

Student Presentations

Robinson, W., KENDALL, R.J. Optimizing parasite control and population modeling in northern bobwhite quail (*Colinus virginianus*) using passive integrated transponder tagging to assess targeted treatment efficacy. Society of Environmental Toxicology and Chemistry South-Central Regional Chapter Annual Meeting. Baton Rouge, Louisiana. April 10-12, 2025.

Kaskocsak, A., Summers, A., KENDALL, R.J. An anthelmintic feed's impact on the transmission of the eyeworm (*Oxyspirura petrowi*) between a migratory songbird, resident songbird, and gamebird of the Rolling Plains of Oklahoma. Society of Environmental Toxicology and Chemistry South-Central Regional Chapter Annual Meeting. Baton Rouge, Louisiana. April 10-12, 2025.

Kaskocsak, A., Arlowe, T.B., Colette, S., KENDALL, R.J. Methodology to assess the impact of parasitism on reproductive success and stress response in northern bobwhite (*Colinus virginianus*) hens. Society of Environmental Toxicology and Chemistry South-Central Regional Chapter Annual Meeting. Baton Rouge, Louisiana. April 10-12, 2025.

Valencia H and R KENDALL. Multimodal olfactory manipulation to enhance nest success in declining Northern Bobwhite and Scaled Quail populations in the Rolling Plains of Texas. The Wildlife Society 32nd Annual Meeting, Edmonton, Alberta, Canada. October 5-8, 2025.

Valencia H, Q Dickerson IV and R KENDALL. Parasitic infections in Montana Upland Game birds: Implications for ecosystem health and restoration. The Society of Ecological Restoration Texas 28th Annual Meeting, San Antonio, TX. November 6-9, 2025.

Valencia H and R KENDALL. Multimodal olfactory manipulation as a non-lethal restoration strategy for declining quail populations. The Society of Ecological Restoration Texas 28th Annual Meeting, San Antonio, TX. November 6-9, 2025.

Valencia H, J Guerra, and R KENDALL. Evaluating the role of olfactory chemical cues in modifying predator-prey dynamics and enhancing nest success of Northern Bobwhite (*Colinus virginianus*) and Scaled Quail (*Callipepla squamata*). South Central Society of Environmental Toxicology and Chemistry (SETAC) Annual Meeting, Baton Rouge, LA. April 10-12 2025.

Valencia H, K Kinsey, and R KENDALL. Assessing the impact of eyeworm (*Oxyspirura petrowi*) and cecal worm (*Aulonocephalus pennula*) abundances on reproductive success in Northern Bobwhite (*Colinus virginianus*) and Scaled Quail (*Callipepla squamata*) in Texas. South Central Society of Environmental Toxicology and Chemistry (SETAC) Annual Meeting, Baton Rouge, LA. April 10-12 2025.

Alumni Updates

2025: Suber, Hannah – Ph.D. in Environmental Toxicology. "Managing parasitic infection in wild northern bobwhite quail (*Colinus virginianus*): Further insights into helminth epidemiology and the pharmacological efficacy of an anthelmintic feed". Current Position: Post Doctoral Research Associate, Wildlife Toxicology Laboratory, Texas Tech

2024: Hames, Benjamin – M.S. in Environmental Toxicology. "Measuring heat shock protein levels as a way of determining stress caused by parasitic infection in wild northern bobwhite quail"

2024: Leach, Jeremiah – Ph.D. in Environmental Toxicology. "The effects of helminths on northern bobwhite (*Colinus virginianus*) in western Oklahoma and the use of anthelmintics to treat those populations". Current Position: Ecotoxicologist – Global Regulatory Sciences, FMC Corp.

