



Biennial Report 2024-2025

We are pleased to provide this report highlighting activities and accomplishments of the Kansas Cooperative Fish and Wildlife Research Unit for 2024-2025. This year marks the 34th year of the Kansas Unit at Kansas State University. On behalf of the greater than 60 Unit scientists, staff, grad-

uate 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 past 2 years.

During the 2024-2025 reporting period, the Kansas Unit had 18 active research grants totaling \$7,884,205 in funding for 14 active research projects; supporting 16 graduate students and 3 post-doctoral research associates; published 18 peer-reviewed journal articles; and presented 44 talks at professional meetings. Please see our updated website (<https://www.k-state.edu/kscfwru/>) for additional details and specifics relative to our reported activities.



Current and former students and staff of the Kansas Cooperative Fish and Wildlife Research Unit at the 2024 Annual Meeting of The Wildlife Society in Baltimore, Maryland.

Inside this report

Current Staff	2
Current Graduate Students	2
Research Projects and Grants.....	3
Presentations	3
Publications.....	4-5
Awards	6
Teaching.....	7
Service	8

**Kansas Cooperative Fish and
Wildlife Research Unit**
Division of Biology
205 Leasure Hall
Kansas State University
Manhattan, KS 66506
785-532-6070

Current Unit Staff

Unit Leader—David Haukos

Assistant Unit Leader—Martha Mather

Assistant Unit Leader—Dan Sullins

Office Manager—Tara Dreher

Research Associates

Andrew Whetten (2022-2024)

Liam Berigan (2024-2025)

Camille Rieber (2025-2026)

Location of former KSCFWRU Students 2012-2025



Kansas State University Graduate Students

Current Students (Graduation Date)

Malia Agee (MS, Sullins). Effects of the Conservation Reserve Program on greater prairie-chicken nest and brood-rearing success and linkages between morphometrics and genetic diversity. (12/27)

Elizabeth Alford (MS, Haukos). Influence of predator communities on wild turkeys in Kansas. (5/27)

Ryan Giordanelli (MS, Sullins) Greater prairie-chicken survival and dispersal in working landscapes of Kansas and Nebraska. (8/28)

Sara Hansen (Ph.D, Haukos). Landscape ecology of wild turkeys in Kansas. (5/27)

Kristen Hobbs (PhD, Boyle/Haukos). Climatic influences on the ecology and evolution of a tropical lekking frugivore. (5/26)

Shelby Kuck (MS, Mather). Extracting actionable insights from biodiversity monitoring data: Conserving uncommon fish in Kansas. (8/26)

Cassidy Lathrom (MS, Haukos). Status of native bumblebees (*Bombus* spp.) at Fort Riley Military Reservation, Kansas (8/25)

Cy Marchese (MS, Sullins). Landscape influences on the foraging ecology of wild turkey brood-rearing hens and poults in Kansas. (5/26)

Natalie McLinden (MS, Hope/Haukos). Survey of bat populations in Kansas. (8/26)

Natalie Pegg (Ph.D, Haukos). Movements, space use, and vital rates of mourning doves (5/26).

Caroline Skidmore (Ph.D, Haukos) Population demography of wild turkeys in Kansas. (5/26)

Katryn Stafford (MS, Haukos). Landscape composition and configuration of lesser prairie-chicken core areas and connectivity zones. (8/26)

Elizabeth Teige (Ph.D, Haukos). Assessing the effects of the federal Conservation Reserve Program on an imperiled species habitat quality, resource selection, and demographics. (5/26)

Katherine Travis (Ph.D, Sullins). Strategic conservation of greater prairie-chickens and pronghorn in Kansas (12/28).

Mary Ware (MS, Haukos). Assessing roost site selection and effects of spring hunting season on movements by female wild turkeys in Kansas. (8/26)

Randall Wilson (MS, Sullins). Avian piscivore predation of the federally endangered Colorado pikeminnow in northwest, New Mexico. (5/26)

Active Research Projects 2024-2025

Strategic Conservation of Grassland Habitat for Greater Prairie-Chickens and Pronghorn in Kansas

Distributions and Habitat Associations of Four Bat Species in Kansas

Wild Turkey Poult Foraging Ecology and Nutrient Availability in Kansas

Evaluation of CRP Vegetation Relative to Provision of Lesser Prairie-Chicken Habitat

Quantifying Loss of Stocked Fish to Avian Predators

Effects of Land Cover and Precipitation Gradient on the Relative Risk of Predation of Wild Turkeys in Kansas

