snow cover!

I am thankful that MRBO has had a positive and productive 2020. So much of this is a reflection of our excellent permanent and seasonal staff. This year Paige Witek continued as Education Coordinator, Erik Ost as Field Project Leader, and in February we were fortunate to hire Zeb Yoko as MRBO's Conservation Science Communicator. We've also had outstanding seasonal biologists in Kyla Yuza-Pate and Nicholas Wiram, as well as excellent returning technician Matt Longabaugh. Just recently, we have had the great opportunity to hire intern Pammi Price to assist with the extensive roll-out of MRBO's Virtual Nature School; you can meet Pammi on page 11.

I am thankful that MRBO is stable and expanding because of our supporters, partners, Board of Directors, and professional mentors. These folks, especially including those of you reading this, provide the financial backing and supportive network that keep this organization going. As you head into your own holiday season and winter wildlife watching adventures, please know that YOU are most appreciated by all of us at MRBO.

MRBO's 2020 at a glance

- **JANUARY TO MARCH: 14 EDUCATION EVENTS REACHING 800 MISSOURIANS**
- **FEBRUARY & MARCH: FOUR VISITS TO THE CAPITOL TO ADVOCATE FOR CONSERVATION**
- **EARLY APRIL: WETLAND BIRD SURVEYS ON PRIVATE LANDS UNTIL TRAVEL CURTAILED**
- **APRIL TO PRESENT: >45 VIRTUAL PRESENTATIONS REACHING 2000 PEOPLE**
- **MAY & JUNE: GRASSLAND BIRD MONITORING PROJECTS PROCEED IN SOUTHWEST MISSOURI**
- **JUNE & JULY: VIRTUAL YOUNG EXPLORERS CLUB WITH 56 YOUTH PARTICIPANTS**
- **JULY: MRBO STAFF MEMBERS BECOME CERTIFIED CLIMATE REALITY LEADERS**
- **SEPTEMBER TO NOVEMBER: GRASSLAND BIRDS MONITORED IN FALL MIGRATION**
- **SEPTEMBER TO NOVEMBER: BIRDSAFEKC PROJECT CONTINUES WITH WINDOW COLLISION SURVEYS**
- **SEPTEMBER TO PRESENT: MISSOURI YOUNG BIRDERS CLUB GOES VIRTUAL & MEMBERSHIP INCREASES**
- **SETPEMBER TO PRESENT: WATERFOWL SURVEYS AT SWAN LAKE NATIONAL WILDLIFE REFUGE**
- **OCTOBER & NOVEMBER: NORTHERN SAW-WHET OWL BANDING WITH PUBLIC LIVESTREAMS**
- **OCTOBER TO PRESENT: ROLL OUT OF VIRTUAL NATURE SCHOOL FOR MISSOURI STUDENTS**

Science

To Contribute to the conservation of Missouri's birds and their habitats **by gathering information about avian communities and habitat use that will assist state, federal, and private natural resource managers in their efforts to implement conservation programs.**

Grassland Bird Monitoring

"Where Have All the Fledglings Gone?" By Mr. Bob White ------>
Or: Results from Five Years of Nest-Monitoring by Erik Ost, Field Project Leader

Many of our readers are aware of the grassland bird nest-searching and monitoring project that MRBO has conducted since the summer of 2016. If you are on social media, it might be hard to miss all of the nest photos that we post during the breeding season. However, a brief background on the project is necessary before I jump into our results. If you would prefer to just read a summary of the results, the last paragraph contains that information.

The Missouri Department of Conservation's (MDC) Resource Science Division (RSD) has been conducting a study on the effects of patch-burning and grazing on the biota of southwest Missouri prairies. Portions of Hi-Lonesome, Taberville, Wah'Kon-Tah, Providence, Kickapoo, and Diamond-Grove Prairies are included in this study. Within each prairie's study area, there is a control unit and a treatment unit. Both unit types have approximately a third of their area burned in the dormant season each year; burns are rotated so that after three years the entire unit has been burned. The difference between units is that the treatment unit hosts cattle every other year during the season while the control unit never has cattle. This study has been occurring since the summer of 2015 and might continue until 2030. MRBO has been helping with this study by assessing grassland bird responses to this management strategy. One way MRBO helps is by conducting surveys on these study areas to evaluate differences in diversity and densities. The other way, which is the focus of this article, is by searching for and monitoring grassland bird nests at two of these study areas (Taberville and Wah'Kon-Tah).

From early May to the end of July, MRBO technicians split time between both treatment and control units and search for and monitor nests. In the five seasons we've been conducting this study, MRBO has recorded 1,273 nests belonging to 27 different species! From 2016-2019, we searched for and monitored all species' nests that could be found in the study units. In 2020, we only monitored target species' nests. Target species are Bell's Vireo, Dickcissel, Eastern Meadowlark, Field Sparrow, Grasshopper Sparrow, Henslow's Sparrow, and Northern Bobwhite. Out of the 1,273 nests recorded, 911 of them were target species. The distribution of nests recorded are fairly evenly distributed between control and treatment units, with 422 found in the control unit and 489 found in the treatment unit.

We assess the survival of these nests by checking them periodically, less so when at the beginning of their nest cycle and more frequently towards the end of their cycle. Some nest studies check them at a constant interval like every three days. Our method allows us to minimize disturbance caused by our presence while also ensuring we get an accurate decision on whether the nest was a success or failure. We can assess nest survival using a variety of analyses. Apparent nest success, which

Table 1. Nest survival of target grassland bird species at Wah'Kon-Tah and Taberville Prairies, 2016-2020.
SE = standard error - the amount of uncertainty in the full-cycle survival estimate

	Treatment				Control			
Species	Sample Size	% Daily Survival	% Full Cycle Survival	SE	Sample Size	% Daily Survival	% Full Cycle Survival	SE
Bell's Vireo	63	94.8	24.8	0.008	93	96.2	36.7	0.005
Dickcissel	153	92.2	18.2	0.008	134	92.5	19.6	0.008
Eastern Meadowlark	21	94.2	22.5	0.016	8	94.7	25.6	0.026
Field Sparrow	83	91.7	19.4	0.011	48	90.5	15.1	0.015
Henslow's Sparrow	26	91.9	18.6	0.018	11	92.3	20.1	0.028
Target Species Combined	354	92.9	20.4	0.005	295	93.9	24.8	0.004

Table 2. Parasitism of grassland bird nests at Wah'Kon-Tah and Taberville Prairies, 2016-2020.