2021: Henry, Brett – Ph.D. Environmental Toxicology. "Evaluation of the drug residue depletion period in northern bobwhite (*Colinus virginianus*) following administration of medicated feed". Current Position: Head of Analytical Development, Rentschler Biopharma

2020: Brym, Matthew – M.S. Biology. "An assessment of Monarch butterfly (*Danaus plexippus*) prevalence and milkweed (*Asclepias* spp.) restoration in the Rolling Plains of West Texas". Current Position: Biologist 2 at Smithers Laboratories

2020: Elizalde, Cassie – Ph.D. Environmental Toxicology. "Parasitic infection in wild northern bobwhite (*Colinus virginianus*) and assessment of intermediate hosts and development of a treatment". Current Position: Toxicologist – Biologist, United States Environmental Protection Agency

2020: Herzog, Jessica – M.S. Environmental Toxicology. "Parasite surveys of passerine birds and northern bobwhite quail (*Colinus virginianus*) in the Rolling Plains Ecoregion"

2019: Blanchard, Kendall – M.S. Environmental Toxicology. "Regional surveillance and seasonal variation of eyeworm (*Oxyspirura petrowi*) and caecal worm (*Aulonocephalus pennula*) infection in northern bobwhite quail (*Colinus virginianus*) of Rolling Plains, TX". Current Position: DVM/Ph.D. Student, University of Minnesota, College of Veterinary Medicine

2016: Dunham, Nick – Ph.D. Environmental Toxicology. "Field and laboratory studies on eyeworms (*Oxyspirura petrowi*) and their impact on the Northern bobwhite (*Colinus virginianus*)". Current Position: Senior Regulatory Toxicologist, BASF Corp.

2015: Pappas, Sara – Ph.D. Environmental Toxicology. "The toxicity of nanomaterials to Northern bobwhite quail (*Colinus virginianus*)". Current Position: Compounding Supervisor, SC Johnson Lifestyle Brands

2013: Baxter, Catherine – M.S. Environmental Toxicology. "Analysis of organochlorine pesticides in bobwhites and scaled quail from the Rolling Plains ecoregion"

Recent Peer-Reviewed Scientific Publications Since our Last Newsletter

Suber, H.N., Arlowe, T.B., Valencia, H., Kaskocsak, A., Kinsey, K., Guerra, J., Colette, S., Summers, A., Surlles, J.G., KENDALL, R.J. 2025. Demonstrated laboratory effectiveness of an anthelmintic medicated feed for the treatment of *Oxyspirura petrowi* infections in northern bobwhite (*Colinus virginianus*). *Environmental Toxicology and Chemistry*. Vgaf198: 1-7.

Suber, H.N., Leach, J., Kaskocsak, A., Valencia, H., Colette, S., KENDALL, R.J. 2025. The effects of different sample storage conditions on faecal corticosterone metabolite measurements in northern bobwhite (*Colinus virginianus*). *Conservation Physiology*. 13(1).

Leach, J., Suber, H.N., Rivera, R., Surlles, J.G., KENDALL, R.J. 2025. Effects of a common intestinal helminth on fecal corticosterone metabolite concentrations of Northern bobwhite (*Colinus virginianus*). *Experimental Parasitology*. 275:108987.

Henry, B.J., Henry, C., Patel, D., Brym, M.Z., Kalyanasundaram, A., Leach, J., KENDALL, R.J. 2025. Depletion of fenbendazole sulfone residues in northern bobwhite (*Colinus virginianus*) liver following medicated feed treatment. *Environmental Toxicology and Chemistry*. 44(6):1545-1551.

Henry, C., Brym, M.Z., Surlles, J.G., Leach, J., KENDALL, R.J. 2025. Safety of a medicated feed to treat parasites of northern bobwhite (*Colinus virginianus*). *Environmental Toxicology and Chemistry*. 44(6):1552-1560.

Henry, C., Brym, M.Z., Leach, J., KENDALL, R.J. 2025. Efficacy of a medicated feed to treat parasites of wild northern bobwhite quail (*Colinus virginianus*). *Environmental Toxicology and Chemistry*. 44(6):1538-1544.

