ROLLING PLAINS QUAIL RESEARCH FOUNDATION

# Annual Report 2023-24


# About Us

The Rolling Plains Quail Research Foundation (RPQRF) is a 501 (c)(3) non-profit focusing on one thing: understanding and managing bobwhite and scaled quail in West Texas. Everything we do centers around quail and quail hunting, as reflected by our mission:

*To preserve Texas' wild quail hunting heritage, for this, and future, generations.*

The foundation and its Research Ranch were established to provide a living laboratory to devise land management strategies for the benefit of quail and also as an exemplary property to demonstrate the best methodologies and techniques to other "students of quail."

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Joseph Richards

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*Special thanks to the following individuals for providing photographs: Katy Hoskins & Emily Thornock*

# A MESSAGE FROM DR. RYAN O'SHAUGHNESSY

Modern quail experts can readily identify factors limiting quail populations on rangelands, although devising practical solutions remains a separate challenge. Solutions range from simple grazing or brush adjustments to complex restoration of plant communities overtaken by invasive species, for which best practices are still evolving.

The Rolling Plains Quail Research Foundation (RPQRF) relies on philanthropic support to research and share practical solutions through a variety of channels. A major milestone in 2024 was the gracious establishment of our first endowment fund, The Hawks Family Fund for Quail Research, which will ensure the long-term continuation of RPQRF's research with a perpetual revenue stream. The establishment and growth of this endowment highlight the importance of RPQRF's work and our unwavering commitment to the region's quail and quail hunters.

RPQRF has made significant strides recently in both research and outreach, too. This report details our impact and commitments over the last year, all aimed at our mission to preserve Texas' wild quail hunting heritage for present and future generations. Our Research Ranch and new headquarters, including the Park Cities Quail Coalition Education Center, the Gordy Family Guest Lodge and the James R. Currie Quail Research Lab, serve as a hub for scientific research and community engagement. Similarly, our new research initiatives, enhanced outreach programs, and land management consultations across tens of thousands of acres demonstrate our holistic, integrated approach to improving quail numbers across the West Texas horizon.

Thank you for supporting our quail conservation work.

Dr. Ryan O'Shaughnessy, PhD, MBA
Executive Director, RPQRF

# Long-term Data Collection
# At the rolling Plains Quail Research Ranch

The Rolling Plains Quail Research Ranch was established in 2006 through a generous gift from the Richard King Mellon Foundation and the Conservation Fund. It serves as a dedicated research and education facility for quail.

The Research Ranch boasts an extensive quail dataset, the most comprehensive in Texas, including records for over 20,000 banded and 3,500 radio-tagged quail. Unlike typical short-term studies, our data spans more than 18 years.

The following content summarize our ongoing, long-term data collection efforts. This extensive data has supported numerous graduate student projects and scientific publications. Our growing body of research is archived and available on our website: QuailResearch.org.

*Northern bobwhite female with VHF tracking collar.*

Joseph Rickard

# Quail Demographics

The Rolling Plains Quail Research Ranch utilizes physical trapping, radio-telemetry and helicopter surveys to gather key quail demographic data, including population size, nest initiation rates, nesting success, and adult survival. During the months of November and March, approximately 350 traps are pre-baited daily for 2-3 weeks, culminating with 12 consecutive days of trapping. Morphometric data are recorded from each captured bird and fitted with a uniquely numbered leg band. A subset of individuals are fitted with a 6-gram VHF tracking collar. Quail with VHF collars are tracked daily through the remainder of the year to monitor movement, survival and habitat selection.

# Quail Population Size

Utilizing a Capture-Mark-Recapture (CMR) protocol, we can estimate our quail population size. In its simplest form, a sample of individuals is captured, uniquely marked, and released back into their habitat. After allowing time for the marked individuals to mix with the unmarked population, additional samples are captured. By analyzing the proportion of marked to unmarked individuals in the subsequent samples, the total population size can be inferred.

During the Spring 2024 trapping session, 802 unique birds were captured. Using the frequency of recaptures (560 total recaptures) among these 802 birds, Program MARK returned an estimate of 1,427 birds entering the reproductive season on the Research Ranch. Nine months later, during our Fall 2024 trapping session, 1,619 unique birds were captured. Using the frequency of recaptures (1,238 total recaptures) among these 1,619 birds, Program Mark returned an estimate of 3,374 birds on the Research Ranch. This represented a 57% increase in population size from March 2024 to December 2024. This increase in the population is expected following the breeding season when rainfall results in good range and habitat conditions that promote reproduction.

A helicopter survey of the Quail Research Ranch is conducted each fall. During the Fall 2024 Helicopter survey, 91 coveys consisting of 1,252 birds were observed. Applying these helicopter data into a regression estimator resulted in a ranch estimate of .75 quail per acre, or a total population size of 3,375 quail. The fact that two completely separate survey methods (Helicopter vs. CMR) returned nearly the exact same result, gives us great confidence in our ability to estimate and monitor the quail population on the Research Ranch.

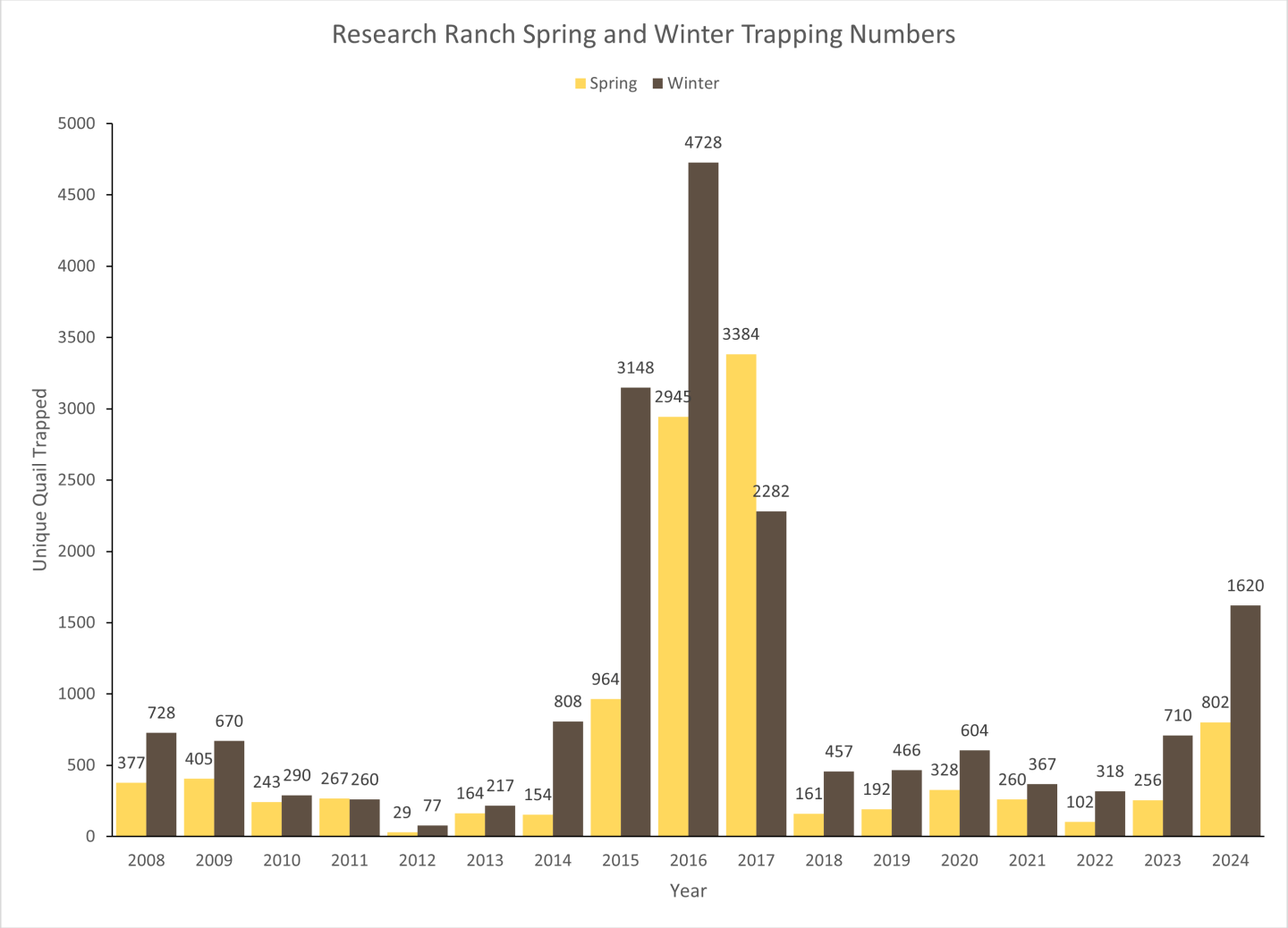
# 2024 Monthly Survival

For a sustainable population, average monthly survival should generally exceed 0.80. Lower survival rates should be offset by increased reproduction. In 2024, the average monthly survival rate on the Research Ranch was 0.90. Typically, survival is lowest in February and March due to heightened predation during the spring raptor migration. In 2024, the lowest monthly survival was 0.80 in February, which was notably higher than the previous year's lowest monthly survival of 0.65.

