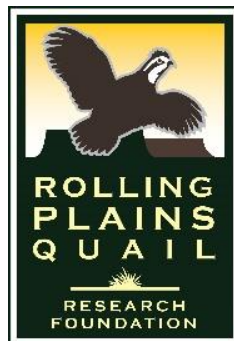


11th annual

QUAIL FIELD DAY



MAY 24, 2019



TEXAS A&M
AGRILIFE
EXTENSION

WELCOME!

Today marks RPQRR's 11th annual field day!

To see past field day reports, visit:

www.quailresearch.org/publications

Today's tour route



Agenda

8:30 a.m. Registration

Plant ID practical (R. Linex, K. Mills)

Complete paperwork for CEUs (2 CEUs) (N. Dickson)

9:00 a.m. Welcome (D. Rollins)

9:15 a.m. STOP 1 – Do we have enough quail to see a boom in 2019?

- Current status of quail populations at RPQRR (D. Rollins)
- Texas Quail Index (R. Lister)
- Quail CSI – (D. King)
- Plant ID – Nesting substrates (K. Mills, D. Rollins)

10:15 STOP 2 – Pollinators & Bobwhites

- Renovating spreader dams (D. King)
- Pollinators & bobwhites (M. Marugg)
- Plant ID – plants for pollinators (R. Linex)

11:15 STOP 3 – Prickly Pear Management with Quail in Mind

- A prickly paradigm for quail managers (D. Rollins)
- Integrated approaches (M. Treadwell)
- Inspect recent MezaVue plots (C. Hart)
- Precision application with a drone (D. White)

12:15 STOP 4 – Lunch at the Pavilion (Big Country Master Naturalists)

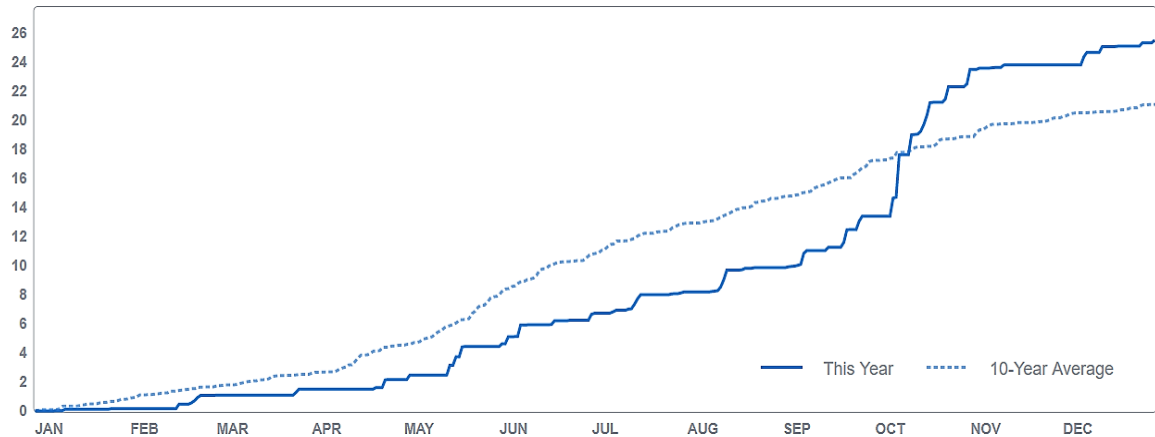
- Medicated feed update (R. Snipes)
- Insurance options for prescribed burning (M. Treadwell)
- Translocation research (J. Palarski)
- Review Plant ID practical (R. Linex, K. Mills)
- A word from our co-sponsors

1:30 STOP 5 – Food plots and fire plots

- Food plots for quail, bugs, and doves (D. Rollins)
- Seasonal burn plot demonstration (D. King)
- Demonstration burn (weather permitting) (M. Treadwell)

3:30 Complete evaluations & adjourn

The Year in Review - 2018 Weather



Too little, then too much, but too late—that pretty well summarizes our precipitation for 2018. The Fall of 2017 was very dry and that drought continued through September. The dry Fall, Winter, and Spring combined to put a chokehold on quail reproduction, and to a lesser degree survival. We grew basically no winter wheat, no annual sunflowers, and no common broomweed. Not a single dove was shot at the Ranch this past season.

The bonanza began in early October, and continued for about three weeks. We received half of our annual average precipitation during this period. While the October rains were a blessing for cool-season vegetation (e.g., filaree), the long cold and wet spell may have resulted in us losing birds from coccidiosis. For whatever reason, our juvenile:adult ratios (measured in November) were “poor” (0.2:1). Most (80%) of our quail were adults (“After Hatch Year”); and a fair number were over 2.5 years old. We’ve suffered poor chick production (or survival) for the past 2 years.

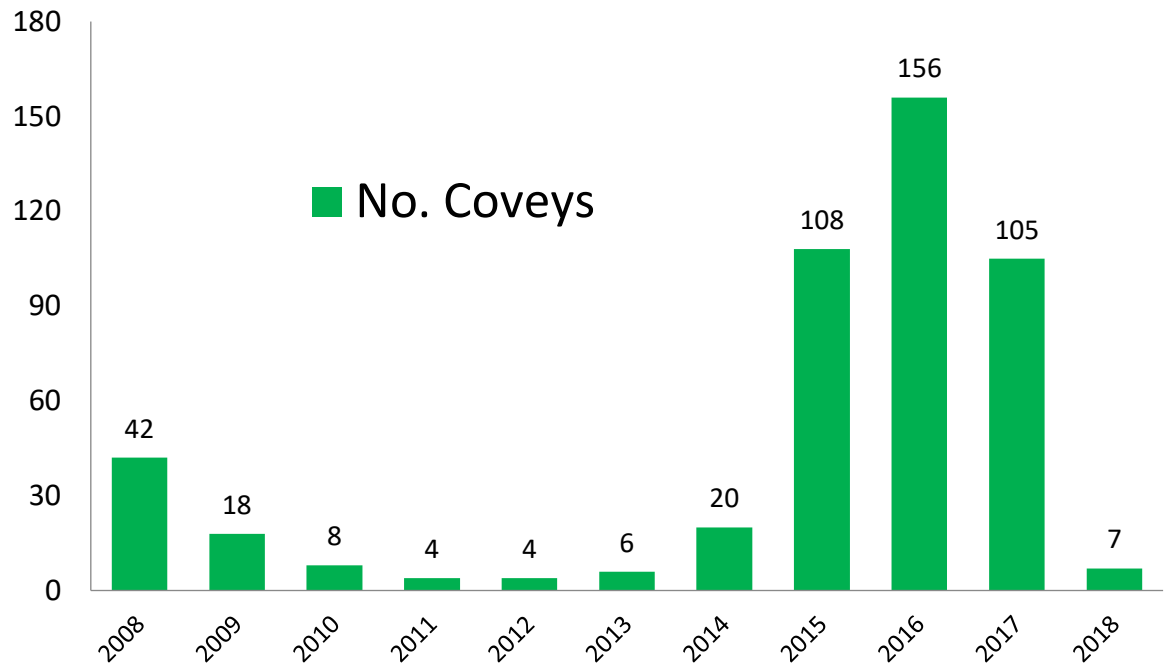
Thus far in 2019, an intensifying El Nino weather pattern has us looking good with a little over 7 inches of rainfall year-to-date. The El Nino pattern is forecasted to be in effect through the Fall, certainly good news for quail managers. But the question begs, “do we have enough breeding capital to take advantage of the good weather conditions?”