Henry, C., Brym, M.Z., Leach, J., KENDALL, R.J. 2024. Northern bobwhite (*Colinus virginianus*) population response to anthelmintic treatment in the Rolling Plains ecoregion of Texas, 2014-2016. *International Journal for Parasitology: Parasites and Wildlife*. 25:101006.



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Wildlife Toxicology Laboratory



Mission Statement

"We will be a leader in research and education integrating environmental and conservation sciences. Our laboratory will contribute innovative solutions to environmental problems by committing to excellence, embracing interdisciplinary cooperation and creating partnerships."

Dr. Kendall and the Wildlife Toxicology Laboratory In The News

Among others, Dr. Kendall and the Wildlife Toxicology Laboratory have been featured in the following media outlets related to the United States Food and Drug Administration Registration:

- PBS
- Texas Tech Now
- KTTZ-FM
- Texas Wildlife Association: Wild at Work

- LeviGood.com
- Shotgun Life Magazine
- Lonestar Outdoor News
- Project Upland
- The Meateater Podcast

- Shooting Sportsman
- Lubbock Avalanche-Journal
- Outdoor Life
- Texas Monthly Presents

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Longlands Plantation
Charlie Dorn Smith, III, M.D.
Duncan W. Tyson, Jr., M.D.
Jack Wade Brunson, M.D.
Kenneth Graham Lawrence, M.D.
Haynes L. Kendall, Jr.
Park Cities Quail Coalition
Rolling Plains Quail Research Foundation
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Moving On

Texas Monthly

PBS EPISODE 111
INNOVATORS

"Can the Bobwhite
Quail Be Saved?"

by WES FERGUSON

On October 12, 2025, Dr. Kendall and the WTL were featured in "Texas Monthly Presents: The Story", Episode 111 "Innovators". Texas Monthly Presents is produced by Texas Monthly Magazine and is aired on PBS stations across Texas.

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in Reflection



Ronald J. Kendall, Ph.D.
Head, Wildlife Toxicology Laboratory

The year 2025 has moved forward quickly as we continue our research in enhancing and sustaining wild quail populations. We are continuing to build on our success of having QuailGuard® formally approved by the United States Food and Drug Administration (FDA) on May 24, 2024. Our field research continues to support compelling results on enhancing and sustaining wild quail populations with the introduction of QuailGuard® as a management tool. In fact, our work at the W7 Ranch FDA demonstration site has revealed a dramatic increase in wild quail populations since our introduction of QuailGuard® a few years ago. Our work at W7 Ranch, located near Post, Texas, in Garza County, has received statewide and national interest by virtue of the substantial quail population that has been observed on the ranch. Our work at W7 Ranch was featured as part of the Texas Monthly TV Series on PBS known as "Texas Monthly Presents: The Story" in Episode 111 "Innovation" (<https://www.pbs.org/video/the-story-innovation-z1rlol/>). When the TV crew came on site with us and saw the number of coveys and the size of the coveys, up to 30 quail, in video footage, they almost couldn't believe it! These numbers are almost unheard of today, but there they were! In fact, our reconnaissance data this year revealed covey call counts at 16 per point in the zone where we filmed the PBS TV production. In addition, we did roadside counts at W7 Ranch and Ph.D. student, Henry Valencia, reported a total of 32 quail per mile representing 20.9 bobwhite quail and 10.2 scaled quail. Just with the bobwhite quail alone, this more than doubles the report of 10.2 from the Rolling Plains Quail Research Ranch, which we recognize as excellent quail habitat. In addition, our data at W7 Ranch far exceeds Texas Parks and Wildlife reports of 15.3 quail on their standardized 20 mile routes of quail reporting over the years. We have enhanced and sustained wild bobwhites at Snipes Ranch and in fall 2025 we noted 18.8 quail in covey call counts, which is nothing less than incredible. Furthermore, the Ribelin Ranch has gone from very few quail to covey call counts of 15.7 in the fall of 2025. These data continue to add up in a "weight-of-the-evidence" approach that QuailGuard® as a management tool is contributing to enhancing and sustaining wild quail populations. To date, the Wildlife Toxicology Laboratory has already published 54 peer-reviewed scientific publications to support the science behind parasitic infection, its role in impacting quail populations, and the evidence that QuailGuard® can have such a positive impact. In addition, we now have formal FDA registration for QuailGuard® as a management tool. We are not saying to ignore quail habitat commitment and we as a research organization strongly support the role of quail habitat in impacting quail populations, but an additional tool, QuailGuard®, may help us even more. Based on our evidence to date in monitoring QuailGuard® use on FDA demonstration sites, we think the evidence is compelling. QuailGuard® works. If you watch the PBS TV Story "Innovators", you will hear the owner of W7 Ranch, J. David Williams, state very clearly that in a lifelong pursuit of wild quail hunting at the ranch, he has not seen quail populations at the current size since he was 9 years old, and that is more than a half a century ago.