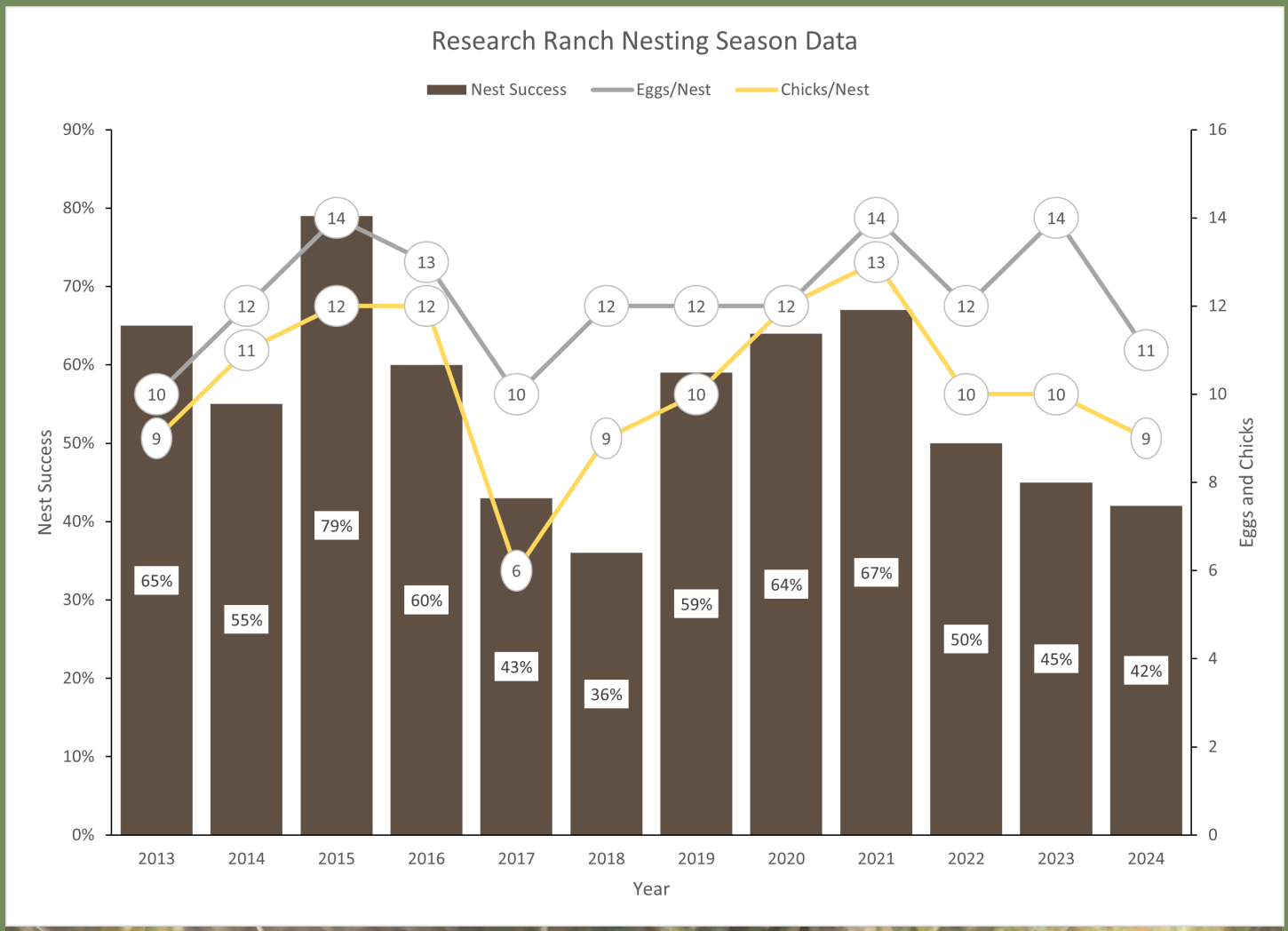
# Reproductive Success Monitoring

Radio-collared bobwhite hens are monitored throughout the breeding season to assess their reproductive success. This detailed reproductive data is essential for understanding annual quail population fluctuations. Due to their short lifespans, huntable quail populations depend significantly on successful reproduction each year.

Fall age ratios, comparing juvenile to adult quail, indicate the year's productivity. The numbers inside the graph bars show the sample size of marked birds in each age group.



# Nesting Season Summary



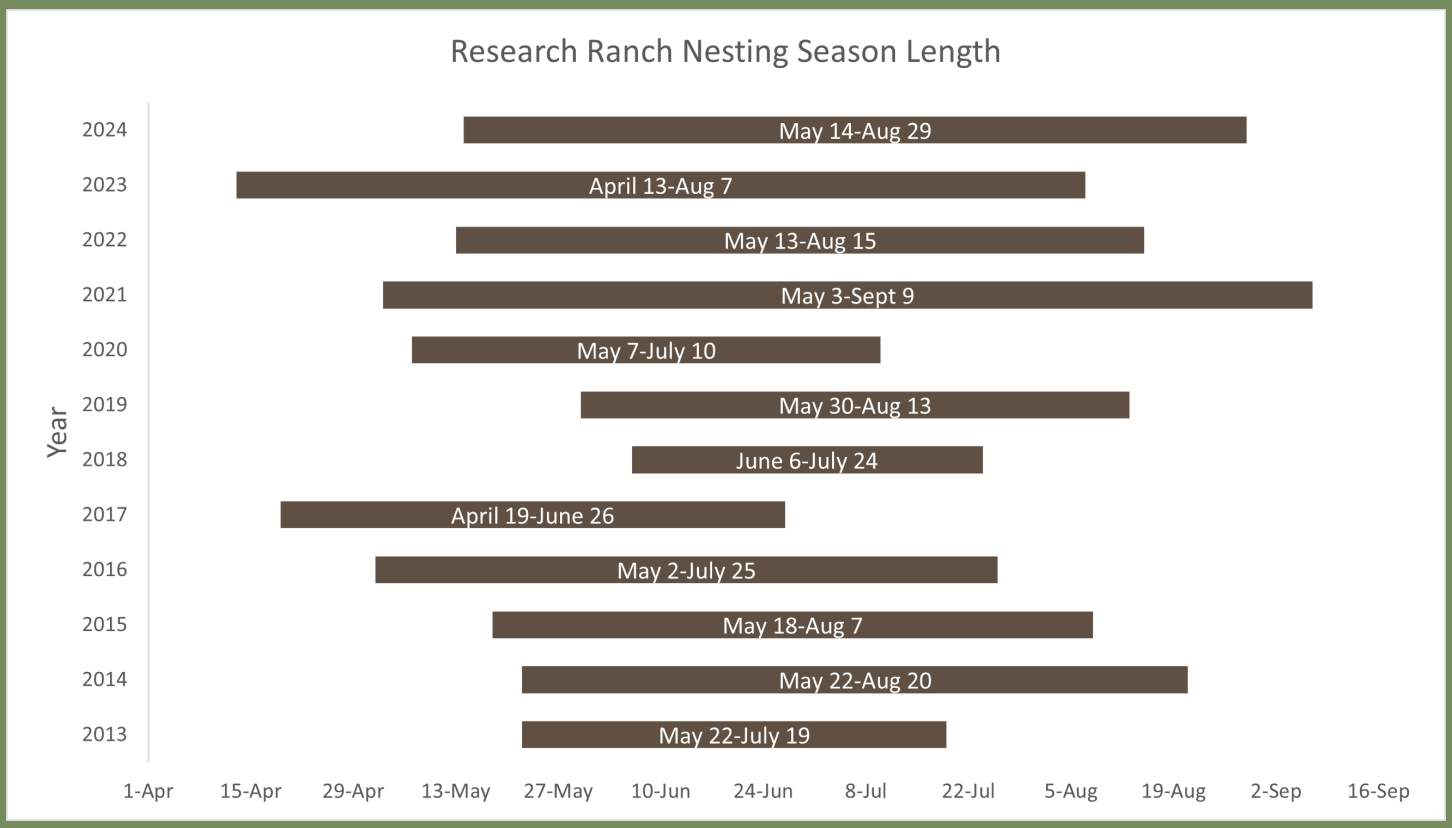

# Chick Research

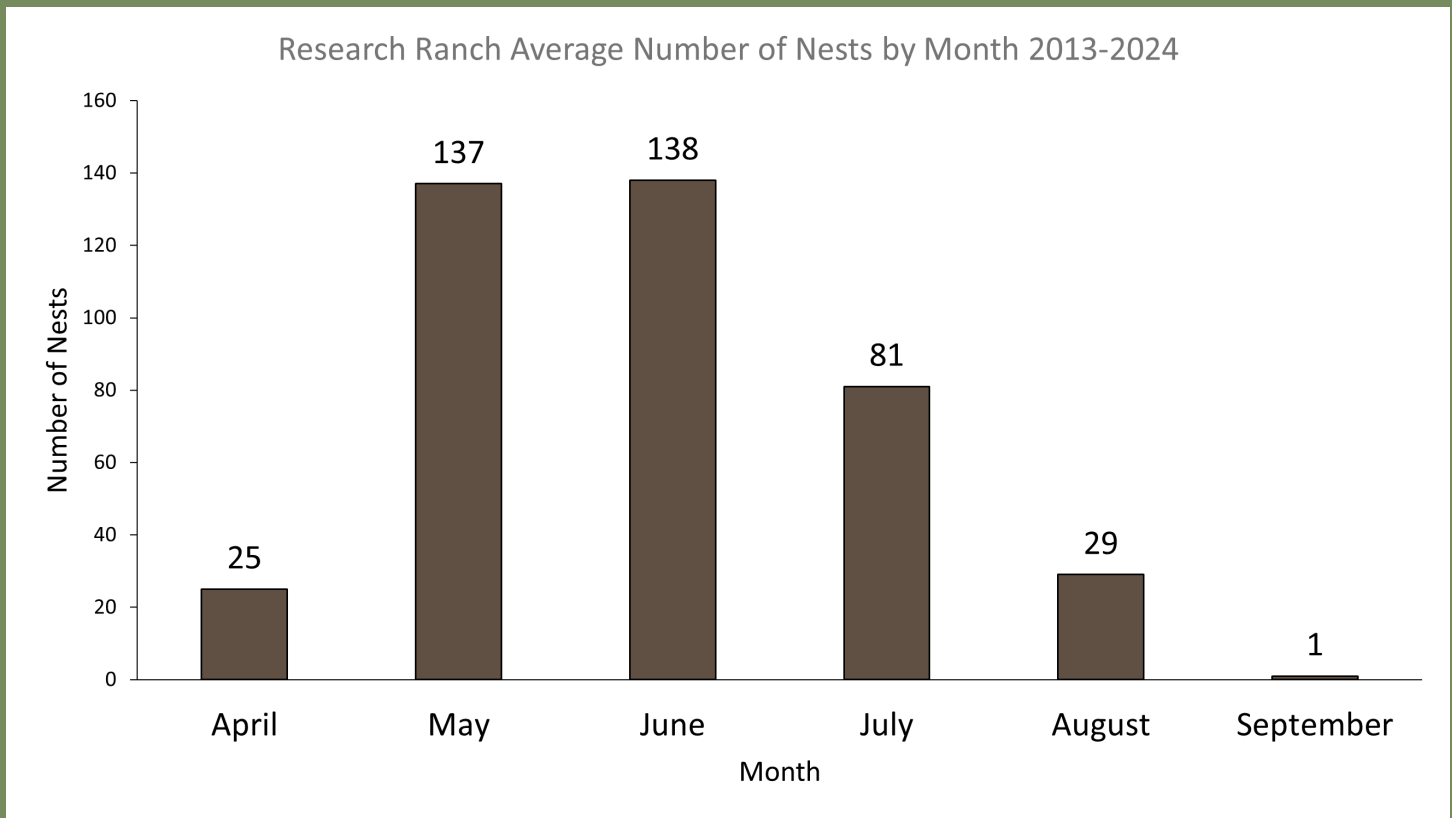
Understanding the factors influencing chick production and survival is crucial to explaining annual population changes, although it has historically presented research challenges. Recent advancements in long-term banding, capture methods, and modeling now offer valuable insights into chick survival rates. During the 2024 nesting season (April-July), we successfully captured and tagged 50 bobwhite chicks (<10-days old) from 7 different broods. Subsequent recapture efforts during the 2024 fall and 2025 spring trapping season provided insights for assessing chick survival. Notably, in November 2024, 8 of these 50 chicks were recaptured during the fall trapping session. However, none of these individuals were detected during the 12-day 2025 March trapping period, indicating potentially low detection rates at that time. Cumulatively, these data offer preliminary estimates of survival from the initial tagging to the November and March trapping events. Continued data collection will allow us to explore relationships between chick survival and variables such as habitat conditions, predator abundance and rainfall patterns.