Stop 1

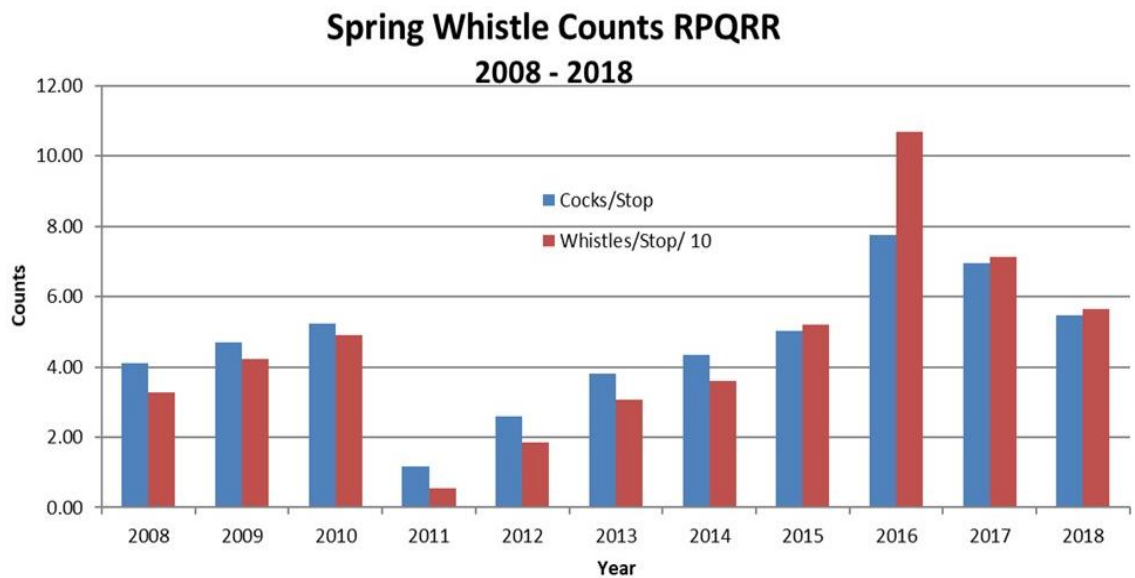
How many quail are out there this year?



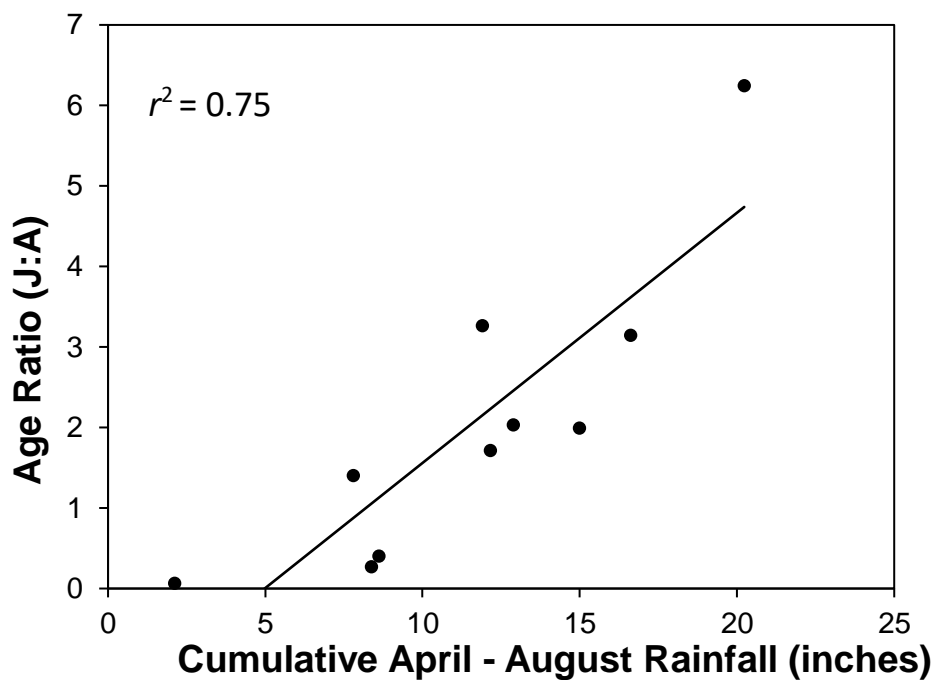
- Current status of quail populations at RPQRR (D. Rollins)
- Texas Quail Index (R. Lister)
- Quail CSI – (D. King)
- Plant ID – Nesting substrates (K. Mills, D. Rollins)



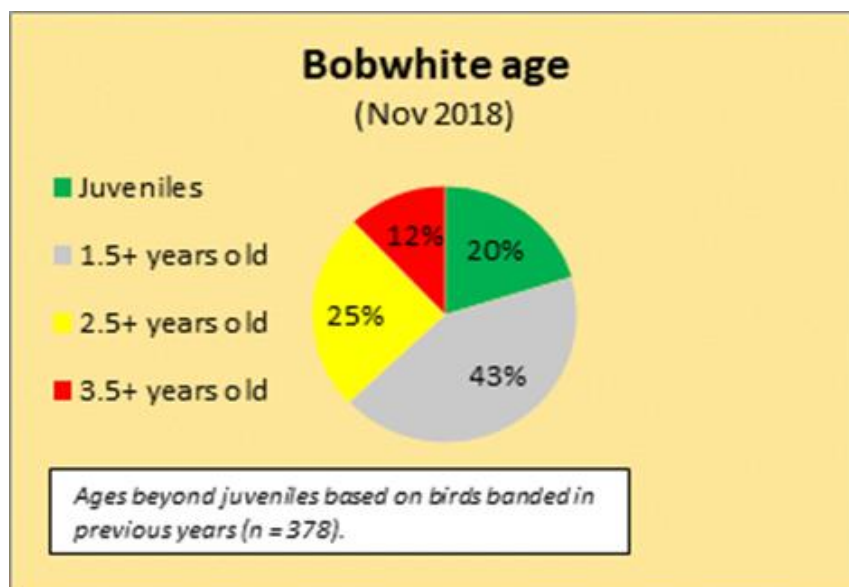
Bobwhite abundance at RPQRR based on helicopter surveys conducted in early November, 2008-2018.



