

Rolling Plains Quail Research Ranch Annual Report 2008



"To sustain Texas' wild quail hunting heritage for this and future generations"

Thoughts from the Director, Dr. Dale Rollins

And they're off! Our second year of operation here at RPQRR has been a blur. And what a dream it continues to be—my wife Kay stays upset with me, as I spend every free moment to be at the Ranch. And my most motivated “research associates” (bird dogs Li'l Annie, Babe, Deuce, and Ellie) are always eager to join me!

We kicked off the year with the inaugural “Distinguished Lectureship in Quail Management” in January by hosting Dr. Bill Palmer and Mr. Clay Sisson of the Tall Timbers Research Station. A standing room only crowd swelled the Roby Community Center to learn from two of the nation's most successful quail managers.

Our quail odyssey continues to unfold. Thanks especially to the Park Cities Chapter of Quail Unlimited, we now have the level of financial support to hit the ground running. PCQU broke all of QU's fundraising records when they raised \$850,000 at only their 2nd fundraising banquet. And the RPQRR is blessed to be the sole beneficiary of PCQU's fundraising prowess—as witnessed by a contribution of \$500,000 to the Ranch.

Any student of quail is obliged to be a student of weather. Dry weather reigned over much of the year which prompted burn bans. But thanks to a short respite in mid-March we were able to execute (safely) six patch-burns and initiate our patch-burn-grazing studies, which will be a long-term effort. We did enjoy a nice May, June, and August, but the fall and winter were exceptionally dry.



But the quail have survived and prospered! Our quail counts via helicopter suggested our fall densities had doubled since 2007. Fall covey call counts and trapping success also indicated good production. We trapped and leg-banded over 1,100 quail during 2008. Such a large sample size is sure to generate some interesting findings. Two birds banded in mid-October were harvested some six miles east of the Ranch in late-December.

We're especially proud to announce the addition of Lloyd LaCoste as research technician and de facto on-site ranch manager. Lloyd joined us in August and also brought his better half (wife Cathy) and two lovely daughters (Brittany and Lauren).

Our inaugural field day was conducted September 12 and attracted 125 participants, despite hurricane warnings that affected the DFW metroplex. I hope you'll join us this year for our 2nd Annual Field Day on September 25.

We have some really interesting studies ongoing, and others planned to start this year. Join us when you can.

Introducing the New

Members of the Board of Directors

2008

Member– Jack Fields

Jack earned his Bachelor of Arts degree from Baylor University in Waco, Texas in 1974, and his J.D. degree from Baylor Law School in 1977. For nine years, Jack served as a trustee of Baylor University..

Jack now sits on the Board of Directors of AIM Mutual Funds, the eighth largest mutual fund company in the United States, and Administaff (NYSE: ASF), a premier professional employer organization with clients nationwide. In addition, Jack sits on the Board of the Discovery Channel Global Education Fund, a nonprofit organization dedicated to providing educational resources to people in need around the world through the use of technology.

Member– Joe Crafton

Joe Crafton is President and major stockholder of CROSSMARK Holdings Inc. A leading privately-held sales and marketing company of consumer goods.

Joe earned CROSSMARK in 1988 after holding several sales and management positions with Procter and Gamble. Joe is a member of the CEO Forum, the University of Tennessee College of Business - Executives-In-Residence Program and a director of Students in Free Enterprise. Joe is founder and Chairman of Park Cities Quail Unlimited and an adult leader with the Boy Scouts.

Joe grew up bird hunting near Memphis, TN and earned his Bachelor of Science degree in Business Administration from the University of Tennessee. He resides in Dallas, Texas with his wife Wendy and three sons: James 15, David 13, Reeves 10. In addition to an English Setter, a French Britney and a Boykin Spaniel.



Mission Statement

To provide land managers, and other stakeholders, with timely, relevant technology and management schemes for enhancing quail populations in the Rolling Plains of Texas.

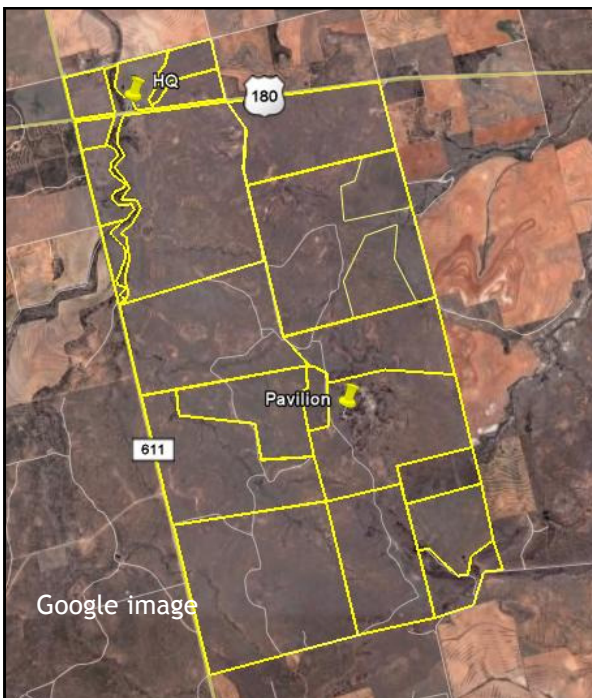
History of the Rolling Plains Quail Research Ranch (so far)...