# Late-Season Nesting 2024

During October 2024, we documented two instances of nesting hens, with one of these nests successfully hatching. An October hatch suggests a nest initiation date in early September. Assuming a typical successful nest requires approximately 38 days (15 days for laying and 23 days for incubation) for completion, these late-season nesting events are noteworthy. Both nests were discovered opportunistically and were not associated with radio-collared hens. One nest was found by the 2024 QuailMasters class during a tour of the Research Ranch in October, while the other was located by technicians monitoring a radio-collared male bird. The accompanying graph, which summarizes nest initiations by radio-marked hens on the Research Ranch from 2008 to 2024, highlights the rarity of such late-season nesting at these north-

ern latitudes, as we have never previously recorded a radio-marked hen initiating a nest in Septem-ber. Anecdotal reports suggest this occurrence of late-season nests was not isolated to the Research Ranch, but was observed across a broader range of Texas quail habitat. Wildlife managers reported observing October broods in Dimmit, McMullen, Culberson, Jim Hogg, Stonewall, and Fisher counties. Timely rainfall across the area promoted high levels of nesting cover, thus allowing quail to extend the nesting season outside the normal range.



# Quail Abundance at the Rolling Plains Quail Research Ranch

## Our Approach to Monitoring Quail Abundance

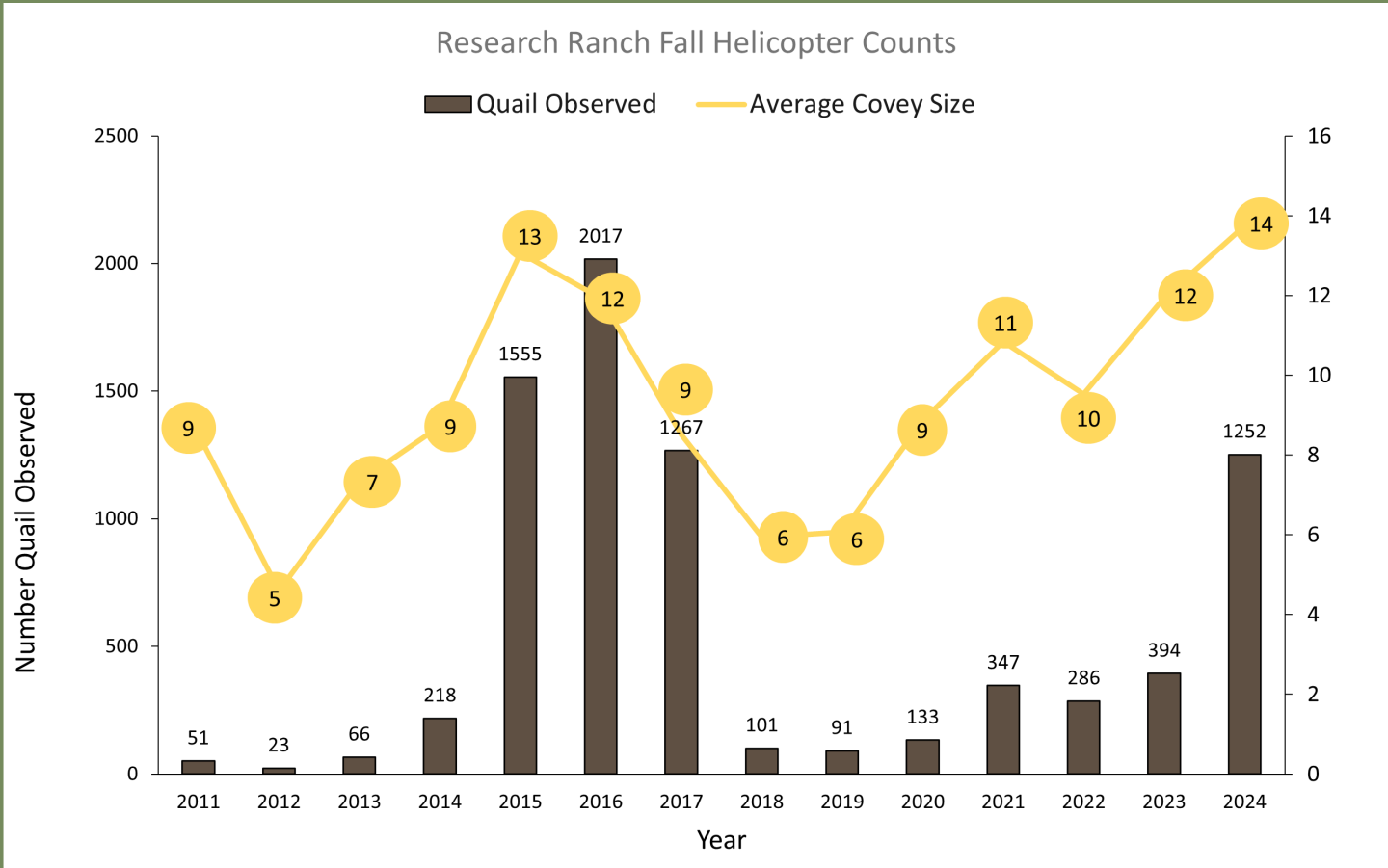
Each year, we employ several methods to monitor quail abundance. Our objectives are twofold:

1. Track changes in abundance over time, allowing us to identify contributing factors and assess the impact of land management practices.
2. To develop reliable and user-friendly indices that land managers can easily implement on their own properties.

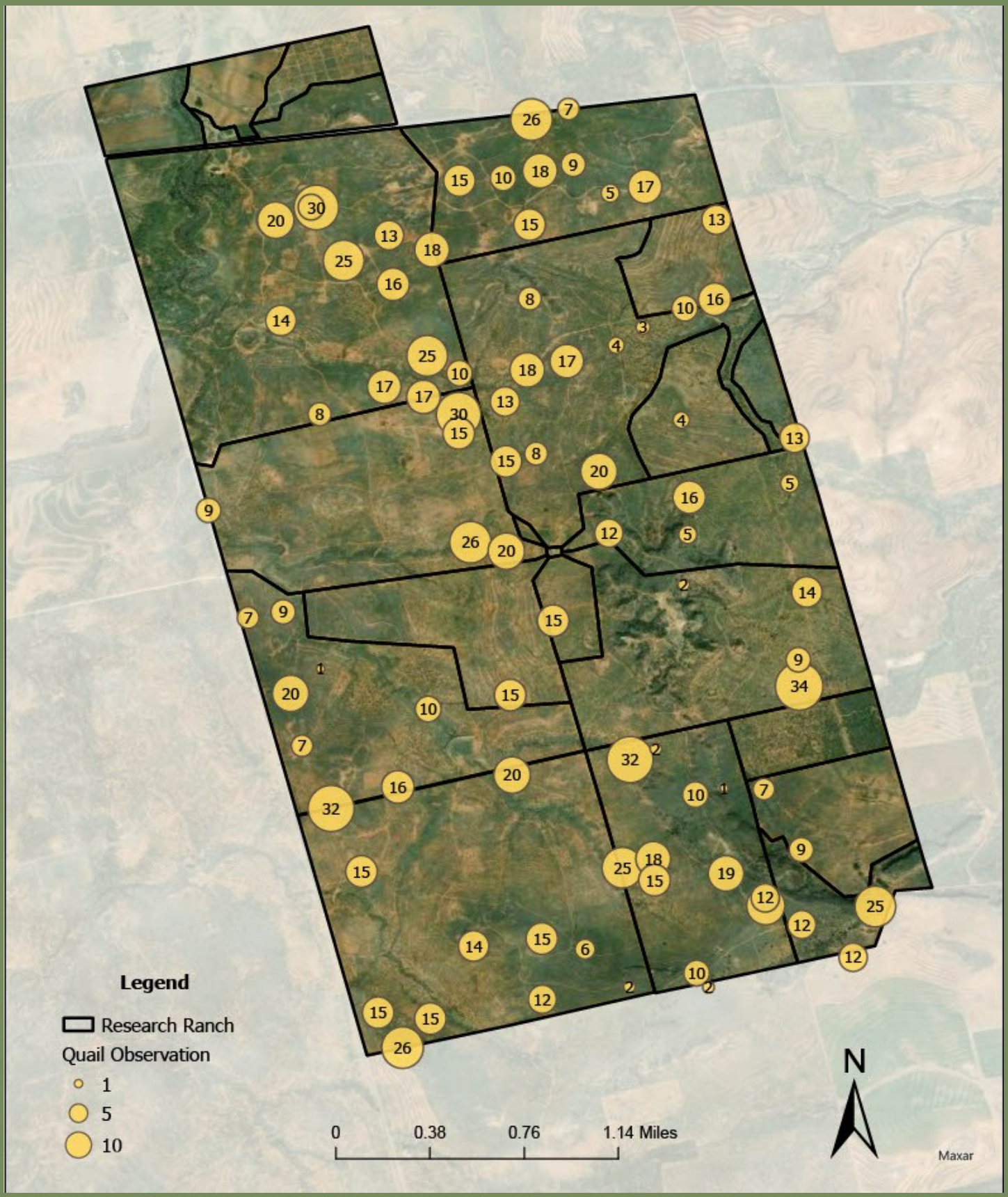
The following sections provide details on our abundance monitoring methodologies and summaries of annual findings.

## Helicopter Surveys

In November, we conducted 52 miles of helicopter surveys on the Research Ranch utilizing distance sampling techniques. The abundance index presented here for the period 2011-2024 combines data for both bobwhite and scaled quail species.




*Northern bobwhite and scaled quail density on the Rolling Plains Quail Research Ranch estimated using distance sampling methods during helicopter surveys in November 2024.*