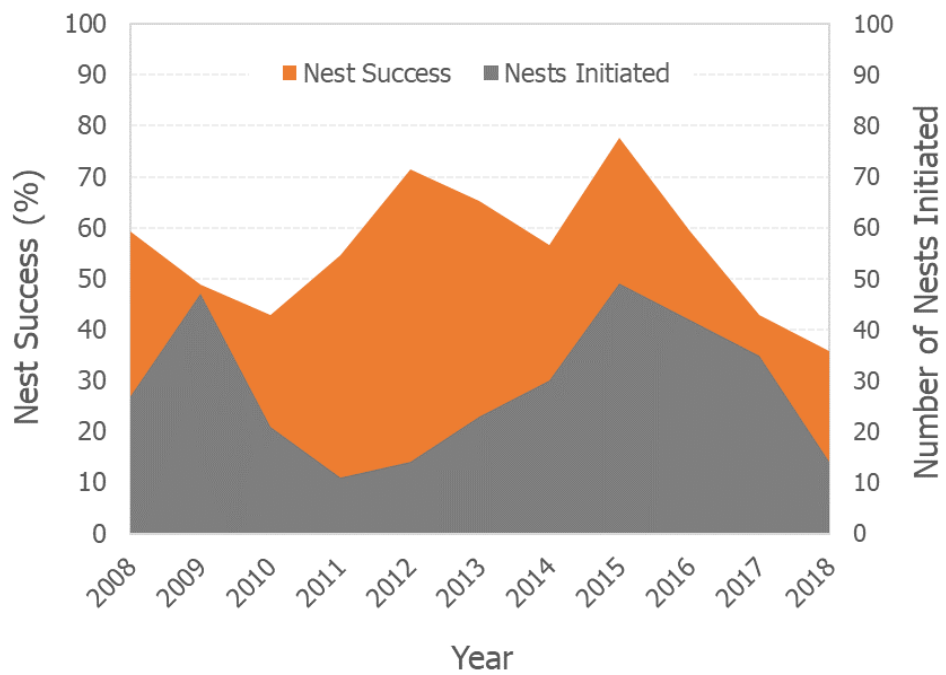
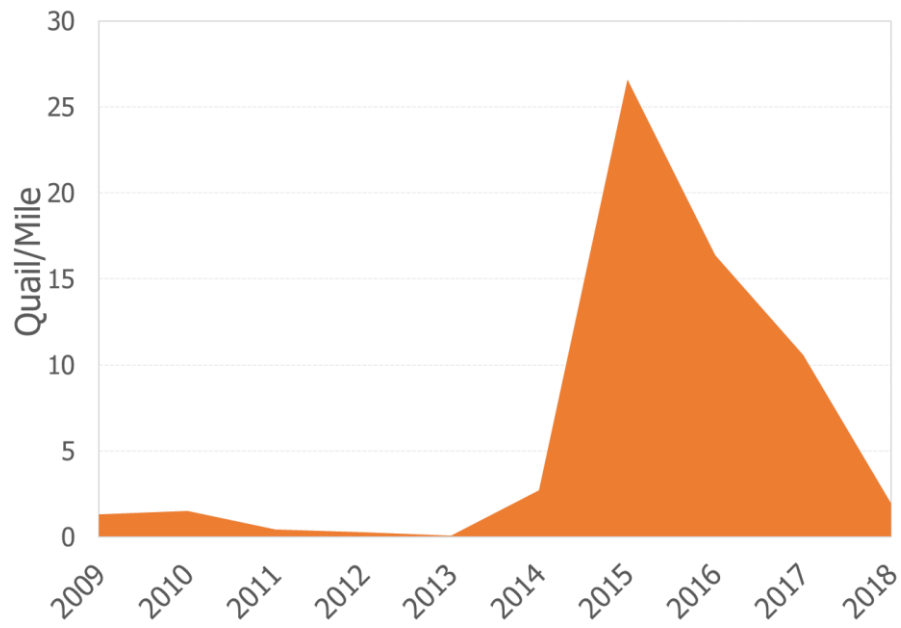
Spring cock call counts at 25 locations across RPQRR, 2008-2018.



April-Aug rainfall is a strong driver of quail production at RPQRR.



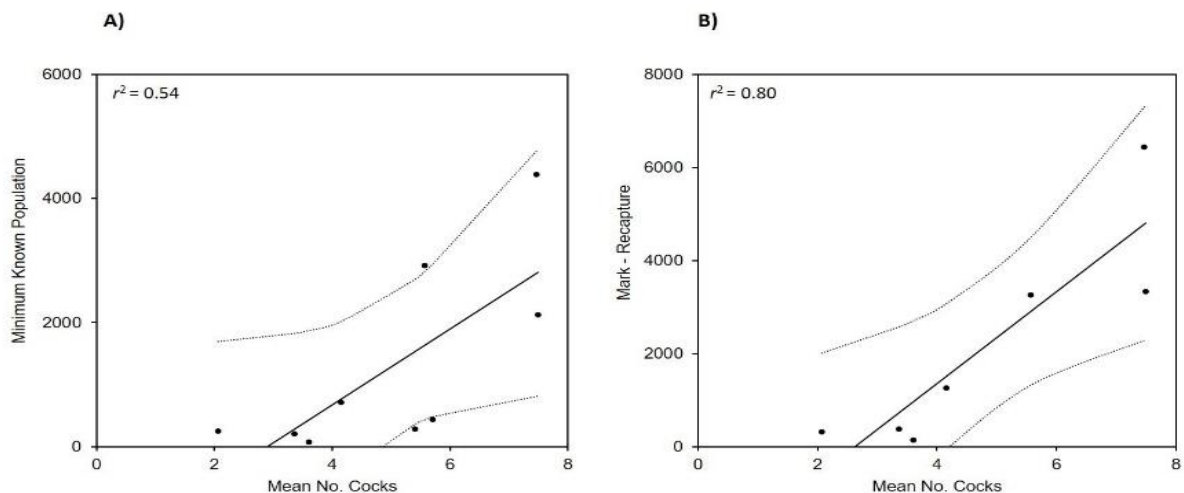
The breeding population of bobwhites at RPQRR is an “old” one; only 20% of birds trapped last November were juveniles (HY).



How useful are spring and fall call counts?