Every organization has its humble beginnings. The Rolling Plains Quail Research Ranch was hatched around the tailgate of a pickup one evening in 2005 after a successful quail hunt. The 2005 season was a great one, and quail hunters' spirits were high. But knowing that one didn't have to move very far east before quail (and quail hunting) were only memories, our discussion focused on the future, and not on the laurels of our past. Indeed we should heed the lessons observed over the past 30 years from east Texas to the Atlantic Coast. Someone pondered "we need to get ahead of the curve and get serious about planning the route now, before 'all's quiet on the western front.'" The idea of a quail research ranch was bantered around—our own laboratory to devise and evaluate land management schemes aimed at enhancing bobwhite abundance. It was also suggested it would be great to have a ranch to demonstrate good management to other "students of quail."

The egg was laid and after an incubation period of about two years, the dream became reality.



It started slowly but quickly gained inertia. Through the generosity of The Conservation Fund, a 4,700-acre ranch in Fisher County was purchased in October 2006. As fate would have it, the W. T. Martin Ranch was just about to come on the market near Roby. It was prime land, not grazed too heavily, and featuring a landscape dotted with "quail houses" (brush cover)—the site was indeed a "plum" for our purposes. The Conservation Fund stepped up to hold the property while the intricacies of the non-profit application process were sorted out. In March the Ranch was granted its own 501(c)(3) nonprofit status as a charitable foundation.



The Rolling Plains Quail Research Ranch fledged. The deed was transferred on December 30, 2007.

The Rolling Plains Quail Research Ranch will be used as a research and demonstration facility to foster our understanding and management of bobwhite and scaled quail in West Texas. Quail will be the focus of all we do on the ranch. Our odyssey began in earnest in March 2007 as we trapped, leg-banded, and radio-collared quail. We initiated count efforts in March 07 with helicopter counts and later in May 07 with call counts. These were just the beginning, the future holds much promise and we are constantly gaining new friends . . . and new students of quail.

We hope you will come visit and see what we have implemented and planned for the future.

Donors & Contributors 2008

A very special thanks to all our donors who contributed this year. It is through their generosity and others like them that this organization will continue to grow and improve. Thanks again

Individuals

A.V. Jones, Jr.
 Carl McCallum
 John Fambrough II
 Michael Watson
 John Hagenbuch
 Joe Colbert
 Lee Weatherly
 John Weston
 David Holt
 Bradley Ribelin
 Carol Owen Funk
 Frank Fernandez
 James M. Alexander
 Carl McCallum
 John Coppedge
 Gary L. Smith
 Dickens Ranch, L.P.

Organizations

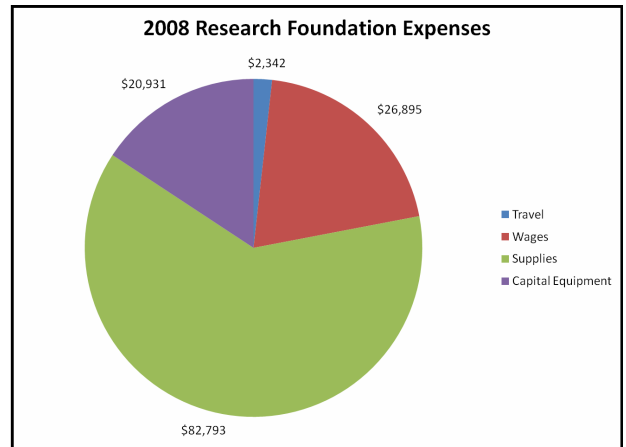
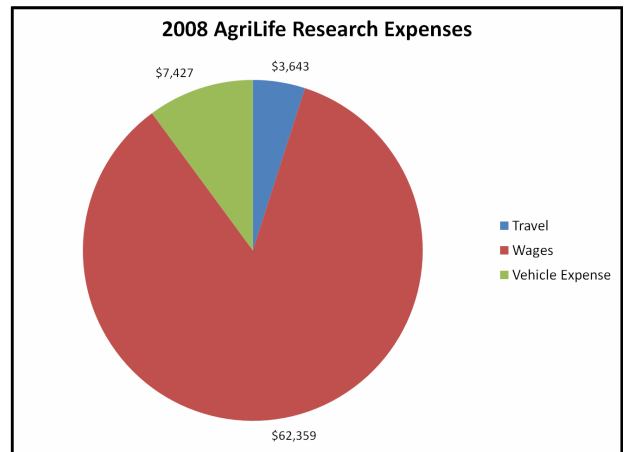
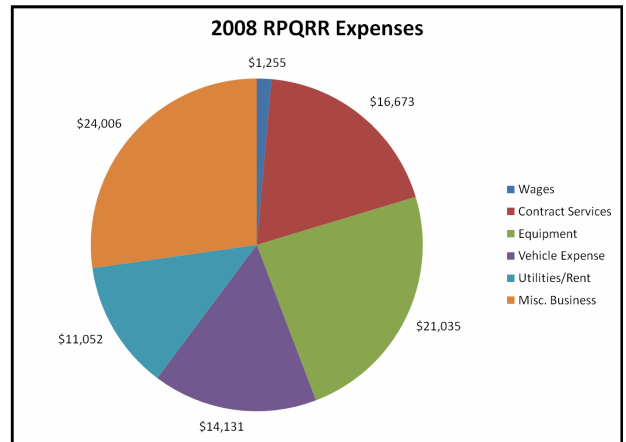
Quail Unlimited
 - Park Cities Chapter
 - Cross Timbers Chapter