Our work at the Wildlife Toxicology Laboratory continues with great passion to evaluate, scientifically report, and validate in the field a new technology, QuailGuard®, that is being proven to help our wild quail populations. Being that estimates of wild quail diminishing more than 80% from their native range in terms of sustainable huntable populations, I believe we have to look for all viable methods and technologies to support sustainable and huntable wild quail populations. What I am very excited about is, as a scientific team from the Wildlife Toxicology Laboratory, we have been able to demonstrate on multiple quail-hunting ranches, that utilize QuailGuard®, sustainable and huntable populations of wild quail exceeding 20 coveys per day in a five-hour hunting period in what has become year after year now. What we are very proud of is that in reports dating back to 2022 of the lowest roadside counts every reported by Texas Parks and Wildlife for bobwhite quail at .86, we still have relatively good quail hunting on our QuailGuard®-treated ranches. I think it was summed up when Rick Snipes from one of our demonstration ranches had a neighbor visit him and said "Rick, you were quail hunting we have heard and doing pretty good while we have quit quail hunting as your neighbor because of the lack of quail. Rick, do you think that QuailGuard® works? Well, my friend, you need to answer that question by evaluating that we are quail hunting and you are not." I think that speaks for itself and the wit of Rick Snipes, our good friend who has invested over a decade of his time and ranch support to the development of QuailGuard® and he is a no-nonsense guy when it comes to quail management and sustaining huntable wild bobwhite quail populations.

We thank everyone for their support related to getting across the finish line with the registration of QuailGuard® by the FDA. The odds were stacked against us in that only 10% of the drug applications ever get through and approved by the FDA. So we had better than a 90% chance of failing, but with more than a decade of hard work through the Wildlife Toxicology Laboratory and with the gracious support of many supporters, we got the job done. I cannot say enough about the quality of work of our graduate students and staff in the Wildlife Toxicology Laboratory. The publication record proves itself in addition to the fact that we are not just hoping for a FDA registration, but we got it. I thank everyone for their encouragement and support as we have moved forward through this very difficult task. Positive results continue to flow in as to our commitment to support technology to enhance and sustain wild quail populations.

Lab Professionals



Hannah Suber is a Post-Doctoral Research Associate after successfully defending her dissertation, "Managing parasitic infection in wild northern bobwhite quail (*Colinus virginianus*): Further insights into helminth epidemiology and the pharmacological efficacy of an anthelmintic feed".



Henry Valencia is pursuing his doctorate in Environmental Toxicology at Texas Tech. His research is focused on how olfactory and acoustic processes influence decision-making in animals, with an emphasis on avian dispersal, reproduction, and predation through large-scale field experimentation aimed at advancing quail restoration.