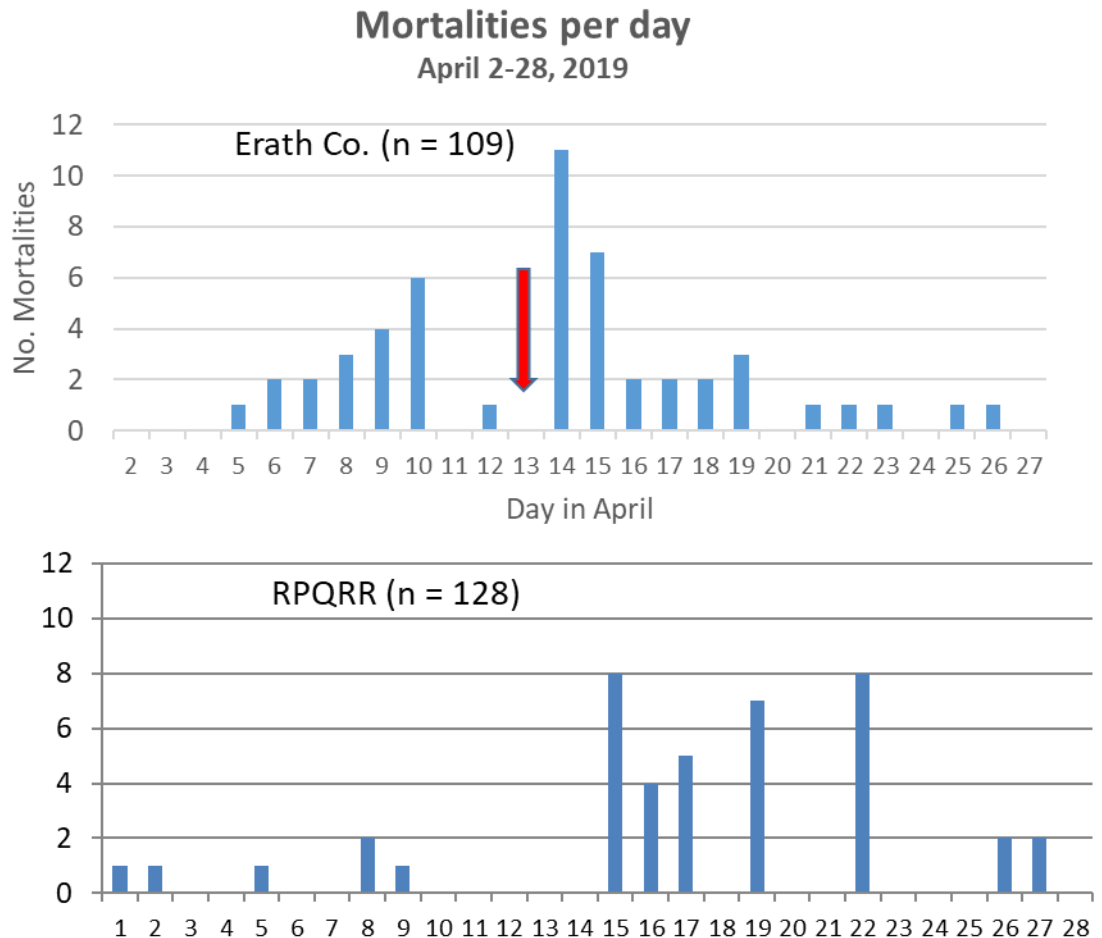
Brad Kubecka and Dale Rollins, RPQRR

Abstract: We've been conducting spring cock call counts at RPQRR since 2008. The mean number of cocks heard ranged from 2.07 ± 0.36 to 7.49 ± 0.42 during 2009–2017 a modest predictor of the minimum known population ($r^2 = 0.54$). At the ranch scale, mean covey calls heard during 2009–2017 ranged from 3.8 ± 0.57 to 13.0 ± 0.52 . The mean number of coveys heard across RPQRR was a significant predictor of both MKP ($r^2 = 0.88$) and fall abundance estimated using MR ($r^2 = 0.85$). Roadside surveys served as a highly significant predictor of both minimum known populations ($r^2 = 0.99$, $P < 0.001$) and mark-recapture estimates ($r^2 = 0.97$, $P < 0.001$). The number of individuals observed / km during November helicopter surveys was a highly significant predictor of minimum known populations and mark-recapture estimates ($r^2 = 0.98$, $P < 0.001$; $r^2 = 0.93$). The strongest predictor of minimum known populations and mark-recapture estimates was roadside surveys, followed by helicopter surveys, fall covey counts, and spring cock counts. Audible indices for bobwhite at face values may be used as a general guide to predict “poor” versus “good” years, but little can be deduced beyond these measures— particularly density at smaller scales. Because of the coarse resolution of audible indices, researchers gauging bobwhite abundance should be cautious in using audible indices to measure treatment effects



Relationships between spring cock call counts and fall abundance of bobwhites at RPQRR, 2008-2018. First graph (A) shows relationship with “Minimum Known Population” while graph (B) shows estimated abundance using mark-recapture.

An unusual mortality event, April 2019



Our study area at Erath co. and at RPQRR sustained a “dramatic” mortality event over a 7-day period (April 14-21). A cold rain (about 1” fell on April 13; indicated by red arrow). Many of the birds were found as whole carcasses. Several carcasses were submitted for diagnostic tests; those results are pending.

Texas Quail Index

Rodger Lister, Texas Master Naturalist, QuailMaster

Abstract: The Texas Quail Index (TQI) is a large-scale demonstration designed to evaluate various indices of quail abundance statewide. Most importantly, the TQI program seeks to promote awareness and understanding in landowners and hunters concerning their quail population and the impact of management activities (both good and bad) on their property. The TQI consists of a series of hands-on demonstrations illustrating quail ecology and habitat needs. Easy and affordable practices include:

- Spring call counts
- Dummy nests
- Predator surveillance with game cameras
- Habitat evaluation
- Roadside counts

Interested landowners/managers are encouraged to contact their local Agrilife Extension agent to obtain more information and resources.

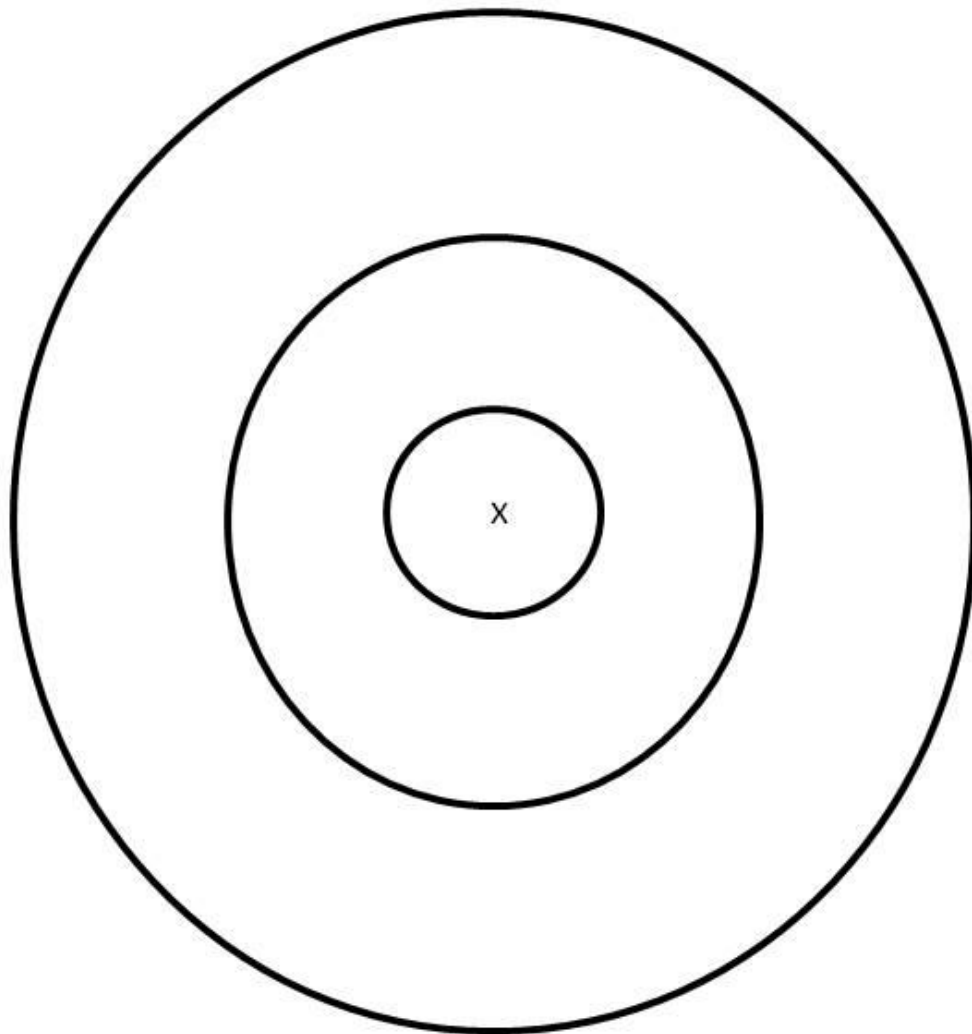
Related webisodes on Youtube:

- Call counts
 - Spring cock call counts (<https://www.youtube.com/watch?v=-fB3gRRvn8I&t=14s>)
 - Fall covey call counts (<https://www.youtube.com/watch?v=3Bn2p8sCTW4&t=12s>)
- Dummy nests (<https://www.youtube.com/watch?v=n8MNaK5sIVw&t=4s>)
- Game cameras (<https://www.youtube.com/watch?v=WwLgQVwSjfg&t=47s>)
- Habitat evaluations (<https://www.youtube.com/watch?v=238PRCbHR5A&t=53s>)
- Roadside counts (<https://www.youtube.com/watch?v=DYJX8IBWer0&t=2s>)

