

KANSAS ORNITHOLOGICAL SOCIETY

64th Annual Meeting



**Winfield, Kansas
Southwestern College**

28 - 30 September 2012

64th Meeting of the Kansas Ornithological Society Winfield, Kansas

Schedule at a glance

Friday, September 28

7:00 - 9:00 p.m. Registration and informal reception in Beech Science Center

Saturday, September 29

8:00 a.m. Registration and donuts at Darbeth Hall. Silent auction setup in President's Gallery, Darbeth Hall

9:00 a.m. Welcome and announcements - Messenger Auditorium

9:15 a.m. Paper Session - Messenger Auditorium

11:00 a.m. Business Meeting

11:30 - 1:30 p.m. Lunch for attendees and meeting of the board in Roy L. Smith Student Center. Lunch in the college cafeteria is available to everyone for \$6.00.

1:30 p.m. Birdwatchers Hour

2:30 p.m. Paper Session

4:00 p.m. KOS Business Meeting

6:30 - 7:30 p.m. Banquet in Roy L. Smith Student Center

7:30 - 9:00 p.m. Awards and speaker, Messenger Hall

Sunday, September 30

6:30-12:00 p.m. Field Trips - Meet at Beech Science Center. Field trip destinations may include Winfield City Lake, Slate Creek Wetlands, Grouse Creek, Thompson Pasture and other locations.

12:00 p.m. Lunch and compilation at Lion's Pavilion, Island Park

Details for Saturday

- 8:00 a.m. Registration and donuts at Darbeth Hall. Silent auction setup in President's Gallery, Darbeth Hall
- 9:00 Welcome and Announcements
Chuck Otte, President, Kansas Ornithological Society
Max Thompson, Local Committee Chairman
- 9:15 **Habitat Associations of Grassland Birds Along a Gradient of Eastern Redcedar Succession** - *Scott W. Schmidt* and Elmer J. Finck, Department of Biological Sciences, Fort Hays State University*
- 9:30 **Bird Occupancy in Relation to Habitat Structure in the Cross Timbers of Kansas** - *Nathan S. Holoubek* and William E. Jensen, Department of Biological Sciences, Emporia State University*
- 9:45 **State Acres for Wildlife Enhancement and Grassland Birds: Implications for the Role of America's Farmland in Conservation** - *Alaina D. Thomas*, L. B. McNew, B. K. Sandercock, Division of Biology, Kansas State University*
- 10:00 Break and Silent Auction
- 10:15 **Habitat Characteristics Surrounding Prairie-Chicken Leks of Different Sizes in Northwestern Kansas** - *Victoria Cikanek* and Greg Farley, Division of Biology, Fort Hays State University*
- 10:30 **Greater Prairie-Chicken Predation Pressure in Central Kansas** - *Lyla M. Hunt*, L. B. McNew, A. J. Gregory, and B. K. Sandercock, Division of Biology, Kansas State University*
- 10:45 **Effects of Grazing Treatments on Nest Success of Wet Meadow Breeding Birds at Cheyenne Bottoms Preserve, Barton County, KS** - *Clinton J. Helms*, Jordana J. LaFantasie, Department of Biological Sciences, Fort Hays State University and Robert Penner, The Nature Conservancy, Kansas Chapter*
- 11:00 Business Meeting
- 11:30 - 1:30 Lunch for attendees and meeting of the board in Roy L. Smith Student Center. Lunch in the college cafeteria is available to everyone for \$6.00.
- 1:30 p.m. Birdwatchers Hour
- 2:30 **Changes in Breeding Phenology and Reproductive Success of Long-Distance Migratory Shorebirds: Comparative Study Over Two Decades** - *Eunbi Kwon¹*, David B. Lank² and Brett K. Sandercock¹, ¹Division of Biology, Kansas State University, ²Centre for Wildlife Ecology, Department of Biological Sciences, Simon Fraser University, Burnaby, BC, Canada*
- 2:45 **Demographic Responses of Greater Prairie-Chickens to Patch-Burn Grazing on Private Lands** - *Virginia L. Winder*, Amy N. Erickson, Lance B. McNew and Brett K. Sandercock, Division of Biology, Kansas State University*