	Parasitized?		
Species	No	Yes	Parasitism Rate (%)
American Goldfinch	6	2	25.00
American Robin	1		0.00
Bell's Vireo	119	56	32.00
Blue Grosbeak	4		0.00
Blue-gray Gnatcatcher	1		0.00
Blue-winged Warbler		1	100.00
Brown Thrasher	51		0.00
Common Grackle	1		0.00
Common Yellowthroat	7	3	30.00
Dickcissel	269	47	14.87
Eastern Kingbird	4		0.00
Eastern Meadowlark	29		0.00
Eastern Towhee	4	5	55.56
Field Sparrow	120	21	14.89
Grasshopper Sparrow	6		0.00
Gray Catbird	52		0.00
Henslow's Sparrow	32	6	15.79
Horned Lark	1		0.00
Indigo Bunting	5		0.00
Mourning Dove	24		0.00
Northern Bobwhite	7		0.00
Northern Cardinal	5	1	16.67
Northern Mockingbird	2		0.00
Orchard Oriole	1	2	66.67
Red-winged Blackbird	18	2	10.00
Unknown Species	1	2	66.67
Wild Turkey	3		0.00
Yellow-breasted Chat	12	17	58.62
Grand Total	785	165	17.37

is simply the number of successful nests divided by the total number of nests with known fates seems like the most logical way but it is quite biased. The reasoning is because as a searcher, you are less likely to find unsuccessful nests compared to successful nests. In other words, the longer a nest is active, the greater chance you have at finding it. MRBO uses the logistic exposure method to analyze nest success. Essentially, this method factors in the amount of time the nest is exposed to a failure causing incident. If interested, I can explain this in more detail, but for the sake of not getting too technical I am not going to elaborate on why this is a better tool for calculating nest survival. The table shows the calculated rates for daily survival, full-cycle survival, and standard error for target species (Table 1).

Notice that the sample size of nests that could be used in this analysis are much lower than the 911 that were recorded. Many nests don't qualify for the analysis. This is due to nests not ever having eggs or nestlings in it during the time we were monitoring it, unknown fate, or if the nest fate was determined upon discovery of the nest. However, with the number of nests that did qualify, there still are some interesting results. The data shows that most species' nests had higher rates of success in the control unit (no cattle) than the treatment unit (with cattle). Field Sparrows were the only species that had higher survival rates in the treatment unit. It is also worth noting that Bell's Vireo had the largest difference in nest survival between units, with 24.8% in the treatment and 36.7% in the control.

Now, let's look at Brown-headed Cowbird parasitism rates. We've recorded 165 counts of cowbird parasitism from a total of 950 nests that we could determine accurate incidents of parasitism in. Of those parasitized, a third of the nests were predated by reptiles, many likely abandoned before we found the nest. Some nests were predated by mammals. There were nine instances of a cowbird rolling out an egg that then caused an abandonment. In a couple situations, the nest collapsed due to the weight of the extra eggs. These were both Bell's Vireo nests. There were 15 cases where only the cowbird young survived. In 14 instances, belonging to Dickcissel, Field Sparrow, and Yellow-breasted Chat nests, host young survived as well as the cowbird young. For three Dickcissel nests, only the host eggs hatched and were raised to fledging date while the cowbird egg inside never hatched. All in all, about 13% of the nests that were parasitized had succeeded in fledgling one or more host nestling.

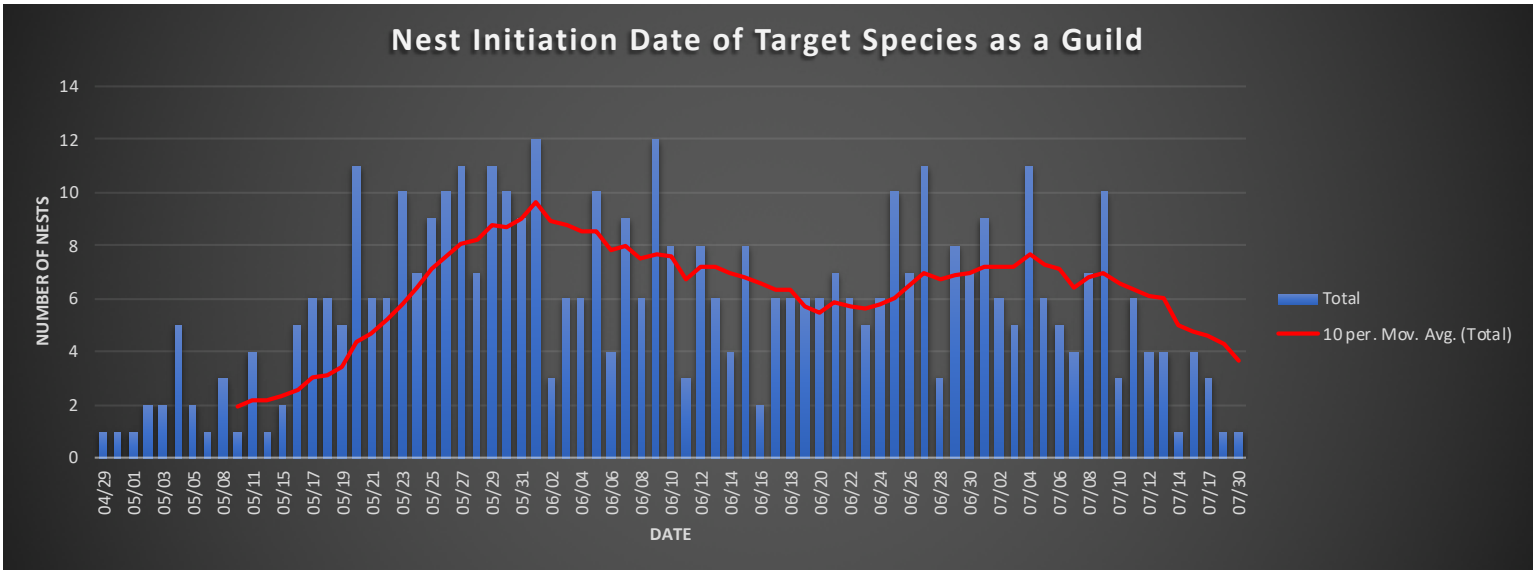
Referring to Table 2, 12 species have been recorded as experiencing parasitism. Throw out unknown species and then Blue-winged Warbler and Orchard Oriole due to low sample size and Yellow-breasted Chats have the highest rate of parasitism with ~59%! Eastern Towhees, aren't far behind. Bell's Vireo nests have the highest rate of parasitism of all target species. Many species haven't been parasitized at all. Our data echoes that of other nest projects in that birds in the *Mimidae* family, including our catbird, mockingbird, and thrasher, recognize cowbird eggs and will roll them out of their nest. We have only recorded a couple of instances of finding a nest from this family in which we were able to see a cowbird egg that was then missing the next check. However, all 105 of the nests belonging to those species that have been monitored have ended up without any cowbird parasitism. Considering cowbirds do not attempt to parasitize quail, it is still remarkable that two target species haven't been parasitized. None of our Eastern Meadowlark and Grasshopper Sparrow nests have been parasitized. Comparing target species' nests, cowbird parasitism rates by unit type shows that rates are similar between treatment and control units, with 19% in the control and 18% in the treatment unit.