Greater Prairie-Chicken Response to CRP

Wild Turkey Population Demography and Ecology in Kansas

Status of Native Bumble Bees (*Bombus* spp.) at Fort Riley Military Reservation, Kansas

Designing Optimal Landscapes for Lesser Prairie-Chicken Conservation

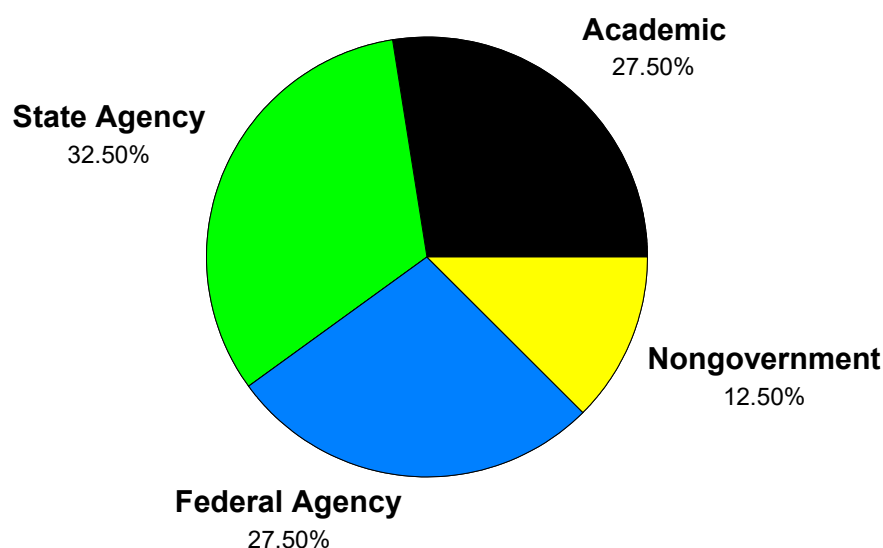
Multi-scale Response of Lesser Prairie-Chickens to Future Changes in Land Use and Land Cover

Guiding Present and Future Native Fish Restoration Using a Strategic Planning Process, Literature Synthesis, Database Analysis, Field Protocol Development/Testing, and Adaptive Management

Movements, Space Use, and Vital Rates of Mourning Doves

Identification of Landscape Thresholds and Patch Dynamics for Lesser Prairie-Chickens

Graduate Student Employment



Professional Presentations

Total—44

- 11—The Wildlife Society
- 19—Kansas Natural Resource Conference
- 3—Prairie Grouse Technical Council
- 4—Midwest Fish and Wildlife Conference
- 1—American Fisheries Society
- 5—American Ornithological Society