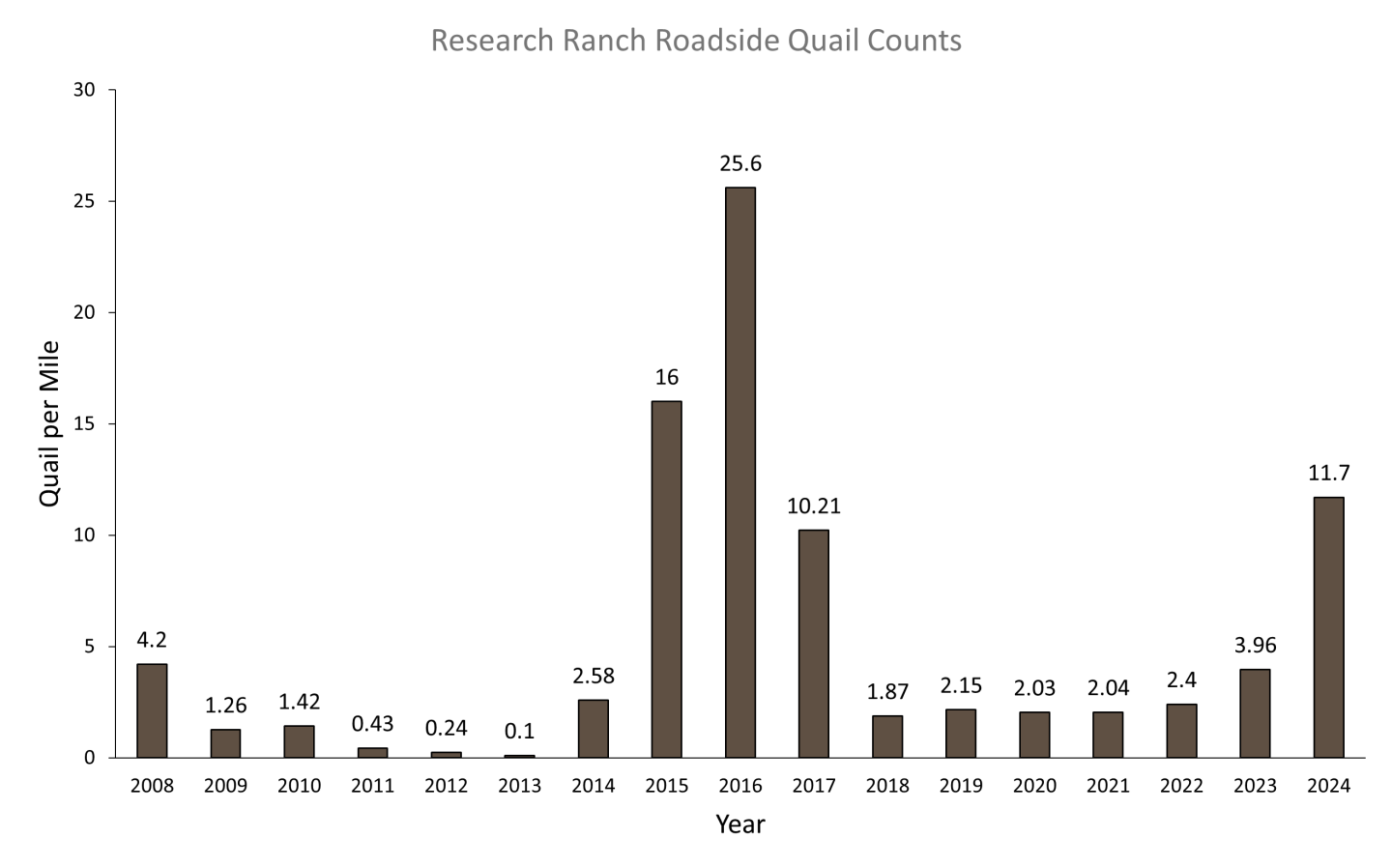



During helicopter surveys, a location point is recorded every time quail are observed. Each dot represents an observation and the number inside the dot represents the number of birds in the observed covey. Over time, these mapped data points will allow us to assess habitat preferences by revealing patterns of use and avoidance. Areas consistently unoccupied by quail may signal habitat deficiencies, prompting targeted investigations and management actions to improve habitat quality and suitability.


*Map of the Research Ranch showing the established survey routes and monitoring points.*

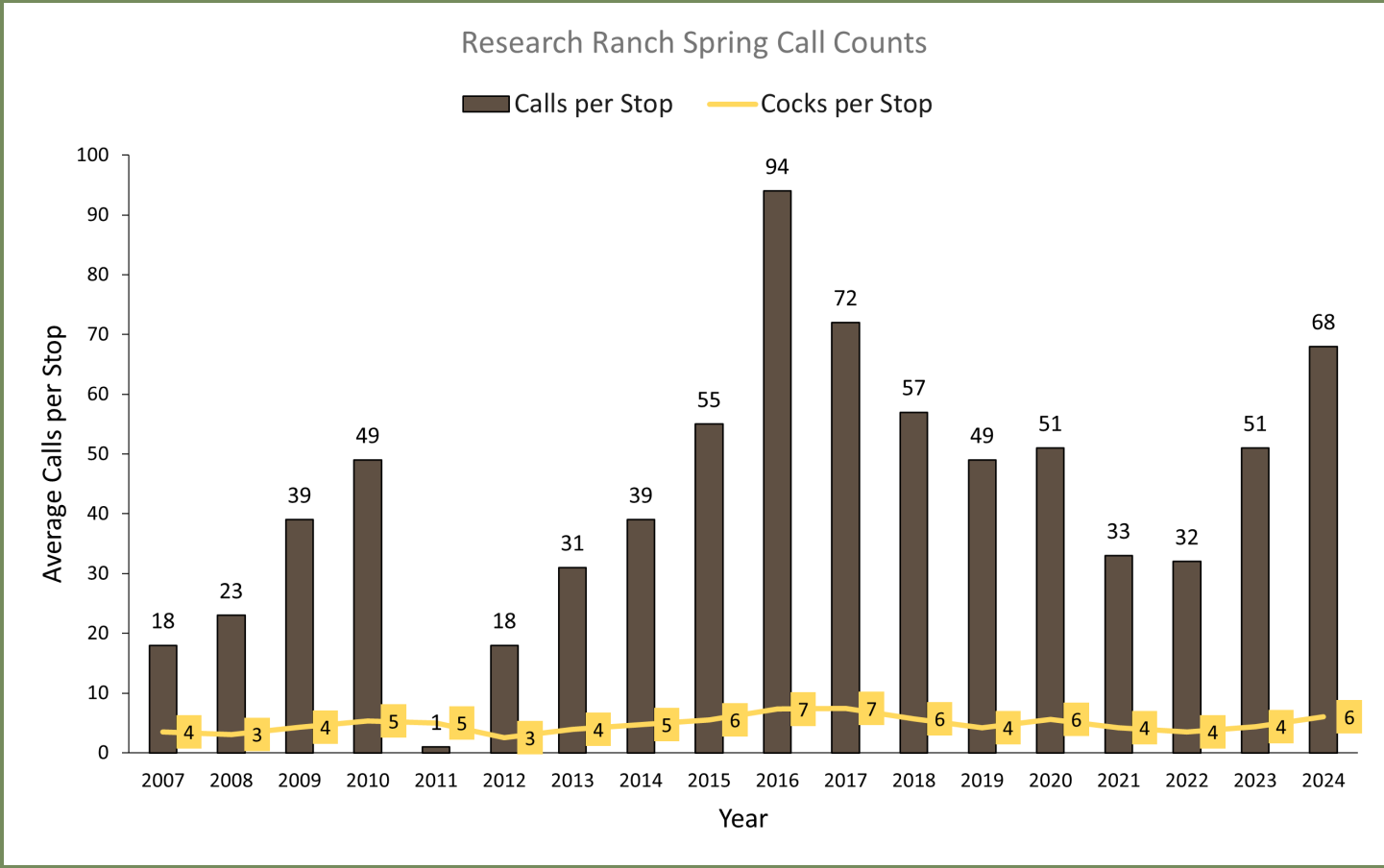
# Roadside Counts

Annual roadside surveys are a measure of the relative quail abundance and a good indicator of the fall population at the Research Ranch. These counts are performed each September and are conducted the 2 hours after sunrise or the 2 hours before sunset. The same 20-mile routes are used annually and driven in a UTV at 15 mph with a driver and 3 observers. Species, location and number of quail are recorded along the route. Results are reported as quail per mile. This survey method is an easy method for land managers to implement on their properties to provide a reliable way to monitor quail populations over time.




# Spring Call Counts

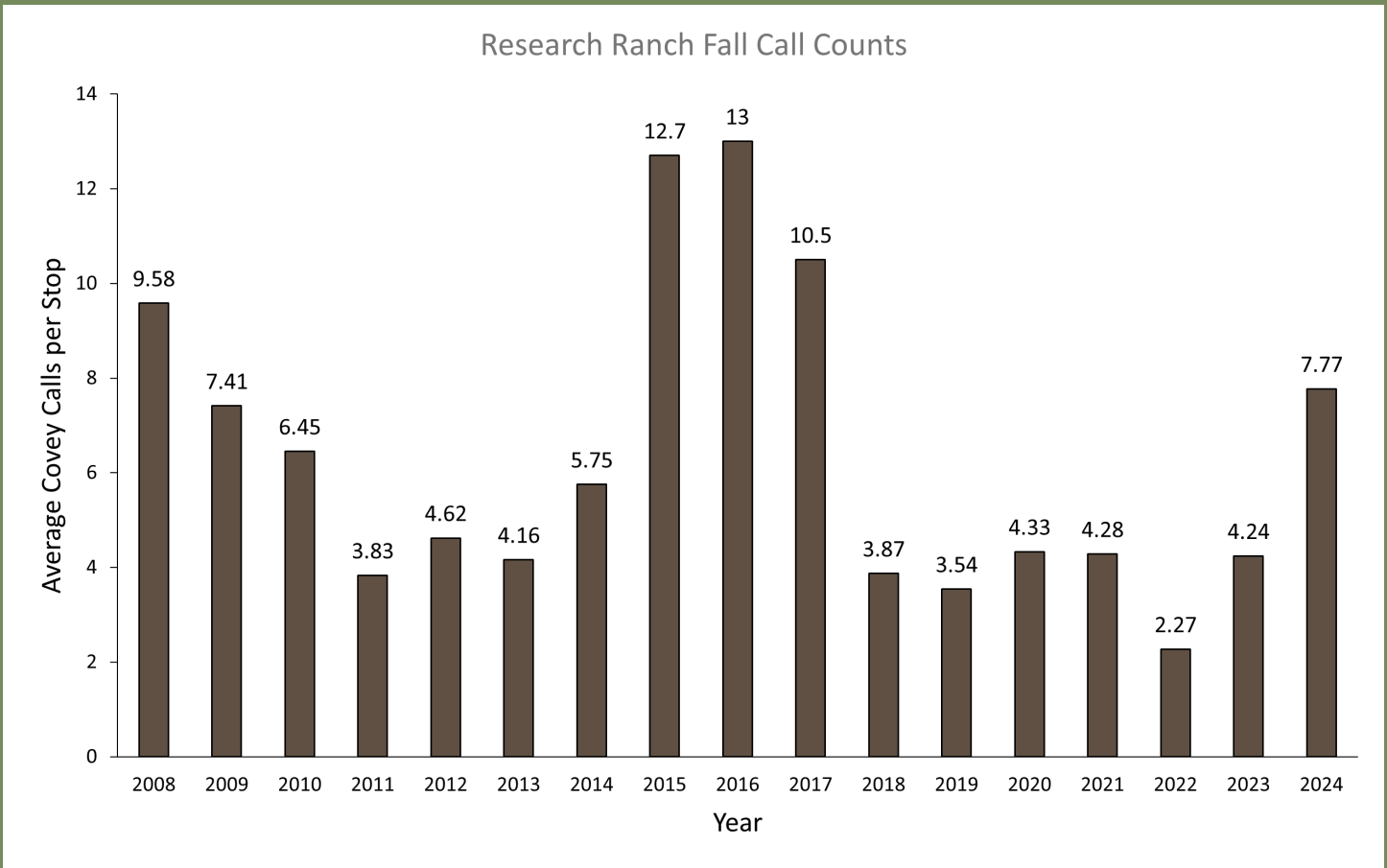
During the months of May and June, a crucial period for assessing the breeding population of ground-nesting birds, particularly northern bobwhite and scaled quail, trained researchers conduct bi-weekly auditory surveys across the Research Ranch at 25 designated locations. These standardized spring call counts specifically target the distinct "poor-bob-white!" vocalization characteristic of male bobwhite quail, as well as the various calls of scaled quail. The frequency of these calls provides a reliable index of quail abundance and distribution across the surveyed landscape. These surveys are started at sunrise and concluded at 1 ½ hours past sunrise. Listeners stand at a designated point and record all individual quails calling during a 5-minute period on a datasheet before moving to the next established listening point. This data collection allows for temporal comparisons within a given year and across multiple years, providing valuable insights into population trends. For northern bobwhite, a long-term average of greater than seven individual roosters detected per survey stop is interpreted as indicative of high population abundance, suggesting favorable habitat conditions and successful breeding in preceding years. Conversely, an average of less than three bobwhite roosters heard per stop raises concerns about the population status, potentially signaling habitat degradation, increased predation pressure, or other limiting factors affecting quail numbers. These spring call count data are fundamental for informing habitat management decisions and evaluating the effectiveness of conservation strategies aimed at maintaining and enhancing quail populations on the Ranch.