Top: Field Sparrow nestlings and eggs. Bottom: Dickcissel nestlings and eggs.

We looked at brood parasitism rates as it relates to distance from woody edge. The distance a nest is from an edge might have an effect on cowbird parasitism because Brown-headed Cowbirds prefer edge habitat over open grassland habitat. We measured distances of each target species' nest to its closest woody edge. Then, we averaged the distances based on if the nest was parasitized or not. The results showed that overall, the average distance of a non-parasitized nest from a woody edge was 149 meters while the average distance of a parasitized nest from a woody edge was 130 meters. On a species level, Bell's Vireo and Field Sparrow had more nests parasitized when they were closer to a woody edge. Dickcissel and Henslow's Sparrow had more nests parasitized when they were further from a woody edge. Remember that Eastern Meadowlark and Grasshopper Sparrow nests have yet to be parasitized!

The last finding that we've wanted to share with you is that relating to nest initiation date of our target species. Nest initiation date is the day that the first egg was laid in the nest. It is often associated with when birds officially start their nesting process. Our data shows that the end of May has the most initiation dates (Graph 1). This suggests nesting activity is the highest during the last week of May. Then, nesting activity has a bit of a lull in late June before increasing a little in early July. Nesting activity tapers off in late July.

Let's sum up the findings of the study so far. Our data are telling us that most of our target species are surviving better in the control unit. However, there are caveats. The cattle stocking rate was fairly low and was only present every other year. Also, more nests in the treatment unit were used in the logistic exposure analysis (354 to 295 nests). Perhaps the greater sample size in the treatment unit is more representative of nest success, so the control unit nest success rates are inflated. Combining all target species' nests, average nest success is 22%. We've learned that Yellow-breasted Chats have the highest rate of cowbird parasitism with Bell's Vireo having the highest rate of cowbird parasitism of any target species. Target species Eastern Meadowlark and Grasshopper Sparrow have a very low or non-existent cowbird parasitism rate. Target species' nests that were victims of brood parasitism averaged closer to a woody edge compared to nests that were not parasitized. Lastly, peak nesting activity is the last week in May. What interesting findings! However, we must keep in mind that these findings should be taken within the context of the study. If this project continues for another 5 years, it will be interesting to see how the data shapes up to the past 5 years. Thanks for your attention! Feel free to contact me if you have any other questions about the project or nests – erik.ost@mrbo.org.



Examining owl plumage under a black light to observe the florescence of porphyrin, a pigment prevalent in new feather growth. This photo from 30 Oct 2020 was taken with an iPad and has not been altered in any way.

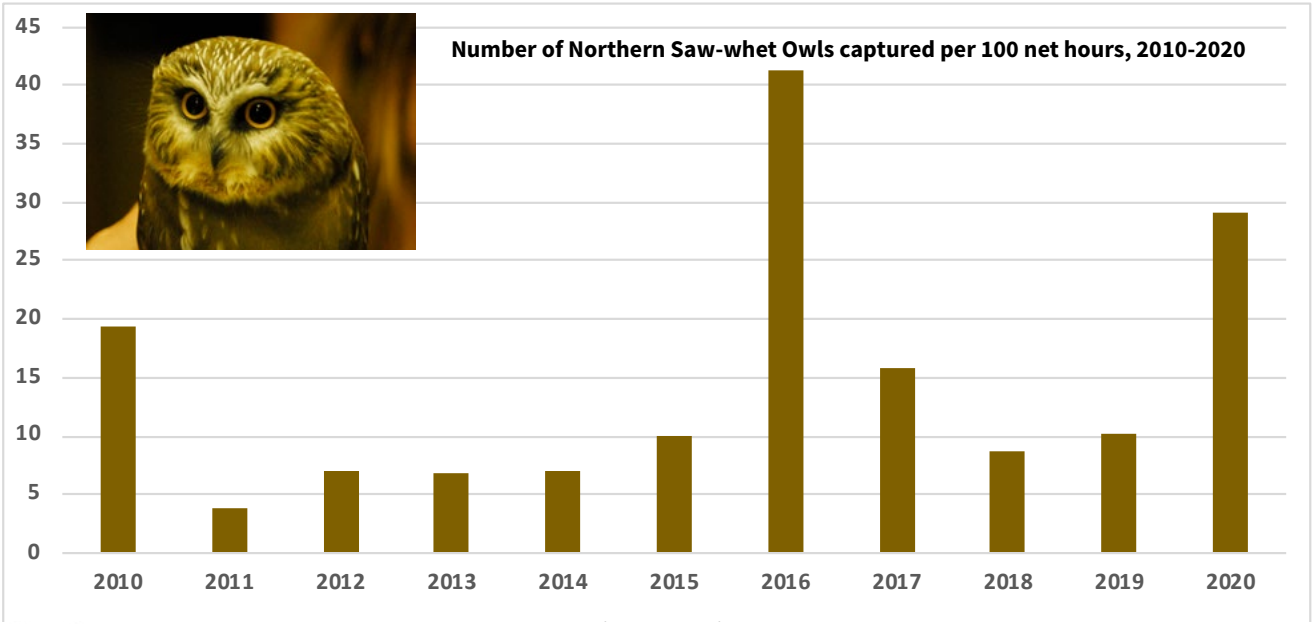
Northern Saw-whet Owl Monitoring 2010-2020

Most of our readers know that MRBO has been banding Northern Saw-whet Owls (NSWO) in Missouri since 2010. We started this project because this small owl is difficult to detect by sight and sound, and many people suspected that the species was more common in Missouri than birding records indicated. Over the first few years of the NSWO banding project, we captured enough owls to demonstrate that they were indeed more abundant in our state than previously thought. Beginning in 2016, MRBO made the owl banding project more accessible to the public by inviting visitation each night at our facility in Arrow Rock. We were not able to have visitors this year, but still operated the owl station to be consistent with annual monitoring.