Publications 2024-2025

Journal Articles

- Berigan, L.A. C.S.H. Aulicky, E.C. Teige, D.S. Sullins, D.A. Haukos, K.A. Fricke, J.H. Reitz, L.G. Rossi, K.A. Schultz, M.B. Rice, E. Tanner, and S.D. Fuhlendorf. 2024. Lesser prairie-chicken dispersal after translocation: implications for restoration and population connectivity. *Ecology and Evolution* 14:e10871.
- Berigan, L. A., S. J. Clements, R. L. Darling, A. C. Fish, A. M. Roth, G. Balkcom, ... and E. J. Blomberg. 2025. Low migratory flight altitudes may explain increased collision risk for *Scolopax minor* (American Woodcock). *Ornithological Applications* 127:duaf017.
- Black, A.N., K.J. Bondo, A. Mularo, A. Hernandez, Y. Yu, C.M. Stein, A. Gregory, K.A. Fricke, J. Prendergast, D. Sullins, D. Haukos, M. Whitson, B. Grisham, Z. Lowe, and J.A. DeWoody. 2023. A highly-contiguous and annotated genome assembly of the lesser prairie-chicken (*Tympanuchus pallidicinctus*). *Genome Biology and Evolution* 2023: evad043.
- Black, A.N., A.J. Mularo, J.Y. Jeon, D. Haukos, K.J. Bondo, K.A. Fricke, A. Gregory, B. Grisham, Z.E. Lowe, and J.A. DeWoody. 2024. Discordance between taxonomy and population genomic data can complicate conservation policies. *PNAS Nexus* 3:298.
- Dodds, W., S. Bonjour, M. Fisher, L. Krueger, P. Pfaff, M. A. Raihan, and O. Rode. 2024. A novel index reveals disconnects between recreational harmful algal bloom exposure risks and responses among U.S. states. *Journal of the American Water Resources Association* 60:273-286.
- Greene, D.U., B.A. Grisham, C.W. Boal, D.A. Haukos, R.D. Cox, S.R. Fritts, and W.R. Heck. 2024. Lesser prairie-chicken brood ecology on the Southern High Plains of Texas. *Journal of the Southeastern Association of Fish and Wildlife Agencies* 11:110-118.
- Kuck, S., C. Grant, M. de Barros, A. Rodriguez, and R. Baker.. 2024. Nekton community responses to living shoreline restorations in Alabama. *Gulf and Caribbean Research*, 35(1): SC1-SC6.
- Londe, D.W., C.A. Davis, S.R. Loss, E.P. Robertson, D.A. Haukos, and T.J. Hovick. 2024. Climate change causes declines and greater extremes in wetland inundation in a region important for wetland birds. *Ecological Applications* 34:e2930.
- Mather, M.E., J.S. Bergtold, M.M. Caldas, E.M. Bernick, T.L. Moore, G. Granco, A.Y. Sheshukov, and I.A. Ciampitti. 2024. Rowing in the same direction using MIX—a tool to initiate the melding of individual disciplinary experts into an integrated interdisciplinary team. *Sustainability* 16:10625.
- Mather, M. E., R.B. Taylor, J.M. Smith, and K. M. Boles. 2025. Integrated patterns of residence and movement create testable hypotheses about fish feeding migrations. *Scientific Reports* 15:5951.
- Pegg, N., M. Hostetler, M. Andreu, and M. Main. 2024. Occurrence of interior-forest specialists in older residential neighborhoods in Gainesville, FL. *Florida Scientist* 87(2):81-93.
- Rieber, C.J., T.J. Hefley, and D.A. Haukos. 2024. Treed Gaussian processes for animal movement modelling. *Ecology and Evolution* 14:e11447
- Rode O., M. Mather, D. Oliver, K. Nelson. V. Reed, T. Moore, and S. Pratap. 2025. A framework tool that applies weight-of-evidence integration to the analysis of existing datasets to guide freshwater conservation. *Frontiers in Freshwater Science* 3:152031.

Publications 2024-2025

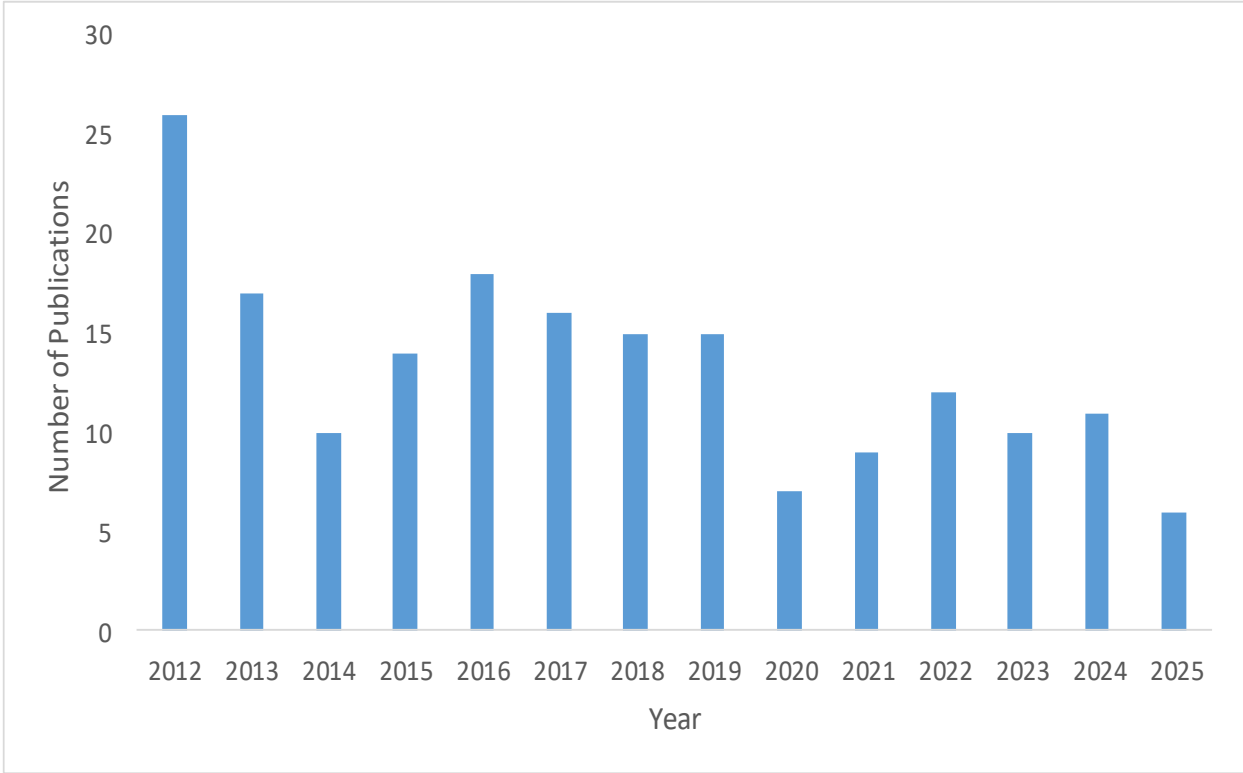
Skidmore, C.K., C. Boal, B. Skipper, and R. Martin. 2025. Daily survival rate and nest site selection of Zone-tailed Hawks (*Buteo albonotatus*) in the Chihuahuan Desert Region of Texas. *Journal of Raptor Research*. 52:jrr2436.