Quail Call Count Data Sheet

RPQRR

Date: MM: Observer(s): Time start: Stop:
Weather conditions:



Each ring represents 200 m; x denotes observer

Quail CSI: Interpreting physical evidence of predation on quail

Daniel King, Manager, RPQRR

Here at RPQRR we use radio telemetry to estimate survival rates of radio-collared quail, their nesting habits, and movements. These radio collars emit a frequency that we are able to monitor with the use of a directional (“Yagi”) antenna and receiver. When a collar lies motionless for more than 12 hours the collar begins to emit a “mortality” signal. The mortality signal beeps at roughly twice the pace of the “alive” signal (80 vs. 40 beeps/minute, respectively) enabling us to discern when a bird has died. Upon hearing this signal we manually triangulate the bird and find “the scene of the crime.” We then practice “Quail CSI” to determine “whodunnit.” We examine clues that are found at the “crime scene”, e.g., the condition of the feathers, the condition of the radio collar, and any related clues in order to narrow down our list of suspects. We attempt to assign a “cause-specific mortality”, i.e., was the bird killed by a raptor, mammal, reptile, or “unknown.” We acknowledge such field diagnoses are “educated guesses”, but based on evidence and our ability to interpret such. One such application of this CSI came about in Jan-Feb 2018 when numerous feather piles were being reported. That begged the question “how long do such feather piles” remain obvious to casual inspection (i.e., a quail hunter)? To assess such, we recently completed the second year of a study on how well this feather evidence persists. Our studies suggest feather piles must be <3 weeks old in order to be “obvious.”



Mammal kill



Raptor kill

Stop 21

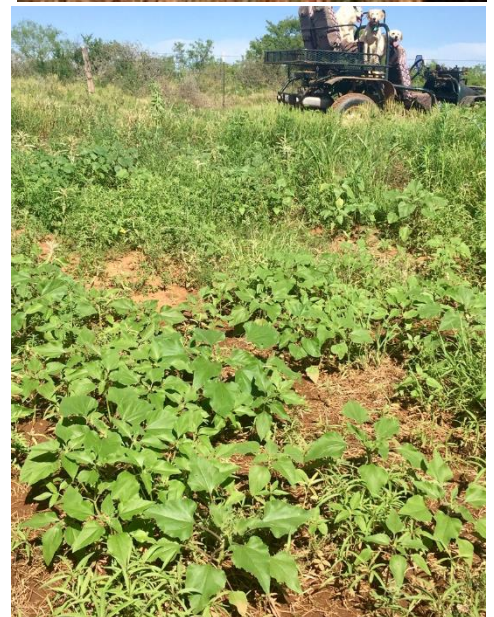
Pollinators and Bobwhites



Renovating Spreader Dams

Daniel King, Manager, RPQRR

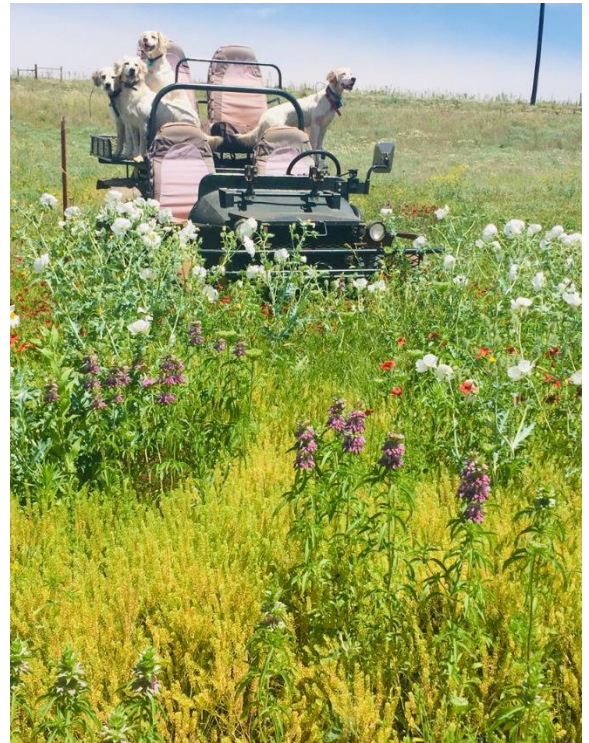
Abstract: RPQRR installed over 40 of what we call “spreader dams” in 2010. Essentially, a spreader dam is a depression that is dug into the pasture. We dig these spreader dams near the road at a point where there is usually runoff during a rain event. We direct that runoff into the spreader dam. This creates an area that functions as if it received significantly more rain than the immediate uplands. This added precipitation creates a “Quail Oasis” by promoting increased vegetative productivity, species richness, forb production, and enhances insect production for brooding habitat. As the years pass however, the spreader dams succumb to succession and become grass-dominated. Therefore, we seek to “set back” succession every 3-5 years and promote a forb-dominated “microhabitat.” In March 2019 we used a rear-tined tiller to renovate a sample of the spreader dams. Along with tilling the soil, we have given succession a “helping hand” by broadcasting a few desirable seeds, including Maximilian sunflower and Illinois bundleflower. These seeds should thrive in the “Quail Oasis” we have created. Other desirable annuals (e.g., common sunflower) and quail-friendly perennials (e.g., western ragweed). Future efforts will include seedings with American basketflower, and toothed spurge.



Pollinators and Bobwhites

Marianne Marugg, Big Country Chapter, Texas Master Naturalists, Abilene

Abstract: According to biologist Edward O. Wilson “...conservation measures must be directed at ecosystems, not just individual species.¹” The complexity of interactions within an ecosystem, which are not always clear to the land manager, results in a distinct web of relationships essential to the system’s health. In the quail pasture, forbs receive pollination service primarily from insects; this service is essential to the plant’s ability to make seeds and reproduce. The pollinator finds in the plants an ample food supply of pollen and nectar for itself as well as its developing young. The bobwhite finds fresh green



forbs, a steady seed supply, and—in some cases such as broomweed and prickly pear—safe cover necessary to survival. A bonus is that a healthy plant community in the pasture attracts a diversity of insects providing protein for the quail’s development. We need to recognize the members of this web and encourage their healthy interactions in our pastures. A look at a few pasture forbs will show that it isn’t necessarily the most beautiful flower that drives the system.

¹ E. O. Wilson in: Preface to The Forgotten Pollinators by Stephen Buchmann and Gary Paul Nabhan; 1996.

Plant ID – Plants for Pollinators

Ricky Linex, Wildlife Biologist, Natural Resources Conservation Service, Weatherford, Texas

Abstract: Pollinators, including butterflies, moths, honeybees, bumble bees, wasps and smaller insects that seek nectar or pollen, need a diversity of plants that are flowering during the spring, summer and fall periods to provide adequate pollen and nectar. The plants offer the enticement of nectar to attract many pollinators who in visiting the flowers spread pollen from one flower to another ensuring that the plants goal of producing seeds. There are many native annual and perennial beneficial plants that you can add to range seeding mixes or use to create specific pollinator plantings. Some plants prefer certain soil types while others are generalists and will grow anywhere the seeds can come in contact with the soil, sunlight and water. Some pollinator plants are readily eaten by livestock and browsing wildlife species while other plants are not touched due to taste or numerous prickles or spines. Proper stocking rate of livestock and management of numbers of big game animals is necessary to maintain healthy populations of pollinator plants. Many woody plants are also utilized by pollinators including some species such as mesquite and prickly pear that are often targeted for chemical or mechanical control. Pollinators are responsible for one out of every three bites of food we eat and are critical to long term survival of many plants and the wildlife that depend upon those plants.