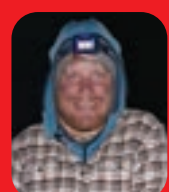
Ashley Kaskocsak is pursuing her doctorate in Environmental Toxicology at Texas Tech. Her research is focused on understanding the interaction and transmission dynamics between songbirds and wild quail in terms of parasitic disease.



Tim Arlowe is pursuing his Doctorate in Environmental Toxicology at Texas Tech. His research is focused on determining health consequences of parasitic disease and expanding the epidemiological assessment of parasitic and infectious disease spread in wild bobwhite quail.



Jason Lee is pursuing his doctorate in Environmental Toxicology at Texas Tech. His research is focused on how environmental contaminants affect the physiology and survival of wildlife. He plans to build on that to help advance understanding of parasitic infections in the Northern Bobwhite quail and contribute to ongoing conservation efforts.



Karl Garrett is pursuing his Doctorate in Environmental Toxicology at Texas Tech. He has a passion for birds, working as an avian field technician all over the Western United States. Karl loves the more rugged aspects of the work, along with the opportunities for adventure and learning. His desire is to conduct pertinent, actionable research to help conserve bird species, and looks forward to learning how endoparasites and related conservation efforts are impacting Northern Bobwhite populations.

Lab Undergraduates



John Guerra is pursuing a bachelor's degree in Animal Science at Texas with a concentration in pre-veterinary studies. His love for animals has driven him towards a career as a veterinarian with a goal of working with companion animals.



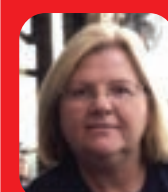
Shanzay Jafri is a freshman at Texas Tech majoring in Biology on the pre-medical pathway. She has strong interests in neuroscience, environmental health, and understanding how ecosystems influences both human and wildlife well-being.



Price Dickerson is a sophomore at Texas Tech pursuing a degree in Biology on the pre-medical pathway. He has a love for nature and gained experience through fieldwork in Sarasota, FL. His long-term goal is to attend medical school and continue conducting research that promotes the health and sustainability of both people and wildlife.



Davis Correia is a Junior majoring in chemistry with a concentration in pre-medicine. He is interested in chemical development, the biological impact of medications, and interest in gastroenterology. He was drawn to the WTL not only to gain knowledge of the scientific process, but because he is an avid outdoorsman.



Tammy Henricks is a long-time Texas Tech employee and has worked for Dr. Kendall since 2000. She currently works part-time after retiring in December 2020.

Mobile Research Laboratory

Our mobile research laboratory continues to play a key role in both data processing and outreach, enabling us to manage the large volumes of field-study data we collect while connecting with landowners and community members across our research sites. We look forward to its continued use as our research branches out even further in the coming years. We appreciate support from Park Cities Quail Coalition to help us keep moving forward with the Mobile Lab.



**MOBILE
RESEARCH
LABORATORY**



In June 2025, Dr. Kendall was awarded the Texas Environmental Excellence Award in the Individual category given by the Texas Commission on Environmental Quality and the Office of Governor Greg Abbott. This award is the highest of its kind in the State of Texas.



LONGLANDS QUAIL RESTORATION DEMONSTRATION PROJECT



We are announcing the formation of the inaugural Advisory Board for the "Longlands Quail Restoration Demonstration Project." From left to right is Jack Wade Brunson, M.D., Kenneth Graham Lawrence, M.D., Ronald J. Kendall, Ph.D., ex officio, Duncan Tyson, M.D., and Dorn Smith, M.D.

We are pleased to announce a new partnership with Longlands, a historic South Carolina property in Dr. Kendall's home state that has been stewarded for wildlife conservation across five generations of family ownership. This collaboration marks the launch of the Longlands Quail Restoration Demonstration Project, which will examine key factors contributing to quail decline in the Southeastern United States, including parasitic infections, disease, and environmental pollutants. The project will also evaluate the potential benefits of QuailGuard® integrated with quail habitat development through a large-scale field study assessing enhancement and sustainability in wild quail populations.