NSWOs are captured by putting an array of mist-nets around a caller that broadcasts the species' vocalizations. The number of nets (we have three) and the amount of hours the array is in operation gives us the measure of birds per 100 net hours. In this way we are able to more accurately measure the abundance of owls each year. For example, if we ran three nets for 100 hours and caught 100 owls, we know they are in higher abundance in that location, at that time, than if we ran the same amount of net-hours and only caught 10 owls. The table and graph below provide our readers with a picture of MRBO's owl banding operation over the years. If you would like to see NSWO banding in action, please visit our Facebook page (facebook.com/moriverbirdobs) to see several videos we livestreamed this year in lieu of having visitors.

See you next fall for owl banding in Arrow Rock!!

Location in Missouri	Year	Total Owls	Nights in Operation	% Nights Successful
Various	2010	11	4	75%
Various, mostly Marshall	2011	23	31	74%
Various, mostly Marshall	2012	47	43	53%
Marshall	2013	14	20	40%
Various, mostly Marshall	2014	18	24	54%
Marshall & Arrow Rock	2015	10	9	50%
Arrow Rock	2016	51	11	100%
Arrow Rock	2017	30	18	67%
Arrow Rock	2018	12	12	75%
Arrow Rock	2019	12	10	70%
Arrow Rock	2020	36	11	82%



2020 - An Irruption to Remember

by MRBO supporter Mary Nemecek

President, Burroughs Audubon Society of Greater Kansas City

PIne Siskin on 30 October 2020 by Paul MacKenzie, Columbia MO

In a year with headlines and stories that can stop you in your tracks, one of the most memorable may have come from Audubon- 'Pine Siskins Have Taken Over the Country' (Del-Colle 2020) and in fact they have! Politics and pandemic aside, the most expletive message you may receive this winter is from anyone with a feeder in their path, announcing an astonishing number of Pine Siskins in their yard.

This Pine Siskin irruption of the decade, and possibly beyond, was largely a surprise. Each year scientists and birders anxiously await the Winter Finch Forecast. The forecast had been produced by Ron Pittaway for decades. In the 70s Pittaway began informal predictions of irruptions based on conifer crops in Algonquin Provincial Park in Ontario, Canada. Word of his predictions began to spread and so did the input of conifer crops, from the Adirondacks to Alaska.

Irruptions occur when there is a poor seed crop of birch, alder and other conifers in northern areas forcing birds south in the search for food. The current collection of data for winter finch forecasts asks volunteers to rate the seed crops in their area as poor, fair, good, excellent or bumper. Pittaway would then assemble a map of seed crops. Predictions include eight individual species: Pine Grosbeak, Purple Finch, Red Crossbill, White-winged Crossbill, Common Redpolls, Hoary Redpoll, Pine Siskin and Evening Grosbeak. The report forecasts movement of northern irruptive species to Ontario and adjacent provinces and states. The much-anticipated report is kept under wraps until its release in September.

This fall Pittaway announced his retirement and his admired collaborator, Tyler Hoar, took over the helm and penned the Winter Finch Forecast 2020-2021. The prediction for Pine Siskins was:

> "Large numbers of siskins are currently being reported in areas with excellent spruce crops in the western boreal forest. The siskins likely will remain concentrated in Western Canada with its heavy spruce cone crops for the winter. The smaller numbers remaining in the eastern boreal forest should move southward looking for food. At feeders they prefer nyger seeds in silo feeders." (Hoar 2020)

Move they did and in much larger numbers than anticipated, sparking something extraordinary in this Pine Siskin irruption. Pine Siskins are considered to only migrate during the day. They had only been documented migrating at night once before, during the impressive irruption of 2008. Between October 10 and October 16, 2008, one hundred ninety Pine Siskins were recorded migrating at night near Gardiner, Maine. This was the first and only time this had been observed until October 11th, 2020. The flight call of several hundred Pine Siskins were recorded between 11pm and dawn in Middlesex County, Massachusetts.

The reason for this unusual occurrence was speculated in a paper following the 2008 irruption:

> "Nocturnal migration could be a behavioral trait that is only expressed by finches under extreme conditions of food shortage which induce long distance migratory movements similar to those seen in determinate long-distance migrants". (Watson 2011)

This irruption has included 50 or more Pine Siskins draining nyger and sunflower chips feeders across the state. In typical years, a few individuals may be reported in the fall and the species may go unreported all winter. In irruption years hundreds can be reported from a single location and reports can linger into May.

This year will be noteworthy for more than its epic Pine Siskin irruption. Evening Grosbeaks are moving in the largest numbers in 20 years and that is big news in Missouri! In the twentieth century Evening Grosbeaks were considered a more frequent visitor to Missouri. Population declines have made the Evening Grosbeak an extremely rare occurrence in Missouri. Since 1990 there have only been six winters this species was seen in the state. Only one to two individuals were reported statewide in

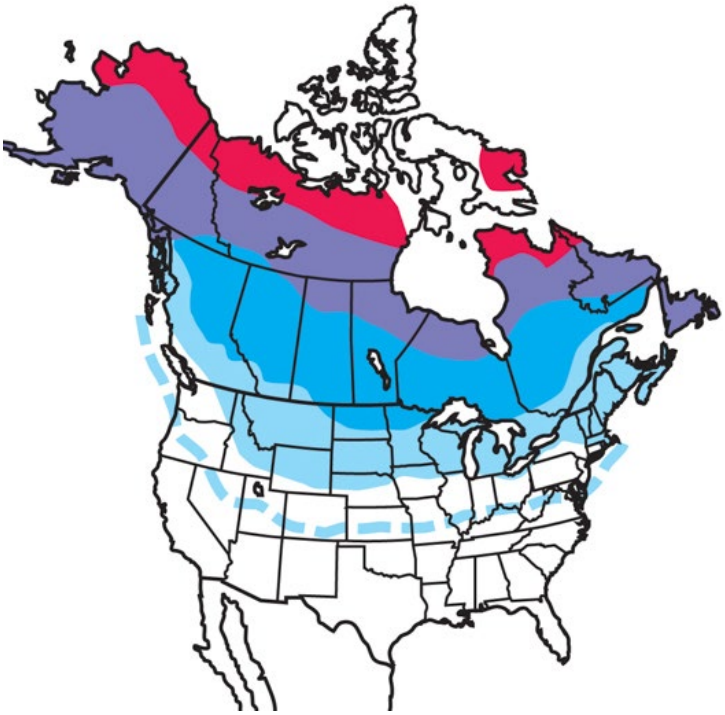
five of those six years. This year there have already been a handful of reports with photographs around the state. Should Evening Grosbeaks show up at your feeder do not underestimate their colossal appetite for black oil sunflower seed.