Van Ee, J.J. C.A. Hagen, D.C. Pavlacky Jr., D.A. Haukos , A.J. Lawrence, A.M. Tanner, B.A. Grisham, K.A. Fricke, L.G. Rossi, G.M. Beauprez, K.E. Kuklinski, R. Martin, M.D. Koslovsky, T.B. Rintz, and M.B. Hooten. 2024. Melded integrated population models. *Journal of Agricultural, Biological, and Environmental* 30:769-799.

Vhay, M.P., D.A. Haukos, D.S. Sullins, and M.B. Rice. 2024. Landscape-scale changes in lesser prairie-chicken habitat. *PLoS ONE* 19(5): e0304452.

Whetten, A.B., T.J. Hefley, and D.A. Haukos. 2025. Estimation of contact time among animals from telemetry data. *The American Statistician* 79:265–274.

Whetten, A. B., T. J. Hefley, D. A. Haukos, and D. E. Brewer. 2025. Simple bagged movement models for telemetry data. *Ecology and Evolution* *In Press*



Awards and Recognition

Randall Wilson

Outstanding Graduate Student Fisheries/Aquatic Presentation, 2025 KNRC, KS Subunit of the American Fisheries Society

Elisabeth Teige

The Wildlife Society – 2024 Wildlife Publication Award – journal student paper category, shortlisted (top 5) Teige, E.C., L.A. Berigan, C.S.H. Aulicky, J.H. Reitz, D.A. Haukos, D.S. Sullins, K.A. Fricke, K.A. Schultz, and L.G. Rossi. 2023. Assessment of lesser prairie-chicken translocation through survival and lek surveys. *Wildlife Society Bulletin* 2023:e1493.

Best Student Oral Wildlife Presentation, 2025 KNRC, KS Chapter of The Wildlife Society

Robert J. Robel Graduate Award in Wildlife Biology and Ecology, 2025 KSU Division of Biology

Donald H. Rusch Memorial Game Bird Scholarship, 2025 The Wildlife Society

Dan Sullins

2025 Outstanding Graduate Faculty award, Biology Graduate Student Association, Division of Biology, KSU

Natalie Pegg

Outstanding KSCFWRU Student, 2024

Martha Mather

Outstanding Scientist Award, Kansas State University Chapter, Sigma Xi, 2024

American Fisheries Society Fellow, 2025

Shelby Kuck

Honorable Mention, Skinner AFS Travel Award, 2025

David Haukos

Snipe Award, Kansas Chapter of The Wildlife Society for Outstanding Contributions to Wildlife Conservation. 2024

Roots of Research Award, Kansas State University, for exceptional research and scholarly work that has inspired students, colleagues and the broader academic community. 2025.

The Professional Award for Outstanding Contributions to The Profession of Wildlife Management, Central Mountains and Plains Section of The Wildlife Society. 2025.

Liam Berigan

Outstanding Journal Article, The Wildlife Society, 2025 for Slezak CR et al. 2024. Unconventional life history in a migratory shorebird: desegregating reproduction and migration. *Proc. R. Soc. B* 291: 20240021.