# Fall Covey Call Counts

Our annual bobwhite covey counts, conducted every October, are a crucial component of our ongoing efforts to monitor and understand the dynamics of the local bobwhite quail population. This process involves trained observers strategically positioned at predetermined locations across the Research Ranch before dawn. As the sun begins to rise and the environment is typically calm, observers listen for the distinct "koi-lee" call, a vocalization used by bobwhite quail coveys to maintain contact and facilitate regrouping after dispersal during the night.

The number of individual "koi-lee" calls heard at each listening station provides valuable data regarding the presence and approximate density of bobwhite coveys in that specific area. By systematically collecting this auditory information across numerous locations, we develop a comprehensive understanding of the overall covey density across the Ranch. This fall covey call count serves as a key indicator of the breeding success during the preceding spring and summer months and provides insights into the potential quail population size heading into the winter. These data are then analyzed and compared to historical records, allowing us to identify trends, assess the effectiveness of habitat management practices, and inform future conservation strategies aimed at supporting a healthy and thriving bobwhite quail population.

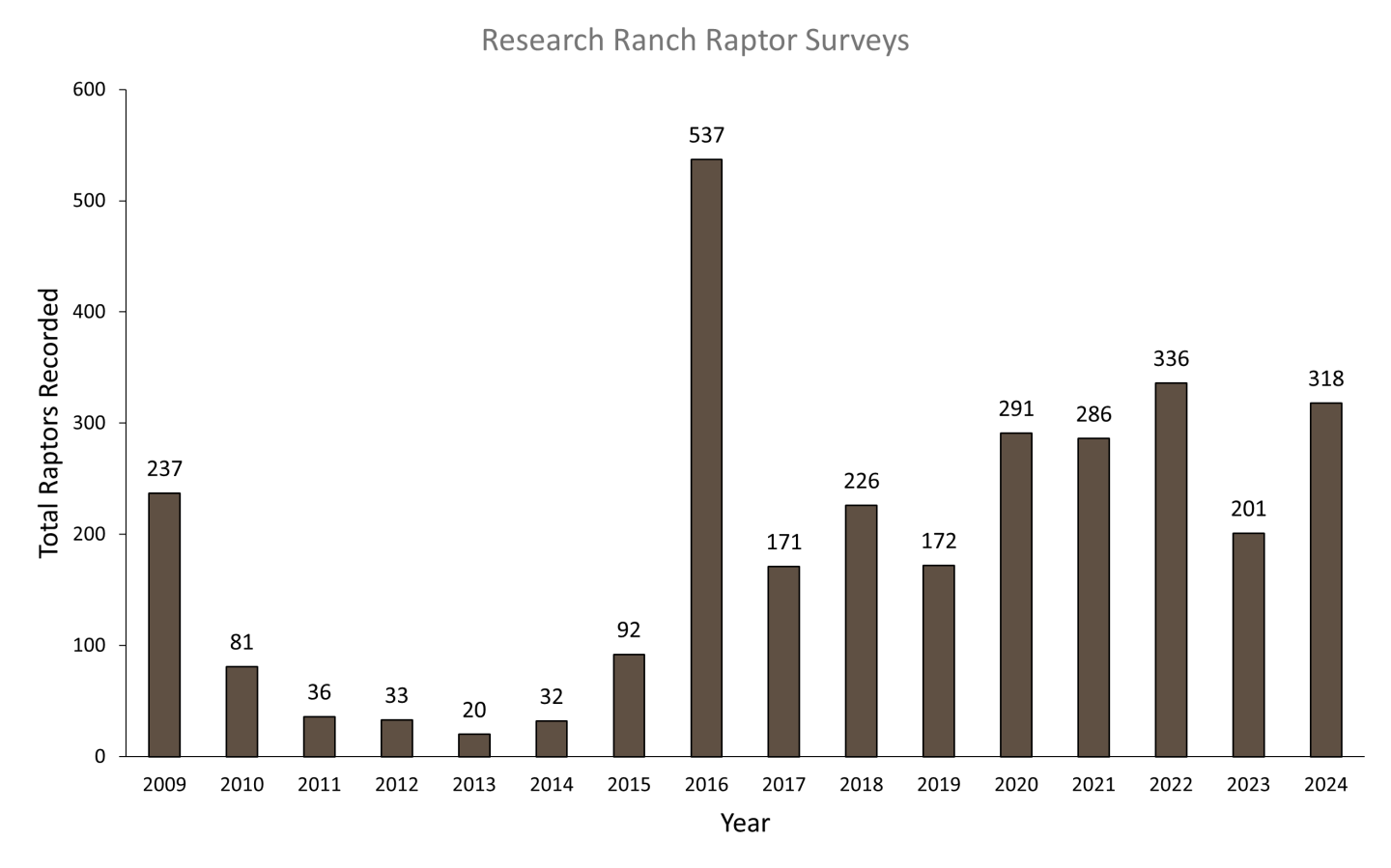


# Raptor Predation of Quail

Avian predators, particularly raptors, exert a considerable influence on overwinter survival rates of quail populations at the Rolling Plains Quail Research Ranch. Their role as key predators is particularly pronounced during late winter and early spring when raptor numbers peak in the region, coinciding with the period just prior to their breeding season. This elevated predator presence creates a period of heightened risk for both northern bobwhite and scaled quail. Effective quail management strategies aimed at enhancing survival must therefore prioritize measures that mitigate raptor predation pressure.

Two crucial habitat components play a significant role in providing quail with refuge from aerial predators: sufficient herbaceous cover and interspersed shrub cover. Dense, low-growing vegetation offers concealment from hunting raptors, while scattered shrubs provide escape cover and disrupt predator flight paths, reducing their hunting efficiency. Maintaining and promoting these habitat features is therefore essential for creating a landscape that enhances quail survival in the face of substantial raptor predation.

To gain a deeper understanding of the complex interactions between the raptor community and quail populations on the Research Ranch, we implement a rigorous monitoring program involving twice-weekly raptor counts across the property. These systematic surveys allow us to track changes in raptor species composition, abundance, and distribution over time. The data collected provide valuable insights into the dynamics of the avian predator community and enable us to assess their potential impacts on northern bobwhite and scaled quail populations.



While certain raptor species exhibit more specialized quail predation behaviors, the overall impact of the raptor community is multifaceted. Accipiters, such as the agile Cooper's hawks, are highly effective at pursuing and capturing quail in flight and within cover. Similarly, Northern Harriers, with their low-altitude hunting flights over open fields, pose a significant threat to quail. These two groups are generally considered the most direct and efficient quail predators among the raptor community present on the Research Ranch.

However, it is important to acknowledge that larger, less agile buteos, such as red-tailed hawks, can also exert an influence on quail abundance. While perhaps less successful at direct pursuit and capture compared to accipiters, their presence can still impact quail behavior, potentially increasing stress levels and forcing quail to utilize less optimal foraging areas, indirectly affecting their survival and fitness. The ongoing raptor monitoring program, coupled with habitat management strategies aimed at providing adequate cover, forms a critical component of the research efforts at the Rolling Plains Quail Research Ranch. By understanding the dynamics of raptor predation and implementing effective habitat management practices, we aim to enhance overwinter quail survival and contribute to the long-term health and stability of northern bobwhite and scaled quail populations in the region. Further analysis of the collected data will continue to refine our understanding of these predator-prey relationships and inform adaptive management decisions on the Research Ranch.

## Small Mammals and Bobwhite Quail

The small mammal community inhabiting the Rolling Plains Quail Research Ranch exhibits population dynamics characterized by irruptive growth patterns, a phenomenon mirroring that observed in the ranch's bobwhite quail populations. This parallel behavior suggests a strong interplay with shared environmental factors, creating a complex ecological web. Notably, long-term monitoring reveals a significant positive correlation between the abundance of small mammals and bobwhite quail, indicating a potential underlying ecological link.

To gain a deeper understanding of this interconnectedness, the Research Ranch conducts biannual small mammal trapping sessions in January and June. These trapping efforts employ mark-recapture methodologies, allowing researchers to estimate population sizes and monitor changes in abundance over time. The data collected through these efforts provide a valuable index of the small mammal community's status.

The ecological significance of the small mammal community extends to their role as a buffer against predation for bobwhite quail. By providing an alternative prey source for various predators, a healthy and abundant small mammal population can potentially reduce predation pressure on quail eggs, chicks, and adult birds, thereby contributing to the overall stability and resilience of the bobwhite quail population on the Research Ranch. Further research continues to explore the intricate mechanisms driving these population fluctuations and the precise nature of the ecological relationships between small mammals and bobwhite quail.

# Quail Trapping and Banding

At the Research Ranch, a comprehensive quail trapping and banding program is conducted twice each year (March & December) during key periods relevant to the quail life cycle. In 2024 we captured 802 unique birds during the March trapping period and 1,619 unique birds during the December trapping period. These intensive trapping efforts are crucial for the acquisition of detailed data that underpins our understanding of bobwhite and scaled quail ecology. Each captured bird is fitted with a uniquely numbered leg band, enabling individual identification upon subsequent encounters. Furthermore, a subset of captured quail is also equipped with radio-collars. These radio-collars transmit location data, providing invaluable insights into various aspects of quail biology, including habitat selection, survival rates, reproductive success, population abundance, and overall annual production. The density estimates for quail populations presented in our research are directly derived from the robust dataset generated through this rigorous trapping protocol. This longitudinal data collection, facilitated by trapping and banding, forms a cornerstone of our long-term ecological investigations into bobwhite quail populations.

# Necropsy and Parasite Load Study: Examining the Impact of QuailGuard on Parasite Prevalence

Building upon previous research into quail health and disease, we conducted a detailed necropsy and parasite load study to evaluate the effectiveness of QuailGuard, a newly-available medicated feed, in reducing parasite infestations in our study populations. This investigation involved the systematic examination of deceased quail to identify and quantify both internal and external parasites. The data collected were then analyzed to compare parasite loads in quail that had received QuailGuard treatment versus a control group. The findings of this study revealed a notable reduction in parasite loads among the quail treated with QuailGuard, suggesting its potential as a valuable tool for improving quail health and survival rates. Further research will focus on optimizing the application of QuailGuard and assessing its long-term impacts on quail populations.