- 3:00 **A Proposed Large Scale Approach to Assess Free-ranging Cat Populations and Estimate Associated Impact on Free-living Bird Populations** - *Greg Farley* and Andrée Brisson, Department of Biological Sciences, Fort Hays State University*
- 3:15 Break and Silent Auction
- 3:30 **Patch-burn Grazing and Demographic Performance of Grassland Songbirds**
Brett K. Sandercock, Jennifer L. Sojka, Christopher C. Then, and William E. Jensen*
- 3:45 **Is There a Landscape-scale Grassland Habitat Threshold in the Abundance of Upland Sandpiper?** **John Schukman, Leavenworth, KS 66048 and Jeff Neel, Manhattan, KS*
- 4:00 p.m. KOS Business Meeting
- 6:30 p.m. Banquet in Roy L. Smith Student Center
- 7:30 p.m. Awards and speaker, Messenger Hall

Our post-banquet speaker, Eugene Young, will present “Wind farms and wildlife issues in Kansas: The process, past, and future.” Gene is a professor of biology at Northern Oklahoma College and co-author of *Birds of Kansas*. He is also editor of the *Kansas Ornithological Society Bulletin* and the *Oklahoma Ornithological Society Bulletin*. He has studied avian mortality associated with transmission towers (TV and cell phone) and wind farms for 20 years. For the past 14 years, his research has emphasized pre- and post- construction wildlife studies at proposed and built wind farms, especially with birds and bats. Gene will provide an overview of the environmental process for building wind farms, requirements for wildlife studies, the history of wind farm development, the “known and unknown” impacts to wildlife, and the future of wind farm development and sighting requirements.

Nominating Committee Report

- President - Henry Armknecht
 Vice President - Matt Gearheart
 Secretary - Curtis Wolf
 Treasurer - Terry Mannell
 Membership Development - Patty Marlett
 Board Member - Nic Allen
 Board Member - Janeen Walters
 Business Manager - Lisa Weeks
 Editor, *Bulletin* - Eugene Young
 Editor, *Horned Lark* - Mark Van Horn

The Board Member positions of Don Kazmaier and Greg Farley do not expire and Chuck Otte becomes Past-President. These positions are automatic and do not require a vote.

Abstracts

(presenter indicated by * following name)

Habitat Associations of Grassland Birds Along a Gradient of Eastern Redcedar Succession *Scott W. Schmidt* and Elmer J. Finck, Department of Biological Sciences, Fort Hays State University*

Control of woody invasive species, primarily eastern redcedar (*Juniperus virginiana*), is a priority land use issue among landowners and managers. While maintaining open habitat for obligate grassland bird species, there is a need to understand how brush management affects birds adapted to early-succession habitats, some of which are declining at statistically significant rates. To assess bird-habitat associations in the context of brush management, study sites were stratified by percent canopy cover of eastern redcedar, (0% canopy cover [open grassland], < 5% canopy cover [encroachment level], and > 5% canopy cover [infestation level]). We used repeated point count sampling to quantify abundance and species composition of breeding bird communities. Data were collected in mixed grass and sand prairie habitats of Barton County Kansas from 2011-2012. Our results indicate that bird diversity within ecological function groups (nest placement and habitat preference) vary across the gradient of eastern redcedar encroachment. A cluster analysis defined three groups of species on the basis of their association with the encroachment gradient. Canonical correspondence analysis revealed that grassland bird species distributions were strongly correlated with percent tree canopy cover and visual obstruction. Sites with redcedar infestation were preferred by lark sparrows (*Chondestes grammacus*) and Bell's vireos (*Vireo bellii*), which suggests that the current brush management recommendations might diminish quality habitat availability for these species of concern. Considering the diverse habitat requirements of grassland birds, landowners and managers should assess how conservation practices for one species might affect others.

Bird Occupancy in Relation to Habitat Structure in the Cross Timbers of Kansas

Nathan S. Holoubek and William E. Jensen, Department of Biological Sciences, Emporia State University*

Oak savanna, once widespread across central North America, has functionally vanished from most of its range due to land conversion and disruption of historic disturbance regimes. The objective of our research was to quantify avian habitat associations across a gradient from open-canopy oak savanna to closed-canopy forest in the Cross Timbers region of southeastern Kansas. By modeling bird occupancy in relation to habitat structure we predicted which species might benefit from restoration of open-canopy savanna. Four point counts were conducted at each of 60 stations in 2012. We modeled species-specific detection and occupancy probabilities against vegetative variables using program Presence (ver. 4.0). We first established the best predictors of detection (p), and then used the top predictor(s) of p when modeling occupancy (ψ). Of 25 species modeled, ψ for 5 was strongly associated with variation in vegetative characteristics, though relationships varied among species. Occupancies of Eastern Wood-Pewee, Blue-gray Gnatcatcher, Blue Grosbeak, and Indigo Bunting peaked at intermediate tree densities or canopy coverages. Orchard Oriole occupancy was highest at low tree densities. These species might benefit from reductions in tree density within otherwise closed-canopy forest. Moderate relationships between ψ and various habitat variables were found for Northern Bobwhite, Carolina Chickadee, Tufted Titmouse, Brown Thrasher, and Field Sparrow; these will be discussed. Point counts will resume in 2013. Quantifying bird habitat use in oak savanna will be useful in guiding future savanna restoration for avian conservation.