Common Redpolls are also on the move in the largest numbers in a decade. Limited seed from birch and alder has them pushing south as well. Sightings have come from as far west in Missouri as Parkville.

Redpolls prefer nyjer/sunflower chip feeders but will also eat black oil sunflower seed. This is a rare species in winter but can have single digits seen during some winters in Missouri. It is not recorded in the state every winter.
Watch reports for a movement of Hoary Redpolls. There are only three records for Missouri of this species and it would be an extraordinary sighting in the state but is possible as this flight continues.

What is certain is there is more news on the irruption to come this winter. Purple Finches and Red-breasted Nuthatches are on the move as well. Additionally, it would be prudent to check any cone ladened pine area for Red or White-winged Crossbills. You can follow along with reports and movements on eBird (www.ebird.com) and The Finch Research Network (www.finchnetwork.org).

Above: **Common Redpoll on 17 Nov 2020 by Paul MacKenzie, Columbia MO**
Below: **Redpoll range map; dotted line shows irruptive winter movement**



References

Del-Colle, A. 2020. 'Pine Siskins Have Taken Over the Country' , Audubon, accessed 18 November, 2020 < https://www.audubon.org/news/-pine-siskin-finch-irruption-fall-2020>

Hoar, T. 2020. Winter Finch Forecast 2020-2021, Finch Research Nework, accessed 18 November 2020 < https://finchnetwork.org/winter-finch-forecast-2020>

Hoar, T. and M. Young. 2020. Irruption Alert: Redpolls Ride South in Perhaps Their Largest Push in Almost a Decade, Finch Network, accessed 18 November, 2020 < https://finchnetwork.org/irruption-alert-redpolls-ride-south-in-perhaps-their-largest-push-in-almost-a-decade>

Mandelbaum, R. 2020. 'Irruption Alert: Astonishing Pine Siskins Nocturnal Migration', Finch Research Network, accessed 18 November, 2020 < https://finchnetwork.org/irruption-alert-astonishing-pine-siskin-nocturnal-migration?fbclid=IwAR2cL-cQCgqJYkmtXirZ8wF8udnKfqGHcOhVzotFvVKWXGai9axq4PCvrSs>

Mandelbaum, R. 2020. The Man Behind the Brilliant Winter Finch Forecast is Passing the Torch', accessed 18 November 2020, <https://www.audubon.org/news/the-man-behind-brilliant-winter-finch-forecast-passing-torch>

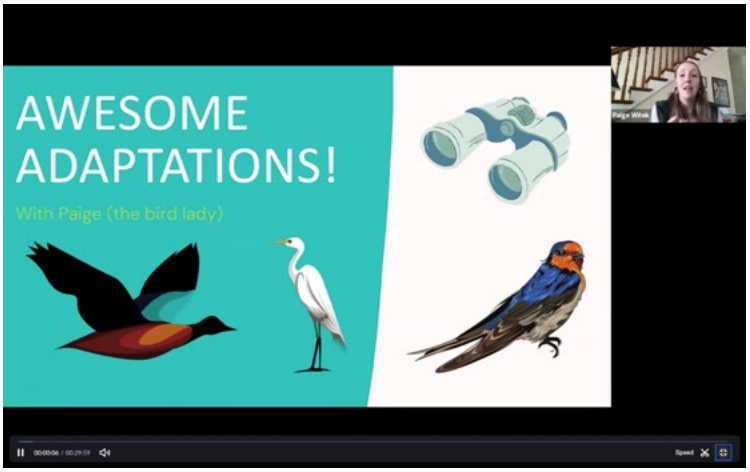
Watson, M., J. Wells and R. Bavis. 2011. First Detection of Night Flight Calls by Pine Siskins, The Wilson Journal of Ornithology Vol. 123, Issue 1 (Mar 2011), pg(s) 161-164

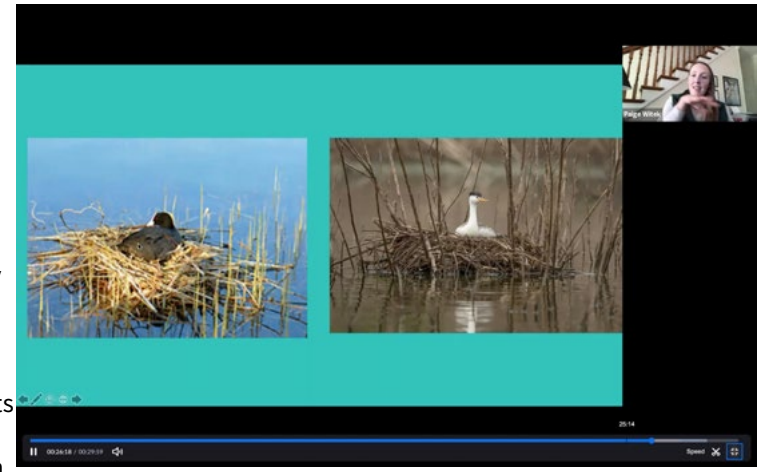
Education

To Contribute to the conservation of Missouri's birds and their habitats **by providing opportunities for Missourians of all ages to spend more time outdoors and to learn about species and habitat conservation.**