Conducting necropsies on hunter harvested quail from throughout the Rolling Plains. Pictured L to R: Simeon Poelman, RPQRF Technician, Hannah Suber, TTU Graduate Student, Emily Thornock, Kyndal Underwood, & Luna Li—RPQRF Technicians

# Texas Horned Lizard Population Monitoring Project by the Dallas Zoo

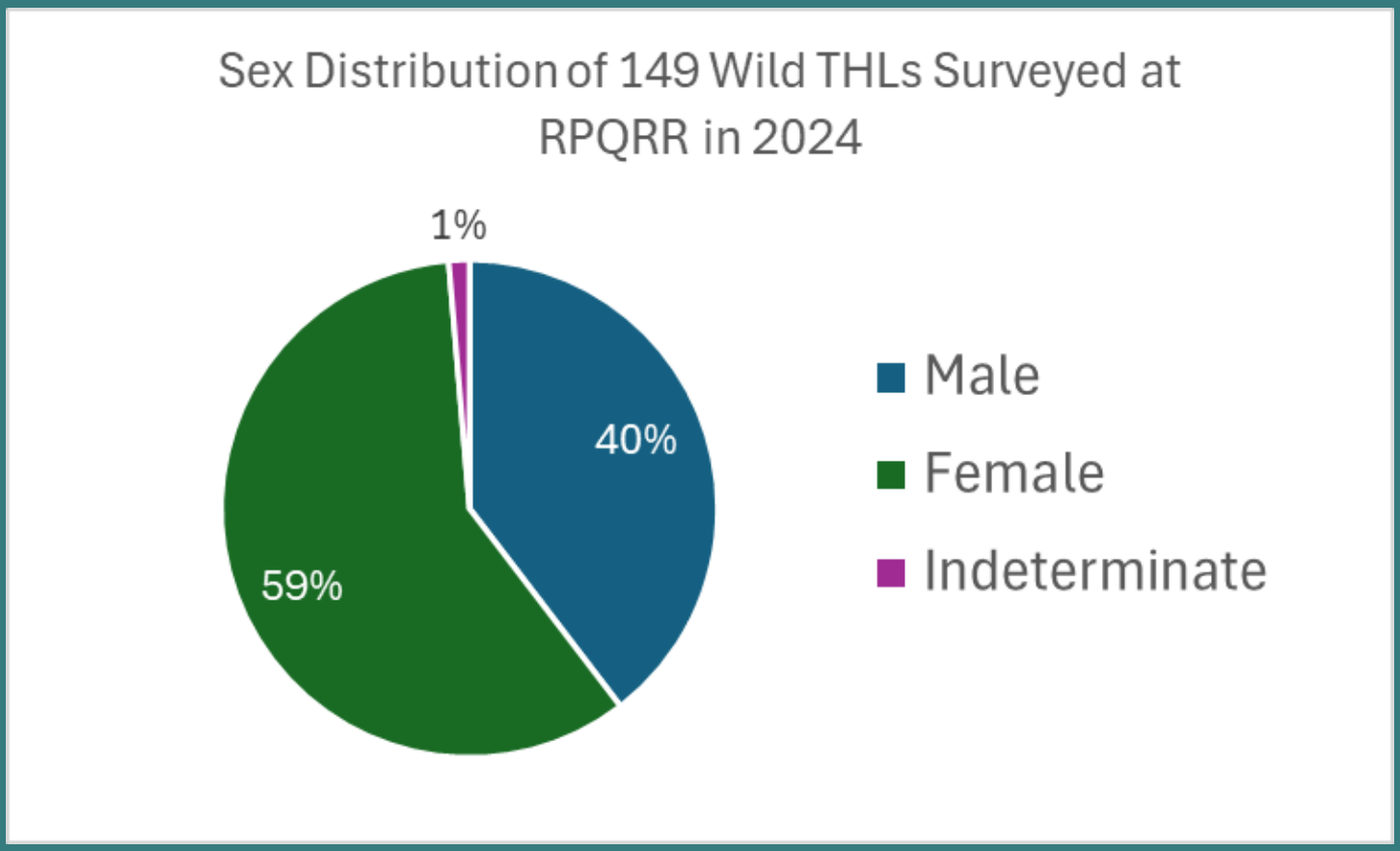
From May 8 to September 18, 2024, 149 Texas Horned Lizards from the Rolling Plains Quail Research Ranch were hand collected, processed, and released by personnel from the Dallas Zoo. Of these 149 individuals, 59 were male, 88 were female, and 2 were of unknown gender. Of these, 111 individuals received transponders; 4 individuals were recaptured from previous seasons' work; 32 individuals were too small to receive transponders and were marked with an unique identification using a permanent marker on their ventrum.

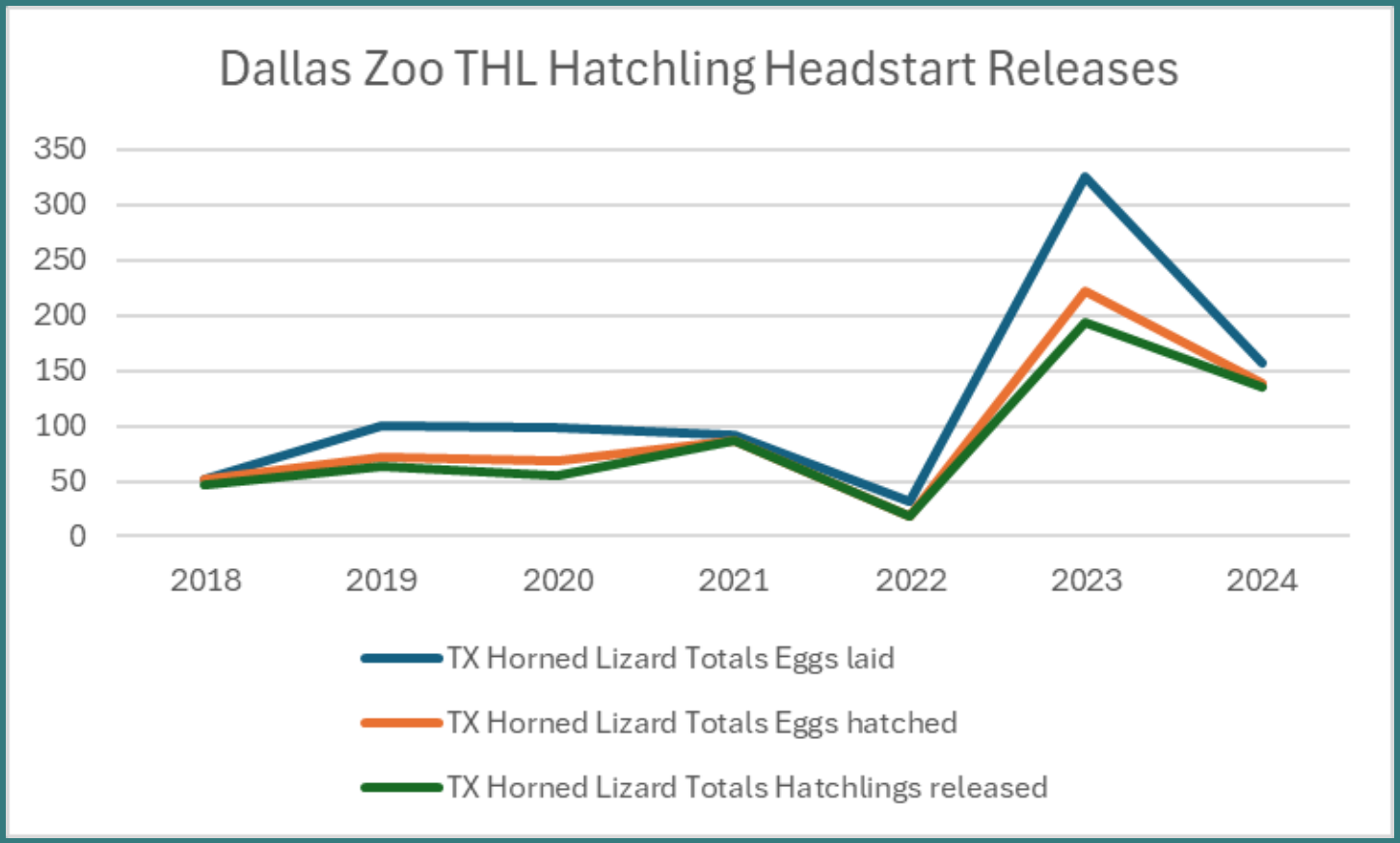
A total of 256 staff-hours were spent in the field at RPQRR in 2024, a decrease from the previous year, mainly due to staffing issues and weather.

During road surveys, seven females suspected to be gravid were collected and transported back to the Dallas Zoo. Of those seven females, six laid clutches. One of the six clutches only contained five eggs, and the eggs were in such poor condition that they were euthanized and discarded.

Of the 4 individuals from 2023 that hatched after the last 2023 TPWD release date, only 1 individual remained. All three of the juvenile mortalities happened during the brumation period of November - February. Based on data collected in 2021 and 2022, it was determined that females who measure a snout to vent length (SVL) of at least 90mm and weighed at least 55g should be inspected carefully for signs of reproductive activity. This selection criteria proved successful during the 2023 and 2024 seasons.

The decision was made not to collect any gravid females after the July 2 – 4, 2024 trip because it would put the potential hatch window after the TPWD designated head-start (hatchling) release dates. Two of the cancelled trips to RPQRR were scheduled to be prior to the July collection cut-off date and may have contributed to the lower total number of Texas Horned Lizards surveyed and the lower number of gravid females found in 2024. A total of 134 hatchlings and the single remaining 2023 individual were released at Mason Mountain Wildlife Management during two separate scheduled releases coordinated by Nathan Raines, TPWD Diversity Biologist. Hatchlings that were deemed to be large enough were tagged with harmonic tags prior to release.


Sex Distribution of 149 Wild THLs Surveyed at RPQRR in 2024
1%
40%
59%
Male
Female
Indeterminate


Dallas Zoo THL Hatchling Headstart Releases
350
300
250
200
150
100
50
0
2018
2019
2020
2021
2022
2023
2024
TX Horned Lizard Totals Eggs laid
TX Horned Lizard Totals Eggs hatched
TX Horned Lizard Totals Hatchlings released

