Kansas Cooperative Fish and Wildlife Research Unit for 2018-2019. This year marks the 29th year of the Kansas Unit at Kansas State University. On behalf of the greater than 30 Unit scientists, staff, graduate students, technicians, and associated undergraduate students, we would like to thank the myriad of people, governmental agencies, and nongovernmental organizations for their support of the Kansas Unit.

During the 2018-2019 reporting period, the Kansas Unit had 15 active research grants totaling $7,923,813 in funding; graduated 2 graduate students; published 27 book chapters and journal articles; mentored 1 undergraduate student research project; and presented 82 presentations at professional meetings. Please see our updated website (https://www.k-state.edu/kscfwru/) for additional details and specifics relative to our reported activities.

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Kansas Cooperative Fish and Wildlife Research Unit
Division of Biology
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Undergraduate student members of the BAE/DAS/GENAG 582 Natural Resources/Environmental Sciences Project capstone course for the Natural Resources and Environmental Sciences secondary major led by David Haukos. Team members, from L-R, were Megan Rohrs, Emily Nottingham, Hallie Lucas, and Colbe Austin during Spring 2019.
**Current Unit Staff**

Unit Leader—David Haukos  
Assistant Unit Leader—Martha Mather  
Office Manager—Tara Dreher  
Post-Doctoral Research Associates  
  Dan Sullins (2017-2019)  
  Bram Verheijen (2017-2020)

**Completed Graduate Students 2018-2019**

**Adela Annis** (M.S., 2019; advisor Haukos). Ring-necked pheasant survival, nest habitat use, and predator occupancy in Kansas spring cover crops.  
**Richard Lehrter** (M.S., 2018; advisor Mather). Links between food web structure, biodiversity, and resilience: effects of anthropogenic disturbance on aquatic communities in the Smoky Hill River, KS.

**Current Kansas State University Graduate Students (Graduation Date)**

**Alixandra Godar** (Ph.D, GRA, Haukos). Ring-necked pheasant population and space use response to landscapes including spring cover crops. Biology (5/20)  
**John Malanchuk** (Ph.D, GRA, Haukos). Assessment of temperate-breeding Canada goose management in Kansas. Biology (12/20)  
**Carly Aulicky** (Ph.D, GTA, Haukos). Landscape patterns contributing to lek establishment and morphometrics of attending lesser prairie-chickens. Biology (5/20)  
**Liam Berigan** (M.S., GRA, Haukos). Dispersal, reproductive success, and habitat use by translocated lesser prairie-chickens. Biology (12/19)  
**Chris Gulick** (M.S., GTA, Haukos). Spatial ecology and resource selection by female lesser prairie-chickens within their home ranges and during dispersal. Biology (8/19)  
**Maureen Kinlan** (M.S., GRA, Haukos). Survival and mortality factors for sympatric male white-tailed deer and mule deer among Kansas landscapes. Biology (12/20)  
**Mitchell Kern** (M.S., GRA, Ricketts/Haukos). Fawn survival and bed-site selection of mule deer and white-tailed deer in western Kansas. Horticulture and Natural Resources (12/19)  
**Elisabeth Teige** (M.S., GRA, Haukos). Translocation of the lesser prairie-chicken to the Sand Sagebrush Prairie Ecoregion. Biology (5/21)  
**Nick Parker** (M.S., GRA, Sullins/Haukos). Lesser prairie-chicken and grassland response to intensive wildfire in the mixed-grass prairie. M.S. Candidate, Kansas State University. Horticulture and Natural Resources (5/21)
Completed and Active Research Projects 2018-2019

**Completed**
- Plum Island Ecosystems LTER
- Coupled Climate, Cultivation, and Culture in the Great Plains: Understanding Water Supply and Water Quality in a Fragile Landscape
- Dams and Fish Communities: Developing and Testing a Spatially-Explicit, Science-Based, Decision-Support Tool for Making Riverscape-Scale Management Decisions for Native Stream Fish Communities in the Neosho and Smoky Hill Rivers, KS
- Use of Moist-Soil Management for Waterfowl on the Texas Coast
- Climatic and Anthropogenic Forcing of Wetland Landscape Connectivity in the Great Plains

**In Progress**
- Ring-necked Pheasant Use of Cover Crops in Western Kansas
- Use of Grazing Management and Prescribed Fire for Conservation of Lesser Prairie-Chickens
- Lesser Prairie-Chicken Response to USDA Conservation Practices in Kansas and Colorado
- Survival Rates, Habitat Selection, and Movement of Sympatric Mule Deer and White-tailed Deer in Kansas
- Assessment of Resident Canada Goose Management in Kansas
- Assessment of Lesser Prairie-Chicken Response to Translocation
- Lesser Prairie-Chicken and Grassland Response to Intensive Wildfire in the Mixed-Grass Prairie
- Response of Greater Prairie-Chickens to Natural and Anthropogenic Disturbance on Fort Riley
- Historical Trends of the Landscape Structure of Plant Communities of Sand Shinnery Oak Prairie in the Southern High Plains: establishing a foundation for the restoration of lesser prairie-chicken populations (with C. Portillo-Quinero, B. Grisham, and C. Boal of Texas Tech University; project based at Texas Tech University)