Supporting Students, Teachers and Administrators

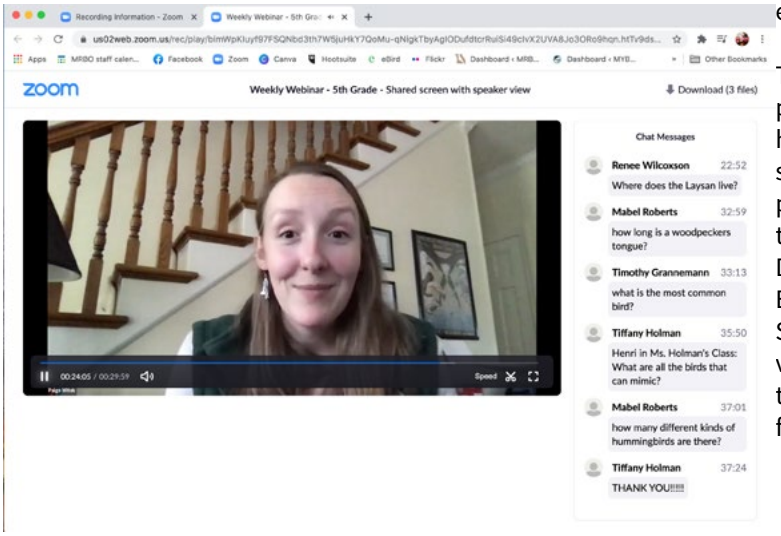
by Paige Witek, Education Coordinator





Get ready, because in the coming weeks we will be rolling out lesson plans for what we call our Virtual Nature School. We will be providing standards-based lessons tied specifically to Missouri ecosystems. Teachers will be able to use these lessons in both in-person and virtual settings. Each lesson will consist of an introductory video, assessment materials, another video expanding upon the lesson theme, and a relevant activity that can be done both in the classroom and individually at home. We will be rolling these lessons out unit by unit starting with Grades 6-8, followed by Grades 3-5 and Grades 9-12. Each grade level group will have four units tied to Department of Elementary and Secondary Education (DESE) standards and contain only plant, insect and wildlife examples from Missouri to help students connect with the nature that surrounds them. We hope these materials and resources will assist teachers in adapting to the COVID-19 pandemic and provide them with new ways for students to learn about Missouri's birds and their habitats. And this is only part one of this two-part project!

In addition to the lesson plans, we have begun a Weekly Webinar series for the Virtual Nature School. These Weekly Webinars are held through Zoom where we directly conference into the classrooms to provide a short, live presentation on a variety of bird-related topics that correspond with the DESE standards and what the students are learning in science class. After the short presentation, the rest of the time is used for a Q&A session. This program has been very rewarding for staff and seems to be successful in sparking the students' curiosity about birds. Right now, we are in the pilot phase of the Weekly Webinar program with Columbia Public Schools, but once we get it all worked out, we hope to expand to schools across the state.



This project would not be possible without our partners, particularly the Missouri Department of Conservation for helping us get the Weekly Webinar program with schools started and for their financial support of our virtual programming. ALSO, some more exciting news! Due to funding from the Missouri Department of Economic Development, we were able to hire an Environmental Education Virtual Intern to assist us with the Virtual Nature School project. This internship will be conducted entirely virtual and we look forward to the opportunities and the challenges this entails. Please read more about our fantastic new hire, Pamela Price, on the next page.

Welcome to our new Education Intern, Pammi Price!

Pamela (Pammi) Price is a Certified Wildlife Biologist, with a Bachelors of Wildlife Management from SUNY Cobleskill where many courses were focused on bird related subjects including Ornithology and Ecology and Management of Waterfowl. During her time at SUNY Cobleskill she worked with The Emma Treadwell Thacher Nature Center at John Boyd Thacher State Park in Voorheesville, New York where she helped create a bird themed display and lesson plan and prepared a taxidermy mount of a Downy Woodpecker for the Nature Center.

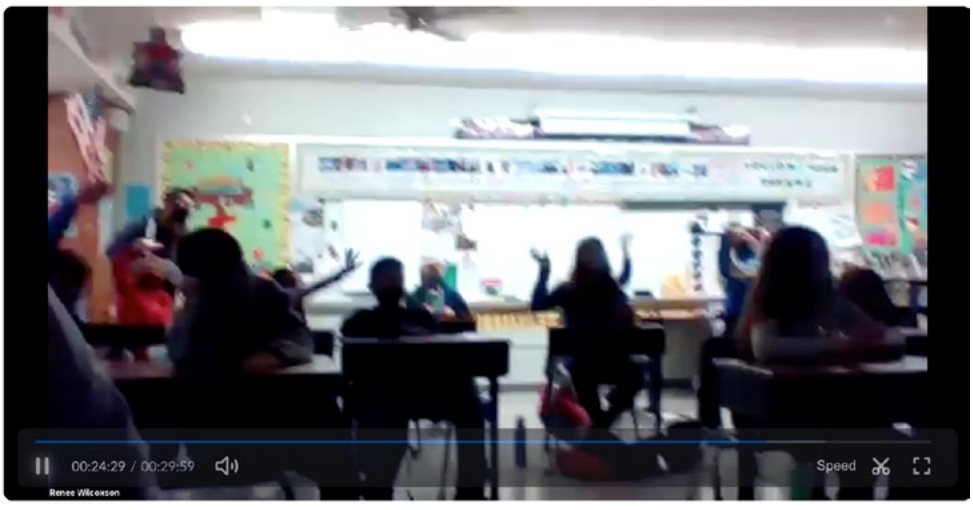
Pammi is currently the Education Program Coordinator at Mud Creek Environmental Learning Center, the education arm of Columbia County Soil and Water Conservation District in Ghent, New York, where she is responsible for education and awareness programs, nature interpretation and brochure and exhibit development. Prior to that, she worked as a Natural Resource Specialist performing natural resource inventories, wetland delineations, and threatened and endangered species work.

Pammi is also an Environmental Education Master's degree candidate at Bard Center for Environmental Policy in Annandale-on-Hudson, NY, where she hopes to gain more tools including place based and inquiry-based teaching, curriculum development and educational approaches to enhance educational opportunities for everyone. During her studies at Bard she created a Unit Plan in Curriculum and Assessment class which was built around birds with lessons created to help students understand biodiversity, behavior, reproduction, diversity and adaptations of organisms, predator/prey relationships, conserving resources and environments. She also teaches about the health benefits of nature and the ways it helps to create community connections; see her blog post about it – The Power of Nature: How Getting Outdoors can Help us Cope with the COVID-19 Pandemic.