Graduate Student Travel Grants

4 Students, 6 Grants, \$3,475

Current Professional Certifications

Associate Wildlife Biologist® The Wildlife Society

Elisabeth Teige

Katy Stafford

Caroline Skidmore

Liam Berigan

Certified Wildlife Biologist® The Wildlife Society

Sara Hansen

David Haukos

Teaching

Graduate Student Teaching Assistants—Total 16 sections

Principles of Biology (11 sections), Organismic Biology (4 sections), Environmental Biology (1 section, grader)

David Haukos

Introduction to Fisheries, Wildlife, and Conservation Biology (BIOL 433/333; Spring 2024, 2024)

Habitat Ecology and Management (BIOL 890; Fall 2025)

Demographic Methods (BIOL 823; Fall 2024)

Martha Mather

Fish Ecology (BIOL 682; Spring 2024)

Biologically-involved Sustainability (BIS): A New Direction for Successful Resource Conservation and Management.

BIOL 890 (Graduate); BIOL 697 (Undergraduate; Spring 2025).

Dan Sullins

Natural Resource Selection (BIOL 890; Fall 2024)

Landscape Ecology (BIOL 822; Fall 2025)

Caroline Skidmore and Elisabeth Teige

Graduate Student Fellowships, Independent Research Team Mentors, Capstone Course, Natural Resources and Environmental Sciences (NRES), secondary major (Fall 2025)



Kansas Cooperative Fish and Wildlife Research Unit graduate students and technicians assisting Kansas Department of Wildlife and Parks biologists with summer capture and banding of Canada geese.

Service Highlights

Research Work Orders Administered

Intermittent stream risk assessment: Mapping patterns of stream drying and identifying vulnerabilities of stream fish and crayfish communities – Keith Gido, KSU Division of Biology, Lindsey Bruckerhoff, Ohio State University

David Haukos

Editor-in-Chief, Proceedings 2025 National Wild Turkey Symposium, Special Issue Wildlife Society Bulletin
Associate Editor, Wildlife Society Bulletin
Associate Editor, Journal of Fish and Wildlife Management
Certification Review Board, The Wildlife Society
KSU Institutional Animal Care and Use Committee
Faculty Advisor, KSU Student Chapter of The Wildlife Society
Member, KDWP Threatened and Endangered Task Committee
Mentoring committee, Dr. Trent Schrader, KSU VMC 2024
Udall Undergraduate Scholarship Committee, Kansas State University

Shelby Kuck

Kansas Representative; Student & Early Professional Activities Committee in the North Central Division of the American Fisheries Society
Manual Sale Coordinator for the Biology Graduate Student Association, 2025

Martha Mather

Kansas Chapter, American Fisheries Society, Membership Committee
Leadership Team, Kansas State University Chapter, Sigma Xi
Subject Editor, Frontiers in Freshwater Science
Invited Participant, NSF Review Panel, Population and Community Ecology, 2024
Invited participant, NSF Review Panel, National Research Traineeship, 2025
Panelist, USGS Research Grade Review Panel, 2025

Natalie Pegg

Biology Graduate Student Association President (2025) and Manual Sales Coordinator (2024)

Caroline Skidmore

Board member of the Kansas Chapter of TWS
Organized Program DISTANCE workshop, St. Andrews University 2024

Dan Sullins

The Wildlife Society Rangeland Wildlife Working Group, Chair (2022-2025), Past Chair (2025- Current)
Kansas TWS Chapter, President-elect (2025-Current)
Kansas State University Birding Club (2024-Current), Advisor
Organized symposia entitled “Broadening perspectives of rangeland and wildlife management professions” and “Rangeland Wildlife Ecology and Conservation” The Wildlife Society’s annual conference, 2024 and 2025, respectively

Certified ATV and UTV instructor for USGS

Katy Stafford

Kansas State University Biology Graduate Student Association Secretary (2025)

Elizabeth Teige

Treasure/Secretary, TWS KS State Chapter
Graduate Student Liaison, KSU Student Chapter of TWS
Seminar Committee Chair and Workshop Committee Member, KSU Biology Graduate Student Association
Graduate Student Representative-KSU Division of Biology
Faculty Candidate Search Committee
Student Representative-KSU Division of Biology Graduate Affairs Committee

Randall Wilson

Grant Chair for the KSU Biology Graduate Student Association

KSCFWRU COORDINATING COMMITTEE