Native Plants Beneficial for Hummingbirds and Butterflies Central and West Texas

Hummingbirds

Woody Plants

Autumn sage
Mountain sage
Lantana
Acanthus
White honeysuckle
Desert willow
Trumpet vine
Yellow bells
Redbud
False indigo
Agave

Red flower yucca
Ocotillo

Perennial Forbs

Salvia (all)
Turks cap
Penstemon (all)
Rock betony
Columbine
Cardinal flower
Paintbrush

Annual / Biennial Forbs

Standing cypress
Bluebonnet
Phlox
Horsemint (Beebalm)
Paintbrush



Listing compiled by:
Steve Nelle, Wildlife Biologist
Retired NRCS, San Angelo
nelleangelo@suddenlink.net

Butterfly Nectar

Woody Plants

Autumn sage
Mountain sage
Acanthus
Lantana
Baccharis
Skeletonleaf goldeneye
Wild plum
Hawthorne
Ceanothus
Sumac (all)
Elbowbush
Buttonbush
Whitebrush
Kidneywood
White honeysuckle

Mistflower
Aster
Salvia (all)
Coneflower
Gayfeather
Ironweed
Rock daisy
Chocolate daisy
Engelmann daisy
Orange zexmenia
Bushsunflower
Plateau goldeneye
Prairie coneflower
Maximilian sunflower
Yarrow
Goldenrod
Milkweed
Verbena
Frogfruit

Penstemon
Pavonia
Prairie clover
Turk's cap

Annual / Biennial Forbs

Thistle
Coreopsis
Thelesperma
Huisachedaisy
Indian blanket
Brown-eye susan
Cowpen daisy
Horsemint
Standing cypress

Perennial Forbs

Butterfly Larvae Food

Woody Plants

Carolina buckthorn
False indigo
Acanthus
Sumac
Wild plum
Kidneywood
Lantana
Pricklyash
Soapberry
Hackberry
Oaks
Old man's beard
Juniper
Mesquite
Mountain mahogany
Mexican buckeye
Fourwing saltbush
Bernardia
Coyotillo

Cenizo
Shrubby boneset
Sacahuista

Forbs

Thelesperma
Sagewort
Aster
Paintbrush
Globemallow
Winecup
Hairy tubetongue
Flax
Dalea
Twinleaf senna
Mistletoe
Bloodberry
Passionflower
Milkweed
Ruellia

Dutchman's pipe
Noseburn
Croton
Prairie acacia

Grasses

Indiangrass
Big bluestem
Switchgrass
Little bluestem
Sideoats grama
Blue grama
Purpletop tridens
Hairy tridens
Cedar sedge
Dichanthellium



Key Nesting Substrates for Bobwhite and Scaled Quail

Dale Rollins (RPQRR) and Kent Mills (Hi-Pro Feeds)

Abstract: Quail nest on the ground, typically in residual herbage (from previous growing seasons) of perennial bunchgrasses about the size of a basketball. Strategically, the manager should seek to provide a potential of 250-300 nesting sites/acre *across* the landscape. Common nest sites at RPQRR over the past 10 years have included silver bluestem, prickly pear, old world bluestems, threeawns, yucca, and Texas wintergrass. Bobwhites rarely nest in conjunction with woody cover, but they may occasionally use the perimeter of shrubs like catclaw mimosa and sandsage. Blues may nest under woody cover like small mesquites, junipers, yucca, and sacahuista. ne of our studies determined that bobwhites will use kleingrass (in Conservation Reserve Program fields), but that the parent led the broods back to native rangeland. Grazing management that leaves ample residual forage going into the Spring is an important management practice.



Stop 3

Prickly Pear Management with Quail in Mind

- A prickly paradigm for quail managers (D. Rollins)
- Integrated approaches (M. Treadwell)
- Inspect recent MezaVue plots (C. Hart)
- Precision application with a drone (D. White)



Quail-friendly Cacti Management

Dale Rollins, RPQRR

Cacti (*Opuntia* spp.) are a double-edged sword for quail managers in the Rolling Plains. Its presence, and often overabundance, can impact “huntability” for hunters and bird dogs, and limit grazing opportunities for ranchers. Conversely, it provides important nesting cover (i.e., “habitability”) if rangelands are grazed too closely or when drought limits nesting cover (as in 2018). Perhaps 50% of the RPQRR had cacti densities that were “problematic” (Category 2 & 3) for hunting prior to 2010. Since that time we have addressed problematic areas with herbicides, prescribed burns (in various months), grazing practices (patch-burn grazing), roller-chopping followed by herbicides, and various combinations of these tools. Our goals are to (a) achieve satisfactory levels of control (e.g., >70% reduction), (b) minimize collateral damage to shrubs, and be strategic in our areas to be targeted. Strengths and weaknesses of these various treatments will be discussed. Traditional dormant season burns (e.g., March) have not been effective for killing prickly pear (perhaps 30% reduction 3-yrs post-burn). Growing season burns (e.g., August) were very effective for reducing prickly pear, especially when the area was pre-treated with glyphosate (July 2010). Plant succession following these burns depends on season of burn, with August burns resulting in dense (desirable from our standpoint) broomweed canopies 14 months post-burn. Herbicide applications of Tordon or Surmount following a “good burn” (e.g., March 2010) provided >90% reduction. We have also monitored shrub response to various herbicide treatments, with or without prior burning. The most susceptible shrubs to these treatments were hackberry and wolfberry; lotebush and catclaw acacia were resistant to the treatments. New efforts include comparisons of Tordon vs. Mezavu.

Integrated Approaches to Managing Pricklypear

Morgan Treadwell, Range Extension Specialist, Texas A&M AgriLife Extension Service

Abstract: An integrated rangeland management approach to managing pricklypear with quail in mind is intended to improve the efficiency and efficacy of actions to address the opportunistic characteristics of pricklypear, promote growth and development of plant species diversity, and maintain overall function, productivity, and integrity of rangelands. Most often, the effectiveness of an initial pricklypear management strategy is maximized when used in combination with other control practices. For example, both mechanical and prescribed fire strategies are most effective when paired with a follow-up herbicide application. Unlike most brush species, damaged or stressed pricklypear is more susceptible to herbicides. Research has shown that pricklypear is more susceptible to applications of picloram after pads and stems have been killed by fire. To use this “system approach” to pricklypear management, conduct a burn in late winter to early spring (December to March). Grass and fine fuel should be adequate during the burn to kill at least 90% of existing pricklypear pads. Then apply picloram when new pad regrowth reaches silver dollar size (about 2 inches across), but no later than late spring. With the fire-herbicide system, picloram can be applied at a reduced rate and more than 75% of pricklypear should be killed. Another integrated method is using mechanical control to top-kill pricklypear and then applying herbicide immediately or very soon afterward. When the use of offset roller choppers or large drum aerators was followed immediately by an application of picloram, at least 90 percent of pricklypear was killed. This integrated approach should increase pricklypear control 2 to 3-fold over mechanical methods alone.