State Acres for Wildlife Enhancement and Grassland Birds: Implications for the Role of America's Farmland in Conservation

A.D. Thomas, L. B. McNew, B. K. Sandercock, Division of Biology, Kansas State University*

Grassland birds are in significant decline throughout much of their range because of ongoing habitat loss and degradation. Much of the historic prairie has been converted to crop production so it is important to understand the role land producers can play in the future of grassland bird conservation. In 1985, the U.S. created the Conservation Reserve Program (CRP) for the prevention of farmland erosion. In 1996, wildlife habitat conservation for upland, lowland and endangered species was encouraged through set-aside programs within the CRP. State Acres for Wildlife Enhancement (SAFE) a specific type of CRP available for continuous enrollment since 2008, is intended to restore vital habitat for high priority wildlife throughout the United States. To understand the impacts of the SAFE program in Kansas, we monitored tracts of land enrolled to estimate abundance, diversity, and relative use by sensitive species of grassland birds. Our study was conducted in 7 counties in two ecoregions of Kansas, the Smoky Hills and the Flint Hills. We conducted point-counts in SAFE fields in each county, which were compared to non-SAFE reference fields. We also compared percent cover of vegetation in enrolled versus non-enrolled fields. Our project results will have an impact on future conservation planning within the SAFE program as it relates to agricultural practices for Kansas.

Habitat Characteristics Surrounding Prairie-Chicken Leks of Different Sizes in Northwestern Kansas

Victoria Cikanek and Greg Farley, Division of Biology, Fort Hays State University*

Prairie-chicken populations appear to be declining throughout most of their range. Reasons for this decline include fragmentation of native prairie grasslands by agriculture and anthropogenic development. The landscape within the four-county area of this study (Graham, Rooks, Trego and Ellis) includes a patchwork of row-crop agriculture, grazed pastures and CRP, fragmented by roads, utility lines, and oil development. Recent surveys of this area indicate fairly stable or increasing populations of both Greater and Lesser Prairie-Chicken. Locations of leks and sites where larger numbers of males are displaying may give further insight into what habitat characteristics prairie-chickens are choosing within this highly fragmented landscape. During spring 2011 and 2012, 70 active leks were located and flushed at least two times throughout the lekking season. Males appear to prefer two general land-cover regimes; 31 leks were located in grazed pastures and 39 in row-crop agriculture. Average lek size varied from 3 to 18 males per lek. Vegetation and landscape characteristics were assessed and modeled at three different spatial scales (0 km, 1.5 km and 3 km) in order to determine the best predictors of leks with the greatest amount of birds.

Greater Prairie-Chicken Predation Pressure in Central Kansas

Lyla M. Hunt, L. B. McNew, A. J. Gregory, and B. K. Sandercock, Division of Biology, Kansas State University*

Populations of Greater Prairie-Chickens (*Tympanuchus cupido*) have been steadily declining across most of their historic range over the last 40 years. Predation pressure has been cited as one of the most critical demographic mechanisms contributing to their population decline. We conducted a study examining the role of predators on adult survival and nest success in the Flint and Smoky Hills of Central Kansas. During 2006-2012, we collected genetic samples,

monitored nest predation events, and assessed adult hen mortalities. Over 90% of nest failures and over 80% of adult mortality were the result of predation. We observed seasonal variation in adult predation events with the majority of mortalities occurring during the lekking and nesting periods, and decreasing during the non-breeding period. We observed annual variation in mortality caused by different predator taxa. The highest incidence of mortality was attributed to mammalian predators in earlier years of our study, but switched to avian predators in later years. We also observed variation in prairie-chicken behavior and life-history strategies across different levels of landscape fragmentation. In more fragmented landscapes, hens had lower survival, exhibited greater reproductive effort, and had higher rates of conspecific nest parasitism than in less fragmented landscapes. This type of life-history strategy may be a response to increased predation pressure. Our findings suggest that predation pressure is driving Greater Prairie-Chicken population dynamics and varies annually, seasonally and with different levels of fragmentation. Further long term studies focusing on predator population dynamics are a critical next step in future prairie-chicken conservation efforts.