As part of her graduate program, Pammi is just wrapping up a 6-month internship with Kite's Nest, a center for liberatory education in Hudson, New York where she has been helping teach lessons related to environmental awareness and conservation, community engagement and public education, environmental justice, collective and personal consciousness and action, business creation and development, and food sovereignty: through teaching growing, production, cooking, and preservation skills. Pammi has been in her element in the learning garden, working with at-risk youth. See her blog post on the experience here.

Pammi has recently started using citizen science in her education programs and hopes to gain more knowledge and insight into the practice of citizen science through the Citizen Science Association where she is a member of the communication committee and collaborated on a blog post this summer which talked about the importance of mentors and connections. Her Master's thesis will explore how the design and implementation of a collaborative citizen science project focused on preventing and reducing nutrient pollution in lakes may impact community participants. Pammi is also a member of the New York State Outdoor Education Association where she is an active member of the Equity, Access, and Inclusion Committee.

As the Environmental Education Virtual Intern with Missouri River Bird Observatory, Pammi is excited about the opportunity to combine her environmental education, wildlife biology and fine arts skills to help develop effective lessons through work on MRBO's Virtual Nature School; as well as learning more about working in the virtual-learning environment. She is also looking forward to engaging with the Missouri Young Birders Club project hoping to bring her passion and enthusiasm for birds to young Missouri birders while sharing her nature knowledge with them.



Outreach in the virtual landscape

Providing fun & educational programs in cyberspace

by Dana Ripper Duke, Director

Two of the things I'm most thankful for this year are 1) technology that allows us to gather from our own homes and 2) the incredible adaptability of the MRBO staff in transforming our numerous education and outreach programs to virtual opportunities. Since April, MRBO has held 33 webinars for the public, presented at 12 virtual events with partners, hosted 15 educational meet-ups for kids, and conducted a two-session summer camp for young people over two months that facilitated nature explorations in their own backyards. Additionally, we shifted the organization's 10th Anniversary celebration to a virtual event and online auction that were both very successful (thank you, MRBO supporters!!).

While I miss seeing friends, colleagues, and students in person, much of the virtual operation has been a lot of fun. Also, MRBO and other organizations are able to reach people that live outside of our typical geography – we've had folks from all over the country attend our virtual events, and I've heard the same from other organizations. Many professional meetings have had double or more attendance compared to the typical year. I look forward to MRBO's outdoor education programs returning to in-person events in 2021, but a lot of our meetings can continue to be virtual, saving time and money!

From my standpoint as both an attendee and presenter, some of the most enjoyable virtual events have been the Deep Roots Plan It Native conference, the National Wildlife Federation Women in Conservation Leadership conference, and the Climate Reality Project leadership training that Zeb, Paige, Ethan and I attended this summer. It has also been fun working with the MRBO staff to present our own webinars such as *Landscaping for Birds*, *Wild in the Wetlands*, *Environmental Justice for People and Birds* and virtual Northern Saw-whet Owl banding. I am extremely thankful to our colleagues from the Missouri Department of Conservation, Stream Teams United, Burroughs Audubon, Johnson County Community College, MU's Raptor Rehab Project, Missouri River Relief, Missouri Rural Crisis Center, Missouri Coalition for the Environment and the Missouri Prairie Foundation for partnering with us on virtual events. Almost all of these events were recorded and provide us with an archive of educational materials that can be used in the future (find them here: https://mrbo.org/mrbo-webinars).

Advocacy

To Contribute to the conservation of Missouri's birds and their habitats **by advocating for sound, science-based conservation policy that benefits birds, other wildlife and environmental quality.**

Community Advocacy Workshops

In the fall of 2019, MRBO and several partners submitted a proposal to the National Audubon Society to partner with the Audubon Campaigns Team on two community advocacy workshops. Our proposal was accepted and two public workshops were scheduled in 2020 to take place in Kansas City and Jefferson City. Since those in-person workshops were not possible this year, we worked with the Campaigns Team to host a virtual workshop over two sessions in October. Attendees learned about the successful solar energy campaign that Audubon and its allies conducted in Arkansas last year, the basics of issue (not candidate) campaigning, how to assess your power and influence as an individual and organization, and the best ways for building relationships with elected officials. After the Audubon team led us through an excellent training workshop, local partners held breakout sessions on several issues currently pertinent to Missouri and Kansas. MRBO followed up with a "Community Advocacy Revival" meeting a few weeks later where we reviewed the Audubon training and discussed community-level action.
You can view the recordings of the Audubon Campaigns training here: https://mrbo.org/citizens-advocacy-workshop/
Sign up to receive the free and very helpful Audubon Advocacy Manual by mail here: https://forms.gle/igAEfoqgqCH1Zy4d6

Conservation Opportunities at the Missouri Capitol

Prior to the 2020 Primary Election, the Conservation Federation of Missouri (CFM) sent a survey to all Missouri state and federal candidates asking their views on a variety of conservation issues. These included the importance of public lands, prescribed fire legislation, local control of plastic disincentives, and community conservation programs. Almost 80 candidates answered CFM's survey and you can see the results here: https://www.confedmo.org/candidates/ These survey results, along with public statements and information provided by elected officials' websites, give conservationists a great starting point for reaching out to their legislators. By examining policy platforms and the proposed bills that will begin to be filed in December, we Missourians can educate ourselves on conservation-related happenings in Jefferson City. Along with our partners at CFM and other local organizations, MRBO will continue to advocate science-based wildlife conservation policies with our legislators. Join us – your voice is important!

> *Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it's the only thing that ever has.*
>
> *-Margaret Mead*

#BirdSafeKC

The Bird Safe Kansas City project, which advocates for reducing avian window collisions based on robust data, just finished the fourth season of its data collection. The survey portion of the project, BirdStrikesKC, began in spring 2019, continued in the fall of that year, and was greatly reduced in spring 2020 due to stay-at-home orders in place at the time. Volunteer surveyors have recently completed a full fall migration season. The data will be presented in the BirdSafeKC 2019-2020 report in late December and used as the basis for continued outreach to building owners. The ultimate goal of the project is to implement window treatments on the most strike-prone windows in downtown Kansas City and surrounding areas.

This year, BirdSafeKC entered into a partnership called Lights Out Heartland (https://lightsoutheartland.org) with several other bird conservation organizations and a premier astronomers' society, the International Dark Sky Association – Missouri Chapter. Both birds and the people who love stargazing benefit from reducing the light pollution caused by artificial light at night. The goal of Lights Out Heartland is to work with businesses and individuals across the region to reduce nighttime light pollution. As an added bonus to reducing artificial light at night, energy consumption and cost go down as well.