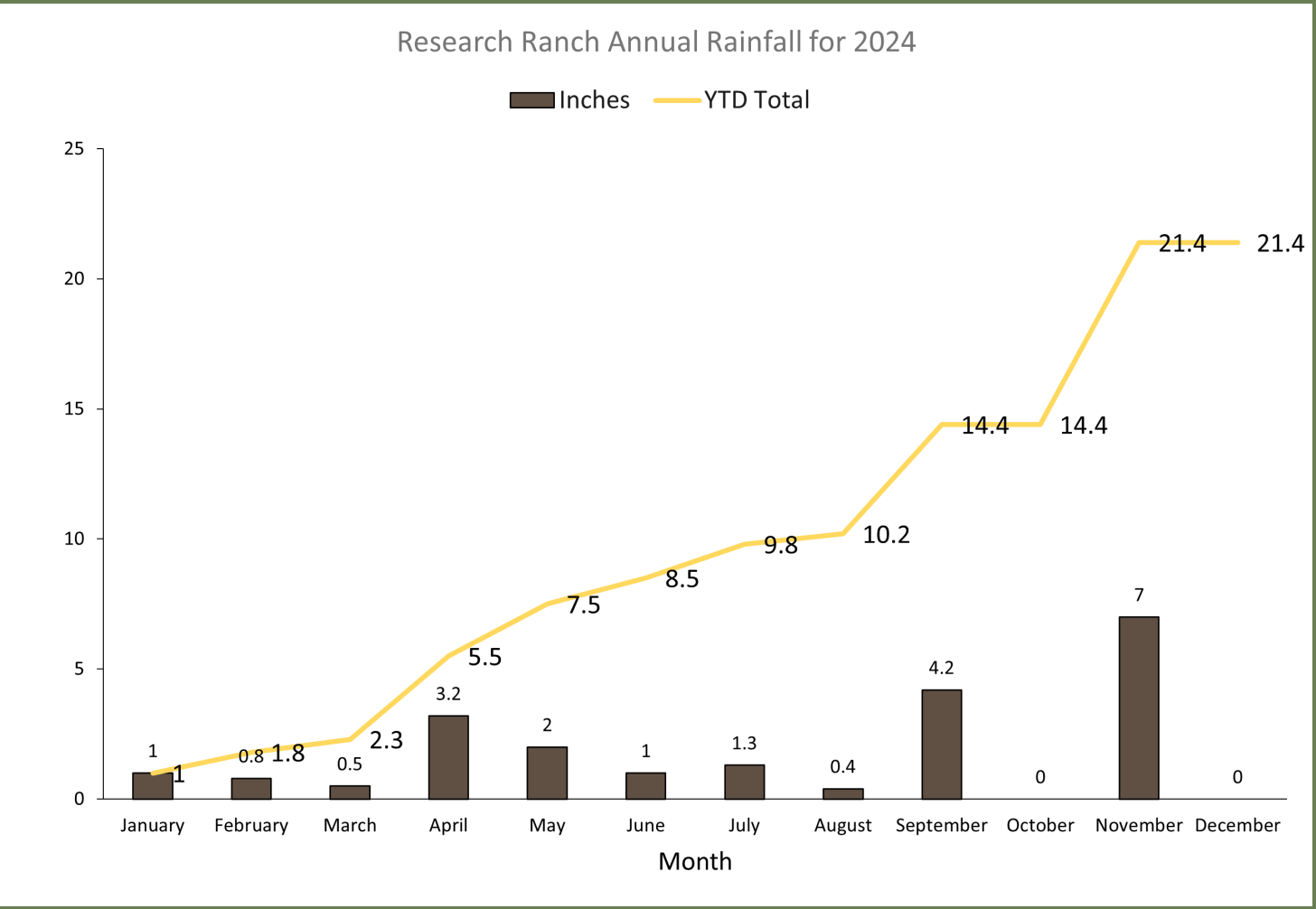
# Land Management Update—Rainfall

From January 2022 through March 2024, much of the Rolling Plains of Texas experienced conditions classified as "extreme to exceptional drought." According to the Rangeland Analysis Platform, plant production during this period averaged only 830 lbs/acre—just 50% of our long-term average of 1,600 lbs/acre.

Compounding the effects of the drought, Desert Termites were observed in the region. These pests consumed nearly all of the limited forage available, leaving minimal nesting and brooding cover for quail.

Despite receiving improved rainfall in 2024, the lingering impacts of both the drought and termite activity remained significant. Forage production dropped even further to 420 lbs/acre, representing just 25% of our average. This decline was primarily due to increased bare ground, which led to water runoff rather than infiltration.

Looking ahead, there is reason for optimism. We received 7 inches of rainfall in November 2024, which should provide a strong foundation for improved vegetation growth and forage availability heading into fall 2025.



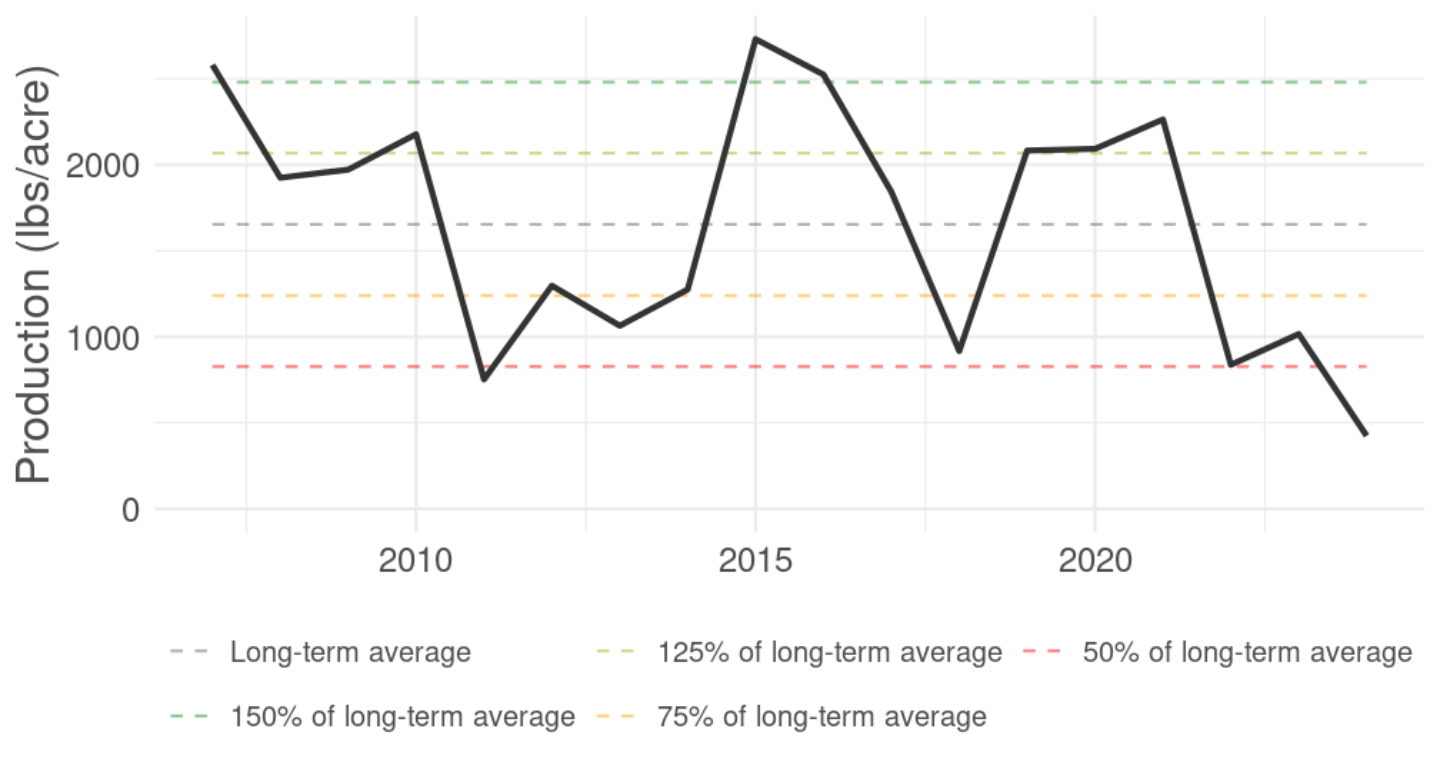



*Figure: Research Ranch Annual Production 2007-2024 (RAP)*

*Grassland birds, such as Lark Buntings, benefit from habitat management practices aimed at quail.*

# Habitat Management

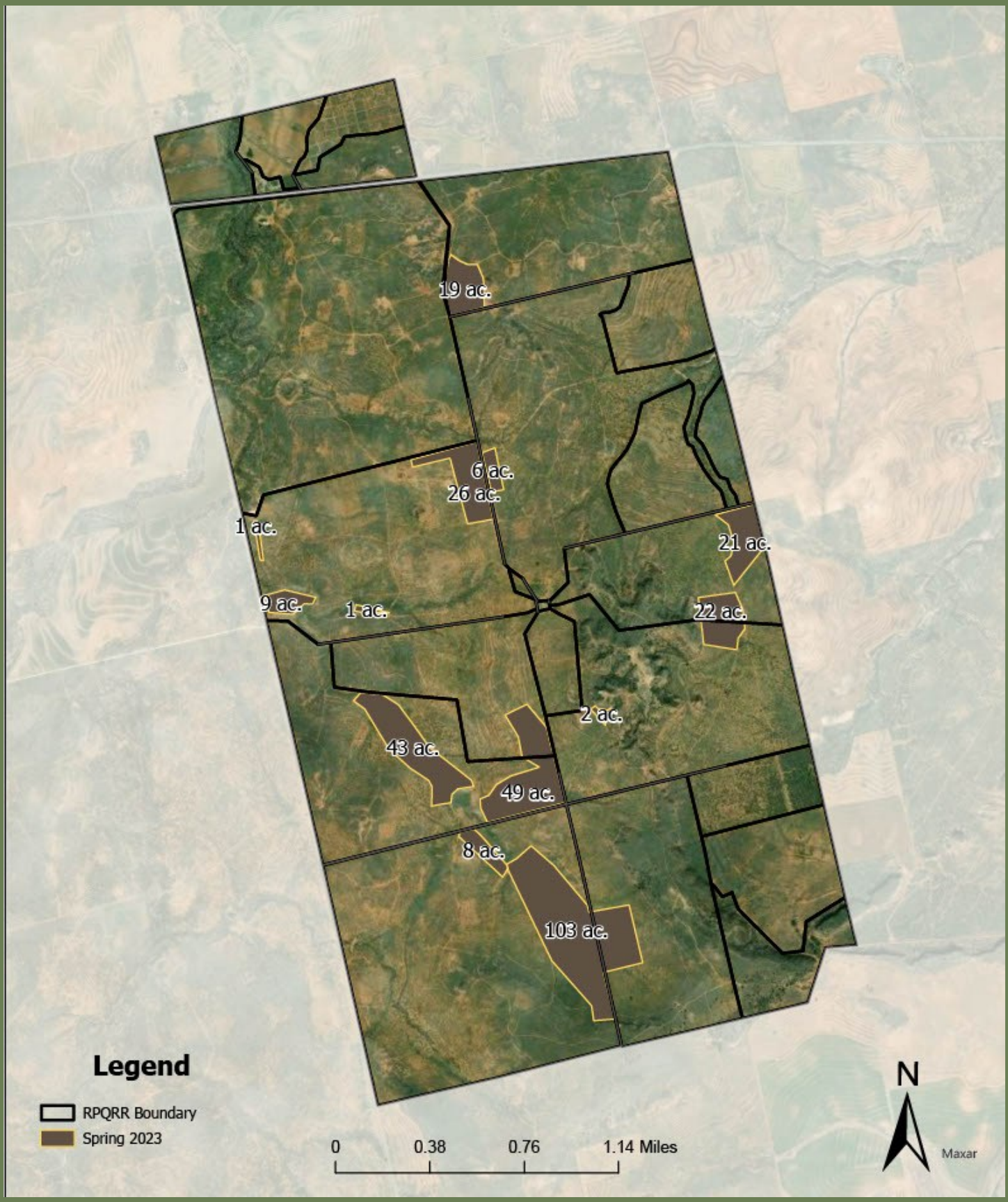
As the saying goes, "there can be too much of a good thing"—a principle that holds true for both prickly pear and mesquite. In 2023, approximately 300 acres were treated with picloram to target dense stands of prickly pear. These areas had developed near-solid canopies, outcompeting native grasses and forbs, and creating challenges for habitat accessibility and quail hunting with dogs.