Companies

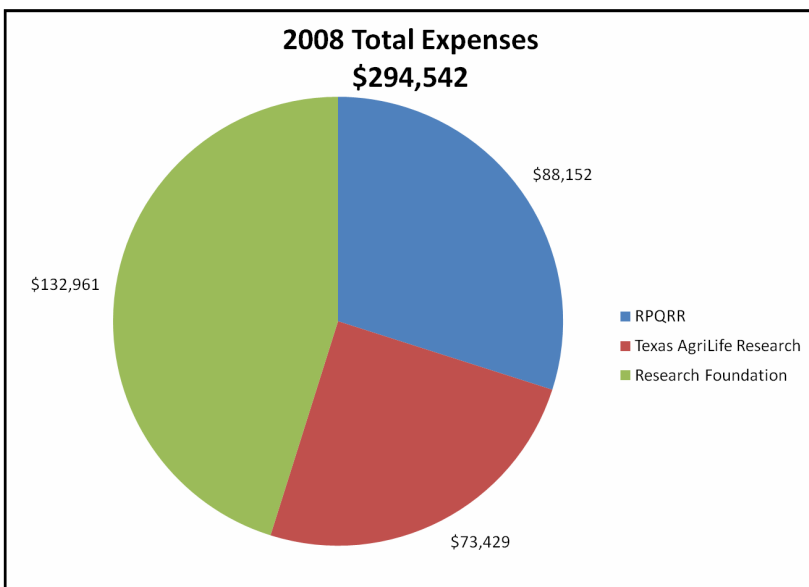
Prescribed Brush Control
 Warren Caterpillar
 Gun Dog Supply
 Dow AgroScience

In Kind

Rob Hailey
 James Cave
 Gilen Imken
 Garmin Inc.



Expenditures 2008



Staff



Dale Rollins
Executive director
drollins@ag.tamu.edu



Lloyd LaCoste
Research Assistant
lmlacoste@ag.tamu.edu



Eddie Lyons
Research Assistant



David Barre
Research Assistant
waterguy@rocketmail.com



August Huckabee
Intern



Drew McEachern
Graduate Assistant
wdmceachern@ag.tamu.edu



James Jackson
Intern



Rachel Vega
Office Assistant & Webmaster
rvega@ag.tamu.edu



Barrett Koenneke
Intern



Cathy LaCoste
Research Assistant



Brandon Wilson
Intern



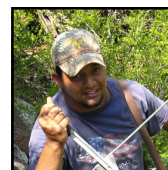
Kurt Huffman
Graduate Assistant
kmhuffman@neo.tamu.edu



Josh McGinty
Intern



Chris Snow
Graduate Assistant
csnow@angelo.edu



Angel Garcia
Intern

Along with the executive board we've recruited an advisory committee to provide technical expertise in prioritizing and implementing research and education efforts conducted on the RQRR, seek funding opportunities, and to assist in marketing efforts.

