KANSAS ORNITHOLOGICAL SOCIETY

73rd Annual Meeting

Benedictine College
Atchison, Kansas

30 September - 2 October 2022

Schedule of Events

Friday, September 30
6:30-8:00 p.m. - Informal gathering at Westerman Hall, Biology Lab 203, Benedictine College Campus (look for signs).

Saturday, October 1
All Saturday events will be on the Benedictine College Campus.

7:00 a.m. – Meet in the parking lots south of Westerman Hall for informal morning birding around the town of Atchison.

All afternoon activities will be in Westerman Hall, Murphy McPhee auditorium.
1:30 - registration

2:00 – 3:00 p.m. – Birdwatchers Hour. An opportunity for you to show your bird photos from the past year. Please bring your photos on a flash drive.

3:00 - 4:30 p.m. – Paper session.

4:30 p.m. (or as soon as the paper session is over) – KOS Business Meeting

6:00 – 7:00 p.m. – Banquet in the Ferrell Academic Center, McAllister Board Room, (4th floor.)

7:00-9:00 p.m. Awards and speaker. "A History of Nesting Bald Eagles in Kansas" will be presented by Mike Watkins. Mike is a retired wildlife biologist with the US Army Corps of Engineers. Mike spent much of his career monitoring nesting Bald Eagles in Kansas and has continued to be involved with this project in retirement. Mike received the KOS Avian Conservationist of the Year Award in 2009.

Sunday, October 2
7:00 a.m. – Half day field trips will include areas around Atchison and surrounding areas. Field trip destinations and group leaders will be announced during the day on Saturday. Meet at the parking lots near Westerman Hall.

12:30 p.m. – Compilation at the Westerman Hall parking lot where the field trips originated from. There is no box lunch option - bring your own lunch!

KOS Officer/Board Slate for 2022 – 2023

President – Jenn Rader
Vice President – David Rintoul
Corresponding Secretary – Chuck Otte
Membership Secretary – Jeff Calhoun
Treasurer – Max Thompson
Business Manager – Malcolm Gold
Editor, *The Bulletin* – Eugene Young
Editor, The Horned Lark – Chuck Otte

Board Member – Andrew George
Board Member – Terry Mannell

Positions not needing a vote
Board Member – Kurtis Meier
Board Member – Robert Penner
Past President – Cheryl Miller

Presented Paper Abstracts

Rainfall mediates population dynamics in a mobile grassland songbird

Silber, K.,[1] A. Louthan[1], N.E. Freeman[1], T.J. Hefley[2], W.A. Boyle[1]
[1] Kansas State University, Division of Biology, Manhattan, KS 66506
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In mobile species, population growth is determined by births, deaths, and movement in and out of the population. Each vital rate may vary in response to environmental conditions, such as weather variability and land management. The Central Great Plains of North America is a highly dynamic biome that is subject to spatial and temporal variation in weather and land management, and grassland species have developed flexible life history traits and behavior in response to this variability. For example, grassland birds often move to other sites, which ultimately may influence population growth. However, we know little about the importance of movement for population growth relative to variation in other vital rates such as births and deaths. Understanding the relative importance of each vital rate is essential for developing accurate predictions of population growth, particularly under variable weather conditions. We assessed changes in Grasshopper Sparrow (*Ammodramus savannarum*) population growth from 2013-2020 at the Konza Prairie Biological Station in NE Kansas. Using vital rate estimates from an integrated population model, we found the population growth rate varied more in response to adult apparent survival (i.e., true survival and emigration) than to fecundity, juvenile survival, or immigration. We also found rainfall impacts individual vital rates, thereby determining annual population growth rates and population persistence. Our study elucidates that quantifying movement rates within mobile species in highly variable environments will be critical for predicting trends in population growth.

Evaluating the avian and vegetative communities on strip mined land

Luke Headings*, Andrew George, Christine Brodsky (Department of Biology, Pittsburg State University)

The Mined Land Wildlife Areas (MLWAs) of Southeast Kansas represent a diverse patchwork of ecosystems in varying stage of succession, including grasslands, shrublands, and forests. The goal of our study is to assess the conservation value of strip-mined land for bird communities. We conducted fixed radius point counts and vegetation sampling at 84 locations in SE Kansas and SW Missouri during the summers of 2019 – 2022. We also conducted nest searching and monitoring efforts to estimate nest survival for three shrub-nesting species: Bell's Vireo (*Vireo bellii*), Indigo Bunting (*Passerina cyanea*), and Northern Cardinal (*Cardinalis cardinalis*). A total of 89 species were detected, including 14 species of greatest conservation need. We located and monitored 186 nests from our three focal species, 18% of which fledged young. Preliminary analyses indicate that reclaimed mined land may support similar bird communities to unmined areas. However, it remains unclear if sites dominated by invasive plant species are negatively affecting individual species' presence or nesting success. Ongoing work will continue to evaluate the relationships between mined land vegetation and bird communities to inform habitat restoration on the MLWAs.

The effects of thirty years of forest management on Neotropical migrant songbirds

Mary C. Marine (*) & Andrew D. George, Department of Biology, Pittsburg State University

Natural resource management can play a considerable roll in the demography and community dynamics of songbirds. With the widespread decline of North American birds, it is essential to understand the short- and long-term effects of timber harvest on forest birds and how land management can best support their habitat. The Missouri Ozark Forest Ecosystem Project (MOFEP) is a landscape-scale, long-term experiment which seeks to understand how Neotropical migrant songbird communities respond to even-aged, uneven-aged, and no-harvest forest management. Thirty years into this 100-year project, much has been learned about the impacts of silviculture on bird nest survival, abundance, and community composition. Findings have revealed how mature forest species and early successional species respond to management at differing scales, and how community structure changes in the decades following timber harvest. Results from MOFEP can be applied by managers to support target species, or to implement management strategies that balance needs of forest songbird communities as a whole. We provide a synthesis of previous MOFEP research, discuss applications, and share future directions of one of the most comprehensive studies of upland forest bird ecology to date.

Developing a Motus network to study grassland bird movements

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The Motus Wildlife Tracking System is an international network of automated telemetry receiver stations that offers an effective method to study movements of small animals. Birds tagged with coded radio transmitters are detected as they pass within ~15 km of any station in the network, and all detections across the network are centrally stored and disseminated. The network has rapidly grown from covering regions of the northeastern USA and southeastern Canada to stations in most continents on Earth. Whereas many Motus users are interested in tracking migrant birds over continental scales, we aim to fill an urgent information gap regarding regional movements of many declining, grassland birds in Kansas. This guild of birds appears to exhibit unusual flexibility in where they breed from year to year, and even within years, but we have much yet to learn about these movements. While sparse coverage of receivers is appropriate for detecting large-scale movements, the kinds of movements we aim to understand occur over 10s to 100s of kms. Our goal is to place a receiver station in every county in Eastern Kansas. We are targeting core grasslands, such as the Flint Hills, in addition to surrounding fragmented grasslands to understand how landscape configuration influences movements. In collaboration with many entities, Kansas now has 12 operational receivers, with commitments for several more. We share here what new scientific insights this emerging network can provide and public education opportunities that will improve local knowledge of bird movements and our grasslands.

Thank you to Dr. Virginia Winder and Benedictine College for hosting the 2022 KOS Fall Annual Meeting!