Related publication: “Pricklypear Biology and Management” B-5046, can be found at www.agrilifebookstore.org

MezaVue for Pricklypear Control when applied by Individual Plant Treatment and Ground Broadcast in Texas

James R. Jackson¹, Morgan Russell¹, Robert Lyons¹, Charles R. Hart² and Texas A&M AgriLife Extension Service¹ and Corteva AgroSciences².

Pricklypear cactus (*Opuntia spp.*) is a native and invasive plant found throughout western and central Texas. Pricklypear spreads rapidly across the landscape limiting forage production and forage access for grazing animals. For years the standard in chemical pricklypear control has been Tordon 22K or Surmount. While these herbicides obtain high level control of pricklypear, they can take a long period of time to visually see any sign of desiccation or sickness on the treated plant. In Spring of 2019 Corteva Agriscience released their new herbicide MezaVue for pricklypear control in Texas, New Mexico and Oklahoma. Prior to MezaVue being released, rate studies were established in 2017 to determine what rate provided the most consistent and highest level of desiccation when applied by individual plant treatment and ground broadcast methods. In 6 individual plant treatment trials, MezaVue at 1% v/v provided an average of 94 percent desiccation of pricklypear 12 months after treatment. In 3 ground broadcast trials MezaVue at 32 ounces product per acre delivered an average desiccation rating of 80 percent at 12 months after treatment. MezaVue as an individual plant treatment and ground broadcast application provided higher average desiccation and more consistent results than both Tordon 22k and Surmount.

In-kind funding provided by:



Precision application of herbicides with drones

Dusty White, Drone instructor, Roscoe STEM School



Special thanks to our co-sponsors, Quail Coalition and Texas A&M Agrilife Extension Service, for their continued collaboration and support.

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Stop 4

Lunch & updates

Lunch at the Pavilion (Thanks to Big Country Master Naturalists)

Updates:

- Medicated feed update (R. Snipes)
- Insurance options for prescribed burning (M. Treadwell)
- Translocation research (J. Palarski)
- Review Plant ID practical (R. Linex, K. Mills)
- A word from our co-sponsors
 - Bobcat of Abilene
 - Southern Rolling Plains Prescribed Burning Assn.

DEDICATION



A big **THANK YOU** to Darcy Turner and Turner Seed Co. for their continuous in-kind support. They have donated over 8,000 pounds of seed to RPQRR over the past 10 years.

Insurance options for prescribed burning

Morgan Treadwell, Range Extension Specialist, Texas A&M AgriLife Extension Service

Abstract: First, a private landowner is not required to obtain liability insurance to conduct a burn.

Second, a private landowner does not need a license (Certified Insured Prescribed Burn Manager - CIPBM) or be a member of a prescribed burn association (PBA) to conduct a prescribed burn. However, as

noted by statute, whether a burn is conducted by a CIPBM or members

of PBA, a specific level of liability insurance must be in place for a landowner, lessee, or occupier of land to receive limited liability pursuant to the Texas statute. Analyzing insurance coverage is critical for landowners, lessees, or occupiers who plan to conduct a burn, for anyone interested in becoming a CIPBM, and for members of a PBA. Although a private landowner is not required to obtain liability insurance to conduct a burn or receive limited liability pursuant to the statute, having this coverage in place is prudent. Often, landowners may have some form of prescribed burn coverage based on their farm and ranch liability policy. Landowners must carefully review their policy, including the declarations page, policy pages, endorsements, exclusions, and limitations to determine whether this coverage is included. If prescribed burn coverage is not included, you can purchase additional policies that specifically cover prescribed burning. Additionally, a landowner, lessee, or occupier intending to conduct a prescribed burn who wants to ensure limited liability applies should confirm that the CIPBM conducting the burn, or the PBA of which the landowner, lessee, or occupier is a member carries the required insurance coverage. Coverage limits meet program requirements (one million dollars per occurrence/two million dollars aggregate) for bodily injury and property damage.

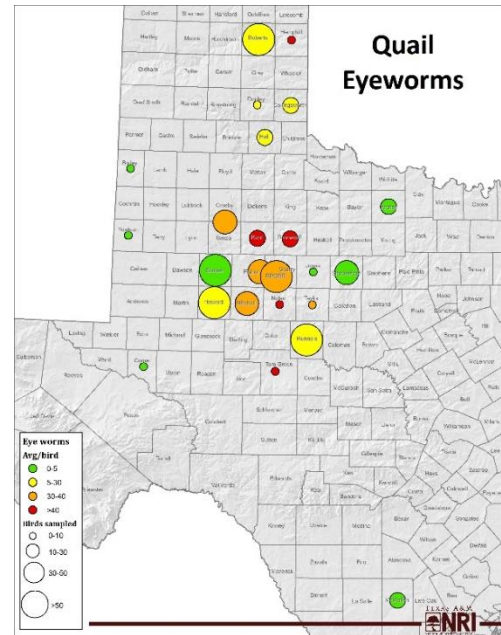


Related publication: "Prescribed Burning Liability and Insurance Considerations" ERM-035, can be found at www.agrilifebookstore.org

Eyeworm Surveillance Update

Jennifer Newkirk, Kelliann Nemec, and Dale Rollins, RPQRR

We solicited heads of bobwhite and scaled quail in 2018 and 2019 quail seasons in order to assess them for the prevalence of eyeworms. With only a short time left in the 2017-18 quail season, hunters submitted 923 heads for our inspection. Joe Crafton, a Director of RPQRF, donated \$19,000 in order to hire a technician for 6 months to head up the necropsies. Jennifer Newkirk, a recent graduate of the University of Florida, dissected 963 quail heads for eyeworms (plus 141 whole carcasses for cecal worms); she did a great job!



Each cooperators received a customized report detailing the results of their respective submissions. Those results are confidential to the landowner/manager. Here I publish the results from RPQRR’s birds as an example of these reports. Our ultimate goal is to produce a “heat map” showing prevalence and intensity of eyeworm infections. We repeated this effort during the 2018-19 season, but only heads proved more difficult to acquire (due to low quail abundance). Funding for this effort provided by the Park cities Chapter of Quail Coalition.

County	n	Prevalence	Intensity	Range
Borden	13	0.31	19	0-65
Cottle	38	0.61	25.6	1-23
Fisher	20	0.75	37.7	2-71
Hall	14	0.71	14.3	2-41
Hemphill	26	0.38	7	1-16
Lincoln (KS)	7	0.57	23.5	3-70
Roberts	64	0.47	15	1-57
Runnels	33	0.61	15.85	1-60
Mean		0.55	19.7	

Translocation of northern bobwhite in central Texas

John Palarski, Heather Mathewson, T. Wayne Schwertner, Department of Wildlife, Sustainability, Ecosystem Sciences, Tarleton State University
Bradley W. Kubečka, Tall Timbers Research Station, Tallahassee, FL
Dale Rollins, Rolling Plains Quail Research Foundation, Rotan, TX, 79546, USA

Abstract: The gradual decline of northern bobwhites has resulted in remnant populations of bobwhites throughout their historic range. Within the Cross Timbers ecoregion of Texas, similar declines have been observed. Isolated populations of bobwhites remain; however,



natural recolonization may not be sufficient to revitalize them. Translocation has been successful in reestablishing populations of many different gamebirds, including bobwhites in the southeastern U.S. Our objectives are to 1) evaluate the feasibility of translocation to re-stock wild bobwhites to isolated habitat in the Cross Timbers ecoregion 2) assess effects of source population on survival, reproduction, and dispersal of translocated bobwhites, and 3) refine our understanding of the effectiveness of translocation efforts. We translocated 167 ($n = 103$ from south Texas, $n = 64$ from Rolling Plains) bobwhites in March 2019 to a 1,011-ha area in Erath County, Texas. We radio marked 111 individuals (11 SY males, 30 SY females, 32 ASY males, 38 ASY females) to monitor movement and demographic rates. In addition, we will conduct on-site habitat evaluations of the recipient site throughout the study to quantify attributes that may or may not be conducive for translocating bobwhites. Findings from this study will be used to aid managers who wish to restore bobwhite populations via translocation.