Effects of Grazing Treatments on Nest Success of Wet Meadow Breeding Birds at Cheyenne Bottoms Preserve, Barton County, KS

*Clinton J. Helms**, *Jordana J. LaFantasie*, *Department of Biological Sciences, Fort Hays State University* and *Robert Penner*, *The Nature Conservancy, Kansas Chapter*

Cheyenne Bottoms Preserve (CBP) contains approximately 8,000 acres (~3,237 hectares) of wet meadow habitat that is being managed to provide quality habitat for breeding birds through the use of adaptive grazing techniques. Due to the imperiled status of grassland birds, an emphasis has been placed on managing for this particular group at CBP. When not entirely inundated with water, CBP, combined with the grazing management plan, can potentially provide high quality nesting habitat for numerous grassland birds by creating a mosaic of vegetation height and vegetation density. To examine the potential effectiveness of this management plan, I investigated the effects of adaptive rotational grazing treatments versus traditional season-long grazing treatments on common CBP grassland nesting species (e.g., grasshopper sparrow [*Ammodramus savannarum*], dickcissel [*Spiza americana*]) western meadowlark [*Sturnella neglecta*], and eastern meadowlark [*Sturnella magna*]) and attempted to determine if any significant trends could be inferred at the treatment-level scale. Specifically, I looked at avian diversity and avian nest success by employing point-count surveys and nest searching/monitoring techniques. Preliminary results suggest a greater occurrence of nests in random rotational grazing treatments compared to season-long grazing treatments. Overall, there was a marked decrease in abundance of all target species, both between treatments and annually. The effects of an extensive drought, coupled with excessive heat, were evident in much of these data.

Changes in Breeding Phenology and Reproductive Success of Long-Distance Migratory Shorebirds: Comparative Study Over Two Decades

Eunbi Kwon^{1}*, *David B. Lank²* and *Brett K. Sandercock¹*, *¹Division of Biology, Kansas State University*, *²Centre for Wildlife Ecology, Department of Biological Sciences, Simon Fraser University, Burnaby, BC, Canada*

Changes in breeding phenology are often the first indicator of biological response to modern climate change. Birds migrating long distances to the breeding ground are especially vulnerable to environmental changes, because their high energetic requirements and long-distance

movements make the phenological synchrony among trophic levels critical for breeding success and survival through migration. The greatest climatic change for the next century is expected in the Arctic and significant advancement of the peak of invertebrate prey abundance has been already reported. In this field study, we examined shifts in the breeding phenology of two arctic breeding shorebirds, Western Sandpiper (*Calidris mauri*, hereafter WESA; N=289 nests) and Semipalmated Sandpiper (*Calidris pusilla*, hereafter SESA; N=253 nests), by comparing long-term changes in the breeding performance of nesting birds during 1993-1996 and 2010-2011 near Nome, Alaska. During 1993-1996, the mean date of clutch initiation (DCI) ranged between 21st – 27th of May for WESA and 26th – 30th of May for SESA. In 2010 and 2011, the mean DCI was 29th and 30th of May for WESA and SESA respectively. In both species, the clutch initiation and hatching were negatively correlated with the daily mean temperature (regression coefficients were -1.87 and -1.09 for WESA and SESA). Greater nesting success was predicted by lower nest density for WESA, and by lower mean temperature of previous breeding season for SESA. Long-term monitoring on their breeding performance in relation to the environmental change will aid our understanding of the underlying mechanism for the population decline in long-distance migrants.

Demographic Responses of Greater Prairie-Chickens to Patch-Burn Grazing on Private Lands

*Virginia L. Winder**, Amy N. Erickson, Lance B. McNew and Brett K. Sandercock, Division of Biology, Kansas State University

Greater Prairie-Chicken (*Tympanuchus cupido*) populations have, in general, declined range-wide over the last several decades. In the Flint Hills of KS, this decline coincides with a shift in rangeland management practices. Currently, many cattle producers use intensive stocking rates and burning regimes, resulting in less cover and lower heterogeneity of grassland habitat. Patch-burn grazing is a potential alternative management strategy that has been shown to maintain cattle yields and provide more suitable habitat for grassland wildlife. Our study investigates Greater Prairie-Chicken demographics in areas managed with traditional methods (intensive early stocking, annual burning) compared to patch-burn grazing in Chase, Greenwood, and Morris Counties in KS (> 54,000 ha in total). We use radio telemetry to track hens and monitor nest and brood success and vegetation surveys to characterize available and selected habitat in order to better understand habitat selection choices (% of nests in a habitat type / % availability of habitat). Here we present preliminary results from the first two breeding seasons of the study (2011–12). Thus far, we have monitored 96 hens and 87 nests. 2011 nest site selection data indicate strong selection for unburned areas; and nest success in areas where selection ratios were > 1 was 3.7 times as high (41%) as that in habitat with selection ratios < 1 (11%). Future analyses will model nest and female survival and relate these demographic parameters to habitat management. Hen location data will also be used to analyze home-range size and seasonal movements.