Upcoming Events

As the weather turns colder and we are all hunkering down in our warm homes for the holidays, MRBO and other organizations are offering many fun learning opportunities online! Join us for the following virtual events. See you in cyberspace!

Tuesday December 8th at 5:30 p.m. ***Bird Photography in Missouri***
With panelists David Stonner, MDC staff photographer and MRBO photo contest judge, and Steve Johnson (photo *right*) and Amy Watts (photo *left*), co-winners of the Grand Prize in 2019. We'll review some of the wonderful bird photos that have been submitted to MRBO's annual photo contests and discuss photography methods, what makes a great bird photo, and the photographers' personal experiences with their craft.

Register here: https://us02web.zoom.us/webinar/register/WN_TaphJD7eQ_G4gLBRigQNjQ
or find the link on mrbo.org/mrbo-webinars

Wednesday December 9th at 4:00 p.m. ***Grow Native! Webinar: Happy Healthy Habitats with Paula Diaz***
Native gardens can be both functional and beautiful, but they don't have a strict set of rules. Why not use our time to enjoy our gardens rather than tame them? In this talk, Paula Diaz will help transition our brains from keeping "neat, tidy, and clean" gardens to "happy, healthy habitats."
Register here: https://moprairie.org/event/grow-native-webinar-happy-healthy-habitats-with-paula-diaz/

Friday December 11th at 7:00 p.m. ***BRRRRding: Common Winter Bird ID with Sarah and Dana***
Welcome to the first of the Missouri Birding Society's workshops! State Ornithologist Sarah Kendrick and MBS President Dana Ripper will present ID tips on Missouri's winter birds, such as finches and siskins, along with some of our irruptive winterers like Red-breasted Nuthatch. This workshop is beginning to intermediate level.
Register here: https://mobirds.org/ASM/SpecialEvent.aspx?id=3

Tuesdays December 15th and 29th at 5:30 p.m. ***Birds of South America***
Join MRBO's Erik Ost, Ethan Duke and Matt Longabaugh for a virtual exploration – complete with beautiful photos! – of South American birds. Erik spent three months in Bolivia's tropical savannah working on a Blue-throated Macaw project and also spent two weeks birding in Peru. Matt worked recently in the montane forests of eastern Ecuador for three months, logging 400 species during his time there. Ethan spent time watching and photographing birds in the Galapagos Islands and the Ecuadorian Amazon in 2013.
Register here: https://us02web.zoom.us/webinar/register/WN_mt7Vkd8dTQmPYEfqdIAf2A
or find the link on mrbo.org/mrbo-webinars

Now until December 31st at 11:59 p.m. ***MRBO's Fifth Annual Photography Contest!***
We are now accepting entries in several categories for the *Hope is the Thing With Feathers* photo contest! Cash prizes for youth and adult entries are offered for each category. See all details and entry instructions here: https://mrbo.org/photocontest2020/

Hope is The Thing With Feathers 2020
The Missouri River Bird Observatory's
Fifth Annual Photography Contest

Thank you to our contest sponsor!

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Thank you for your Support

The following individuals or organizations have provided support since the publication of our last newsletter. We give thanks to them and to all who have supported the Missouri River Bird Observatory in 2020 and throughout our first decade!

Anonymous	
Alpha Benedetti	Naperville, Illinois
Brad & Suzanne Wright	Columbia, Missouri
Brooke Widmar	Columbia, Missouri
Carol Davit & Mike Leahy	Jefferson City, Missouri
Charles & Susan Linn	Kansas City, Missouri
Chet Breitwiser & Rodney Starns	Belleville, Illinois
Dan Curran	Ballwin, Missouri
Denise & Warren Loveland	LaCrosse, Wisconsin
Diane Benedetti	Marshall, Missouri
Donna & John Huston	Marshall, Missouri
Ed Smith	Brentwood, Missouri
Edward Milbank	Chillicothe, Missouri
Jim & Timmie Wiant	St. Louis, Missouri
Joann Billington	Gravois Mills, Missouri
Kalen Brady	Rolla, Missouri
Karen Meyer	St. Louis, Missouri
Krystal Anton	Kansas City, Missouri
Laura & Phillip Ost	Ashburn, Virginia
Laura Robinson	Kansas City, Missouri
Leslie & Nick Huston	Marshall, Missouri
Lisa Berger & Charley Burwick	Springfield, Missouri
Lucy Fletcher, AGRIServices of Brunswick	Brunswick, Missouri
Lynn Richardson	Kansas City, Missouri
Marc & Diane Prigmore	Kansas City, Missouri
Mark VanderVen	Pittsburgh, Pennsylvania
Mark Zurbrick	Newberg, Missouri
Myra & Truman Christopher	Kansas City, Missouri
Neal & Gail Vreeland	Poultney, Vermont
Sarah Hobbs	Kansas City, Missouri
Sarah Kendrick	Jefferson City, Missouri
Steve & Regina Garr	Jefferson City, Missouri
Steve Rinne & Barbara Mueth Family Fund	Kansas City, Missouri
Steve Schnarr & Mel Cheney	Columbia, Missouri
Susan Dyer	Independence, Missouri
Theresa Cline	Edwards, Missouri
Theresa Enderle	Independence, Missouri
Wayne Morton	Osceola, Missouri
Wood & Huston Bank	Marshall, Missouri

"Feeling gratitude and not expressing it is like wrapping a present and not giving it."
-William Arthur Ward, American Poet and Writer

We have been extremely blessed at MRBO and in these past few years have experienced much love and support from friends, family and the community as a whole. There are so many people to thank and it is not always possible to express our gratitude as much as we would like.

For several years, an anonymous donor has generously given with no expectation of thanks. For this support we wish to give heartfelt thanks because often these donations allowed us to keep going forward.

We have what we call "the unsung heroes"; those who have been supporting MRBO with sometimes small but always meaningful donations for almost all of our ten years. You are at the heart of the organization, you keep the lifeblood flowing.

And, of course, our volunteers, without whom MRBO would not have been able to undertake many of the causes vital to our mission.

To everyone, we wish to give you our "present" that is filled with not only gratitude but also our sincere wishes for health and happiness in the years ahead.

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May All Your Christmases Be Bright by Tom Tucker