While picloram treatment can cause temporary "forb shock," resulting in reduced forb abundance for one to two years post-application, the decision to spray is based on long-term habitat improvement goals. Although another 300 acres were scheduled for treatment in 2024, staffing changes and scheduling conflicts with the applicator delayed operations. As a result, these acres are now slated for treatment between January and March of 2025.

Mesquite is also managed chemically, though with a more selective approach. When mesquite grows as a multi-stemmed plant with low, ground-touching branches, it can provide valuable loafing and escape cover for quail. However, overabundance leads to habitat degradation and negatively impacts quail populations.

To combat woody encroachment, we conduct annual hand-spraying operations across the entire ranch. At the Research Ranch, we use Sendero herbicide mixed with water to treat mesquite trees under five feet in height, focusing on single-stemmed individuals. This is done with sprayers from a UTV during the summer months, our research technicians are a valuable asset in accomplishing our brush management goals. In 2024, approximately 730 acres were hand-sprayed to maintain suitable habitat conditions and prevent further brush encroachment.

# Prickly Pear Treatments at Rolling Plains Quail Research Ranch 2023



# Habitat Restoration

The Rolling Plains Quail Research Ranch maintains three agricultural crop fields that were historically planted to wheat, milo, or haygrazer. In recent years, these fields had been left fallow. However, due to prolonged farming in the past, native vegetation recovery has been slow.

To accelerate restoration, we initiated a reseeding effort in partnership with the Wildlife Habitat Federation (WHF). WHF generously provided a native seed mix sufficient for 45 acres. This mix includes a diverse array of grasses and forbs designed to benefit both quail and pollinators.

In preparation, the field was plowed, seed was broadcasted, and the area was dragged to ensure proper soil contact and coverage. Planting was completed in November 2024, followed by a timely 7 inches of rainfall—ideal conditions for seed establishment.

We chose to plant in the fall to take advantage of fall-flowering species in the mix, while also setting the stage for spring-flowering plants to emerge in 2025. This reseeding effort marks a step forward in improving habitat quality and ecological function on these previously cultivated lands.


*Texas Horned Lizard*

# Outreach and Education

Education is essential to our mission of preserving Texas' wild quail hunting heritage for this, and future, generations. Throughout 2023 and 2024, RPQRF had outstanding years with regards to its commitment to educate others about quail biology and management. Research updates, quail habitat management practices and quail biology were disseminated by RPQRF staff through a variety of channels, including podcasts, social media, newsletters, newspapers, magazines, television appearances, event activations, field days and seminars. The Research Ranch hosted over 700 visitors in 2023-24, guests included 4-H youth groups, high school students, college students, researchers, veterinarians, resource professionals, universities, landowners, hunters, dog trial participants, donors, members of the press and other conservation organizations.

RPQRF staff also organized the Statewide Quail Symposium in 2023, a 3-day event in Abilene attended by over 200 quail enthusiasts from Texas and other states, and included a field tour of the Research Ranch. Our staff also hosted a Plant Appreciation Day at RPQRR, a Wildlife Appreciation Day in Stonewall County and a Blue Quail Appreciation Day in Crane County. During 2024, staff organized and led a QuailMasters course, which is designed for serious students of quail management. It consisted of four 3-day sessions scattered around the State with a curriculum of hands-on activities, lectures, plant identification and field trips to help students build their knowledge and skills on all-things-quail. Twenty-six students graduated from the course. Also in 2024, RPQRF staff organized and participated in numerous educational events, including Dr. Rollins' 100th Quail Appreciation Day, a Wildlife Tax Evaluation Workshop for Landowners, the Canadian Post-Wildfire Landowner Meeting and the "Where Have the Quail Gone" landowner meeting in Albany, TX.

*2024 QuailMasters' Class field tour, Stonewall County.*

Staff also assisted with or had a presence at numerous events such as the Dallas Safari Club convention, Quail Coalition banquets, Safari Club International banquets, Quail Forever meetings, Bobwhite Brigade Youth Camp, Panhandle Wildlife Conference, Pheasant Fest, Cattle Raisers Convention, Texas Chapter of the Wildlife Society Conference and Texas Section of Range Management Annual Meetings.

RPQRF significantly expanded its outreach efforts through various communication channels. A total of 24 podcast episodes, 24 newsletters and numerous articles in newspapers were published in the past two years, disseminating research findings, management recommendations, and general information about quail conservation to a wide audience. RPQRF also actively engaged with the public through social media platforms, reaching over 10,000 followers and fostering greater awareness and support for quail conservation initiatives.

A strong commitment to education, training and professional development was demonstrated through the training of over 100 students via field-based volunteer opportunities and internships. These hands-on experiences provide valuable training for the next generation of wildlife professionals and develop interest in quail management, conservation and research.

Beyond the specific research and outreach initiatives, the organization expanded its conservation impact through a range of direct engagement activities. This included providing educational resources and technical assistance to landowners interested in improving quail habitat on their property. Staff conducted numerous landowner visits, offering tailored advice and guidance on habitat management practices. Furthermore, the organization provided valuable consultations related to post-wildfire management,

*Rolling Plains Bobwhite Brigade Youth Quail Hunt*

recognizing the significant impacts of fire on quail populations and their habitat. The expansion of these diverse outreach and engagement activities underscores the organization's commitment to a comprehensive and collaborative approach to quail conservation across the landscape.

## Research and Monitoring Initiatives:

RPQRF planned and executed initial phases of a significant landscape-scale study of the new QuailGuard Medicated Feed in 2024. Preliminary findings from this study have indicated promising reductions in parasite loads within quail populations. This research has the potential to offer a novel and effective strategy for managing parasite-related health issues in wild quail.

A comprehensive eye and cecal worm necropsy database was established, as well. This long-term initiative began with the collection of samples in November 2024 and aims to build a valuable resource for understanding the prevalence and impact of these parasites on quail health across the state. The database will facilitate research into the spatial and temporal patterns of parasite infections.

Lastly, banding and radio-marking efforts achieved a significant milestone, surpassing 18,000 individual birds. This extensive effort contributes to the most robust quail population dataset currently available for Texas. The data collected through these efforts are crucial for informing conservation strategies, understanding population dynamics, and assessing the impacts of various environmental factors on quail.

Our research efforts in 2025 will concentrate on several key initiatives designed to enhance data collection efficiency, improve operational safety, and expand our monitoring capabilities.

## GPS vs. VHF Transmitters: Comparative Analysis for Enhanced Field Efficiency

In a continuing effort to optimize our field research methodologies, we conducted a comprehensive comparison between traditional Very High Frequency (VHF) transmitters and modern Global Positioning System (GPS) tracking devices. This study meticulously evaluated both the labor investment required for deployment and data retrieval, as well as the accuracy of the location data obtained. The primary objective was to identify the most effective transmitter technology for various research objectives, ultimately leading to improved field efficiency and more robust datasets. Preliminary findings suggest that while GPS transmitters offer superior accuracy, their deployment and battery life considerations require careful planning, especially in remote locations. Conversely, VHF transmitters, while necessitating more intensive manual tracking, may be more suitable for specific habitat types and shorter-term studies. The final report will provide detailed recommendations based on habitat, study duration, and required precision.

*Bobwhite quail with backpack style GPS tracking unit.*

## Dragonfly Drone Technology: Revolutionizing Tracking Operations with Reduced Labor and Enhanced Safety

Recognizing the potential of unmanned aerial vehicles (UAVs) to transform wildlife monitoring, we rigorously evaluated the integration of Dragonfly drone technology into our tracking operations. This initiative focused on assessing the efficacy of drones in locating and observing quail populations, with a particular emphasis on reducing the significant labor typically associated with ground-based tracking. Furthermore, the use of drones offers a substantial improvement in researcher safety by minimizing the need to traverse challenging or potentially hazardous terrain. Our evaluation encompassed factors such as flight endurance, camera capabilities, ease of deployment, and data processing workflows. The results demonstrate that drone technology significantly reduces the time and personnel required for certain tracking tasks, while simultaneously providing a broader aerial perspective that enhances our understanding of quail movement patterns and habitat use.

## Autonomous Recording Units (ARUs): Validating Scalable Quail Call Detection for Population Monitoring

To address the challenges of large-scale population monitoring, we investigated the application of Autonomous Recording Units (ARUs) for the detection of quail vocalizations. This initiative aimed to validate the reliability and scalability of ARUs as a cost-effective method for gathering acoustic data across extensive landscapes. The study involved deploying ARUs in diverse habitats and comparing the recorded vocalizations with traditional survey methods. Our analysis focused on the accuracy of call detection, the influence of environmental noise, and the efficiency of data processing. The preliminary findings strongly support the use of ARUs as a valuable tool for scalable quail call detection, offering the potential to collect long-term monitoring data over broad geographical areas with reduced human effort. This technology holds promise for significantly enhancing our ability to assess population trends and habitat occupancy.

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PARK CITIES QUAIL COALITION

We especially thank Park Cities Quail Coalition for their significant contributions to RPQRF since our inception. Over the past decade plus, PCQC has provided critical funding that has allowed our research efforts to flourish.

## Support Quail Conservation!

As a 501(c)(3) nonprofit, RPQRF is dependent on the generous contributions of individuals, agencies, foundations, and corporations to make our work possible. These investments are incredibly important for our research and management recommendations we provide for supporting wild quail populations. If you love these birds as much as we do, we hope you'll consider donating – no gift is too big or too small. And thankfully, there are more ways (and reasons) than ever to include RPQRF in your charitable donations.

## Direct Donations: The Easiest Way to Give

Our website makes it easy to make an online donation and will even let you schedule monthly recurring gifts to support RPQRF on a year-round basis. If you'd rather mail your gift, you'll find the key details there, too.
For more information, visit: quailresearch.org/donate

## RPQRF Endowment Series

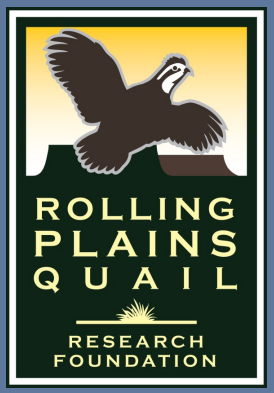
Endowments are the lifeblood of many non-profit organizations with long-term visions. RPQRF has launched an inaugural endowment to support all aspects of our quail-saving work. RPQRF is also seeking endowment support to secure each of its organizational tenets: quail research, education, and outreach. Endowments are a great way to honor a donor, family member, or friend while ensuring our quail conservation efforts continue well into the future.

For more information on endowment opportunities, please contact RPQRF Executive Director, Ryan O'Shaughnessy, roshaughnessy@quailresearch.org

## Planned Gifts: Ensuring the Future of Quail Conservation

You can give the gift of quail conservation to future generations by including RPQRF in your estate plans. These gifts are not complicated (they can be completed in as little as one sentence) and will help ensure that we continue our mission for years to come. Use the link below to learn how to make a planned gift to RPQRF.
quailresearch.org/planned-giving

## The future of our quail requires action now.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