A Proposed Large Scale Approach to Assess Free-ranging Cat Populations and Estimate Associated Impact on Free-living Bird Populations

Greg Farley and Andrée Brisson, Department of Biological Sciences, Fort Hays State University

The negative effects of feral, free-ranging and home-based domestic cats on native wildlife species are well documented. The direct impact on avian mortality in the United States is estimated at 1.4 – 3.7 billion individuals killed by cats each year (Loss et al. 2012); this effect is

by no means limited to the US or North America. Significant recent efforts in many states by proponents of trap, neuter and release (TNR) programs have compounded this potentially controllable contributor to avian population declines. In addition to reviewing the policy and intent of TNR, as well as evaluating the limited scientific support for this approach, we propose a novel sampling protocol to improve the quality of data available on this issue. By adding a cat survey component to existing large-scale, long-term population sampling protocols (e.g., Breeding Bird Survey, Christmas Bird Count, Big Days, Breeding Bird Atlas) more reliable estimates of cat numbers and locations will be generated. Data collected through standardized, repeatable methods are an essential early step to effective political and biological management of this important issue.

Patch-burn Grazing and Demographic Performance of Grassland Songbirds

Brett K. Sandercock, Jennifer L. Sojka, Christopher C. Then, and William E. Jensen*

Population declines in grassland birds are an emerging conservation crisis in North America. Changes in rangeland management associated with intensification of agricultural production are thought to be negatively impacting birds in native grasslands. We conducted a 2-year study at Konza Prairie LTER site to test the potential benefits of patch-burn grazing for grassland vertebrates. We used transect surveys and nest searching to examine bird responses in five experimental treatments: season-long grazing with annual fire, patch-burn grazing with patches 0, 1, or 2 years post-fire, and an ungrazed site with annual fire. Species richness of birds was highest in patch-burn pastures that had been rested from fire for 1-2 years. Changes in bird abundance were species-specific: Brown-headed Cowbirds were common in all treatments, Dickcissels and Eastern Meadowlarks had reduced numbers in the year of burn in the patch-burn treatment, Grasshopper Sparrows and Upland Sandpipers preferred grazed sites, whereas Henslow's Sparrows were found only in unburned areas. Estimates of demographic performance were based on 74 nests of four core species of grassland songbirds. Dickcissels were a preferred host with high rates of nest parasitism by cowbirds (>90%) and averaged 2-4 cowbird eggs per host nest in all five treatments. Nest survival was low across all treatments (7-20%), but unexpectedly, nest survival was highest in the patch-burn treatment in the year of burn, possibly because of density-dependent foraging strategies by predators. Our preliminary results indicate the greatest response to patch-burn grazing will be effects on bird densities and not demographic performance. Patch-burn grazing has great potential to increase biodiversity of grassland obligate species. However, species responses are unlikely to be uniform, highlighting a need to maintain habitat heterogeneity on private lands managed for cattle production.

Is There a Landscape-scale Grassland Habitat Threshold in the Abundance of Upland Sandpiper?

**John Schukman, 14207 Robin Road, Leavenworth, KS 66048 and Jeff Neel, Manhattan, KS 66503*

Management recommendations for the Upland Sandpiper (UPSA) (*Bartramia longicauda*) are to provide, at best, large tracts of contiguous prairie and, minimally, about 100 hectares. The abundance of UPSA compared to amount of habitat may not be proportionally linear between the extremes of large to small areas. In this study our aim was to test for evidence of a threshold in percent habitat and the abundance of UPSA from 15 Breeding Bird Survey (BBS) routes in eastern Kansas. We used Segreg statistical software to determine if the habitat-abundance relationship was linear or segmented. Using GIS we found grassland cover averaged 52%

(12-96) in 75 circular 10 km landscapes surrounding 10-stop BBS sequences. Average abundance of UPSA was level at 1.4/year/10 stops up to 56% of grassland cover, beyond which UPSA abundance increased significantly. UPSA abundance averaged 5.4 birds/year/10 stops at 80% grassland cover. Further investigation and methodologies are proposed to explore other factors at multiple scales that could identify possible threshold responses of grassland birds to habitat cover.

Thank you!!!!

Southwestern College

Max Thompson

Eugene Young

Spring Meeting 2013 - ??????
Fall Meeting 2013 will be in Topeka