Related webisode: Can I Jump Start Quail Populations?

(https://urldefense.proofpoint.com/v2/url?u=https-3A_www.youtube.com_watch-3Fv-3DiZeETzL2jEI&d=DwIGaQ&c=r_tSStlHV2ie60z4DgB-pQ&r=Qi_sqrNoE86SnmRwX_ii_ULdDRUDljm2d6LS5YRIAlY&m=E4s-5SKJlvDPBYVRYSad1BuTw6Jke552KBdBdqvoRcA&s=h3KfjiXVjrJE0u12_vZMCPgPjRcuMZPornzCuWTB3rU&e=)

Development Update

Phil Lamb, Director of Development, RPQRF

Abstract: In the last few months, there have been many developments in the “development world” here at RPQRR. We published our 2018 annual report and totally revamped our website at quailresearch.org with more news, research updates and resources than ever before. We also launched our new monthly podcast, “Dr. Dale on Quail,” which we hope will be your podcast home for all things quail. Each month, Dr. Dale Rollins and his co-host, Gary Joiner of the Texas Farm Bureau, engage in great conversations about wild quail, conservation issues, research updates, common quail questions and other quail focused topics. New episodes are released via our e-quail newsletter and are also available at <https://www.quailresearch.org/resources/#podcasts>. Last but not least, we recently began the process of constructing four new buildings constituting a new headquarters on RPQRR. The 4 structures include an office building with research lab, a classroom/pavilion for hosting groups and conferences, a multi-purpose bunkhouse for up to 12 visitors, and a small guest house. We are still in the design and fundraising stages on this project, but once we break ground, construction is estimated to take 10 months. We need your help to bring these buildings to life! Naming opportunities are available. If you or someone you know would like to support this initiative or learn more information, please contact Phil Lamb at plamb@quailresearch.org or 214.498.1234.



Stop 5

Food plots & Fire plots

- Food plots for quail, bugs, and doves (D. Rollins)
- Seasonal burn plot demonstration (D. King)
- Demonstration burn (weather permitting) (M. Treadwell)



Fire: A Crescent Wrench for Quail Managers

Dale Rollins, RPQRR

Abstract: An adjustable (e.g., “Crescent”) wrench is one of the handiest tools for do-it-yourselfers, be they shade-tree mechanics or habitat managers. A Crescent wrench may not be the perfect tool for all situations, but it’s a good place to start. Fire (i.e., prescribed burning) is such a tool in Leopold’s toolbox.

Relative to quail habitat, a properly-timed burn can set back plant succession, foster quail-friendly forbs (especially legumes), promote vigor in desirable bunchgrasses, increase seed production (e.g., western ragweed), and increase arthropod abundance. Burning can also provide some reduction in prickly pear and tasajillo, especially if followed by an application of herbicide (e.g., Surmount). But “fire-return interval” (e.g., fire frequency) must be adjusted according to our climate (semi-arid rangelands). Burning too frequently could diminish availability of mid-day coverts (e.g., lotebush). The importance of fire as a tool for bobwhites increases as one moves eastward (i.e., areas receiving greater precipitation, e.g., > 30 inches annually). We have burned in nearly every month of the year over the past 10 years, but most of our burns are “dormant-season” burns (Feb-Mar). We installed a series of 31, 1-acre plots in March 2018 to be burned during odd-numbered months to assess seasonal impacts of fire.



Food Plot Plantings for Dove and Quail

Daniel King

The most robust bobwhite populations in the state of Texas occur in semi-arid environments (e.g., Rolling Plains and South Texas Plains) which are dominated by El Nino/ La Nina weather patterns. Food plots are often ineffective in semi-arid landscapes because of the irony that *"when you need them (in dry years), you can't grow them; and when you can grow them (wet years), you probably don't need them."* Furthermore, the utility of a food plot is contingent on food being a limiting factor for bobwhites in the management area where it is planted. Food is rarely a limiting factor for bobwhite populations. But, as Dr. Rollins says *"food plots don't always work, but they rarely fail"*—the soil disturbance itself usually promotes desirable forbs. However, a cornerstone of management philosophy is to increase the amount of useable space. If food plots are planted in an area that is not fully useable, it is possible to increase habitat quality and quantity with food plots. At RPQRR, we use this concept to manage Conservation Reserve Program (CRP) fields recently withdrawn from the program. The CRP fields at RPQRR are largely dominated by Kleingrass. Critical brush cover is limited due to the previous program requirements. We plant food plot strips between terraces to increase bare ground, plant diversity, and to provide overhead screening cover. The strips are planted with a mixture of wheat, hairy vetch, milo, and *Sorghum alnum*. In addition to planting in the former CRP fields we plant food plots with the same combination of plants near the headquarters for demonstration purposes, and to provide dove hunting opportunities.

Planting food plots at RPQRR.



For more information, see "Food plots for Quail in West Texas:" available at <https://www.youtube.com/watch?v=1h6RcxkHFX0>.

Seasonal Burn Plots to Increase Forb Diversity

Dale Rollins and Daniel King

In 1959, Herb Stoddard, the 'Father of Bobwhite Management' established 84 one-half acre fire plots at Tall Timbers Research Station (TTRS) IN Tallahassee, FL. His objectives were to evaluate the effects of fire return intervals on vegetation. For nearly 60 years, the plots have been burned systematically and serve as excellent demonstration and research plots for TTRS. Burning in semi-arid regions, however, can yield drastically different responses based on post-burn weather conditions. As such, the RPQRR established 31 one-acre fire plots in January 2018. The plots will have replicates of varying fire return intervals along with paired non-burned plots. Our goal is to be able to compare plant response, and determine fire frequencies most conducive to forb diversity in the Rolling Plains. The first two plots were burned in March 2018. We seek to burn two plots each even-numbered month when conditions permit such. Weather permitting, we will attempt to do a demonstration burn on Plot No. 11 this afternoon.



RPQRR's Wish List – Can you help?

Our support for quail research comes almost exclusively from private donors. Perhaps you would like to help us help quail. We have need for various pieces of equipment. If you would like to donate, RPQRR is a 501(c)(3) nonprofit foundation, so your donations (cash or in-kind) are tax deductible. Alternatively, if you'd like to make a cash donation and have it earmarked for one of these items that's great too. Here's our current list of needs:

Item	Need
100-hp tractor	Food plot preparation, shredding
15' batwing shredder	Shredding
Shop-style drawer toolbox	Tool storage
Sea container	Storage of equipment
12-ft tandem disc	Discing, field prep

Thanks Big Covey Chapter of QC!



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Thanks for attending!



To stay up to date on RPQRR's projects and findings,

- Follow us on Facebook
- Subscribe to our monthly *e-Quail* Newsletter
- Check out our website (www.quailresearch.org)

Our Mission:

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