Information booth at the Lenora Summer Festival highlighting the mule deer and white-tailed deer project.
Publications 2018-2019

Book Chapters


Journal Articles


Awards and Recognition

**David Haukos**


**Martha Mather**
Promoted to Adjunct Professor, Division of Biology, Kansas State University

**KDWPT**

**Ed Koger—Research Cooperating Landowner**
Central Mountains and Plains Section of The Wildlife Society—2018 Citizen’s Conservation Achievement Award

**Hallie Lucas—Undergraduate Research Assistant**
Haymaker Award—Outstanding Senior, Division of Biology

**Graduate Student Travel Grants**
7 Students, 22 Grants, $8,600

Professional Presentations

Total—82; 8—Invited
29—The Wildlife Society
20—Kansas Natural Resource Conference
8—International Grouse Symposium
5—Midwest Fish and Wildlife Conference
3—American Fisheries Society
2—Society of Range Management
3—oSTEM
3—American Ornithological Society

Teaching

**Graduate Student Teaching Assistants—Total 19 sections**
Principles of Biology (10 sections), Organismic Biology (1 section), Mammalogy (4 sections), Wildlife Management and Techniques (3 sections), Advanced Habitat Management (1 section)

**David Haukos**
Introduction to Fisheries, Wildlife, and Conservation Biology (BIOL 433; Spring 2018, 2019)
Habitat Ecology and Management (BIOL 890; Fall 2019)
Population Biology (BIOL 640; Fall 2018)
Natural Resources/Environmental Science (NRES) Capstone Course (Spring 2019)

**Dan Sullins and David Haukos**
Modeling Distribution and Resource Selection of Organisms (BIOL 890; Fall 2018)

**Bram Verheijen and David Haukos**
Design and Analyses of Wildlife Population Studies (BIOL 890; Fall 2019)
Undergraduate Research

Hallie Lucas. Project: Comparison of avian diversity in playa wetlands along a latitudinal gradient.

In conjunction with KSU Research and Extension and the Kansas Department of Wildlife, Parks, and Tourism, the KSU Student Chapter of The Wildlife Society organized and hosted a Hunter Safety Certification course during fall 2019.

Current and previous members of the Kansas Cooperative Fish and Wildlife Research Unit gathered at the 2018 annual meeting of The Wildlife Society in Cleveland, Ohio.
CRU Research Work Orders Administered

Where do we look and what should we do: examining the hard questions of chronic wasting disease management and surveillance – Trevor Hefley, Statistics Department

Multi-scale factors influencing occurrences of Topeka Shiner (Notropis topeka) in the Flint Hills, Kansas – Keith Gido, Division of Biology

David Haukos
4 M.S. and 2 Ph.D Graduate Committees Member; 3 defended in 2018-2019; Clemson University, University of Missouri, Texas Tech University, Kansas State University

Editor-in-Chief, Wildlife Society Bulletin
Associate Editor, Journal of Fish and Wildlife Management
Adjunct Professor, Texas Tech University
Member, KSU Institutional Animal Care and Use Committee
Faculty Advisor, KSU Student Chapter of The Wildlife Society
Technical Representative, Great Plains Cooperative Ecosystems Study Unit
KSU Representative for North Central Climate Science Center
Member, Great Plains LCC Science Team
Member, Playa Lakes Joint Venture Science Advisory Team
Board Member At Large – Kansas Chapter of TWS (2017-2018)
Member of the KDWPT Threatened and Endangered Task Committee
Science Team, STG and GPC Interstate Working Group
Member, USFWS Lesser Prairie-Chicken Species Status Assessment Science Team
Kansas Alliance of Wetlands and Streams – Board Member 2018-Current
External Reviewer, P/T Application, University of Wyoming, 2018

Reviewed draft report for BLM SGP Rapid Environmental Assessment Vol II (Species and Assemblages)
External Reviewer, P/T Application, Montana State University, 2019
Reviewed and scored 2 proposals for Wind Wildlife Research Fund, 2019
Served on a USGS RGE Panel, 2019

Martha Mather
Membership Committee, Kansas Chapter American Fisheries Society 2012-2018, Member and Co-Chair
Professional Liaison Committee, Kansas Chapter American Fisheries Society, 2018, Member and Chair
Judge, Best Student Poster, National AFS meeting, 2018
Subject Editor, Wetlands Ecology and Management
Member, Most Promising Undergraduate Student Committee, Kanas State University, 2017, 2018, 2019
Judge, Kansas State University Graduate School Research Forum, 2017, 2018
Presenter, Faculty Data Blitz, Student Recruitment, 2018
Faculty Host, David Crook, Oz to Oz Seminar Speaker, October, 2018

KSFWRU COORDINATING COMMITTEE