Advisory Committee Members

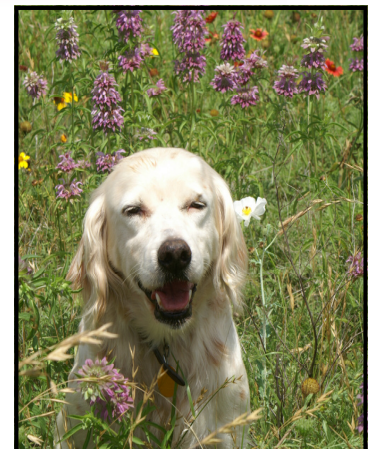
Paul Melton (Chair), landowner, Roby, TX
Don Aiken, landowner, Roscoe, TX
Buddy Baldrige, landowner, Jayton, TX
Rory Burroughs, private consultant, Rotan, TX
Deborah Clark, landowner, Henrietta, TX
Alan Heirman, NRCS biologist (retired), Albany, TX
Rod Hench, landowner, Hermleigh, TX
Wayne Jacobsen, absentee landowner, Grand Rapids, MI
Dr. Jason Johnson, Texas AgriLife Extension Service, Stephenville, TX
Ricky Linex, NRCS biologist, Weatherford
Chip Martin, Quail Unlimited, Anson, TX
Kent Mills, nutritionist, Hi-Pro Feeds, Hermleigh, TX
Robert Perez, TPWD, Lavernia, TX
Chuck Ribelin, hunter, Dallas, TX
Chip Ruthven, TPWD, Matador Wildlife Management Area, Paducah, TX
Jeffrey SoRelle, Texas AgriLife Extension Service, San Angelo, TX
Justin Trail, hunter, Dallas, TX
Dr. Darrell Ueckert, range scientist and landowner, Noodle, TX
Roy Wilson, Texas Best Outfitters, Lueders, TX



Successful organizations need partners; these include educational institutions, governmental agencies, other NGO's and individual citizens who share our passion for a sustainable quail population.

Collaborators

Angelo State University
Bobwhite Brigade
Caesar Kleberg Wildlife Research Institute
Dow AgroSciences
Garmin International
Landitude Inc.
Quail Unlimited
Texas AgriLife Extension Service
Texas AgriLife Research
Texas Master Naturalist Program
Texas Tech University
Texas Wildlife Association
The Conservation Fund
USDA Natural Resources Conservation Service



Not to mention our most loyal partners.

“DOC”
1994-2007

Research at the Ranch 2008

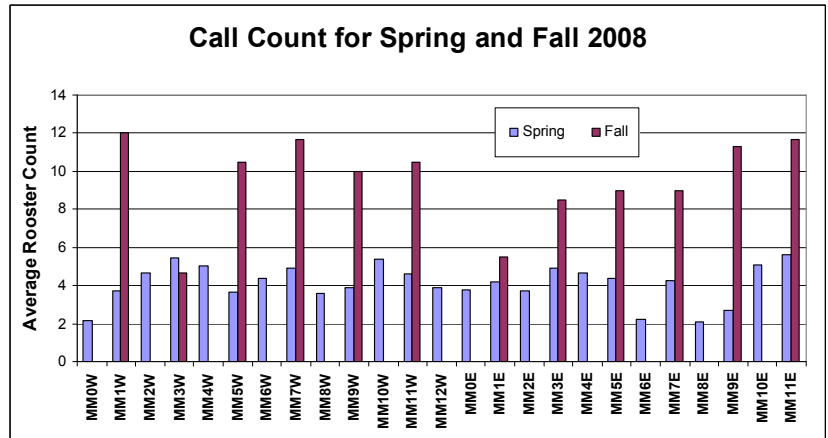
We believe the ways to reach our mission goals are through research and education. These endeavors are not mutually exclusive but indeed synergistic. Our research will feed into the education programs and vice versa.

QUAIL POPULATION ECOLOGY

Call counts - RPQRR Staff

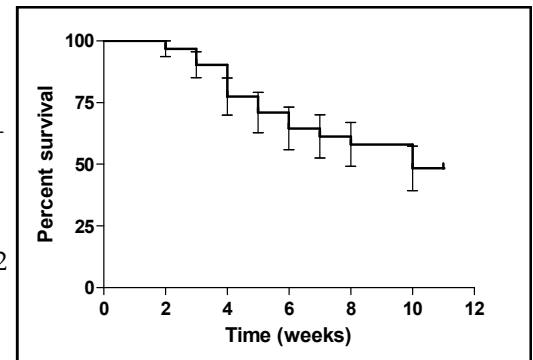
Call counts are conducted at 25 locations across the Ranch. These surveys, conducted in the spring and fall, serve as an index to the Ranch's breeding capital. Spring call counts were conducted twice weekly beginning on 19 May 2008. Counts averaged 4.1 roosters (see figure) and 32.7 calls/stop. Mile marker (MM) 11E (south side of the Ranch) averaged the most roosters heard, with 5.6 roosters/stop across all weeks. These counts were down from 2007, where an average of 9.2

roosters/stop were heard. Lowest counts were observed at MM 8E, MM 0W and MM 6E. Covey call counts were also conducted during the Fall months (October-December) as an index to relative abundance. Every second mile marker (odd-numbered markers) was sampled on two different occasions during the Fall months. Covey call counts divided by ten is a crude index to quail density, for example: the average Fall covey count was 9.5 coveys —this would equate to just less than one quail per acre, which coincides nicely with estimates obtained from our helicopter counts.



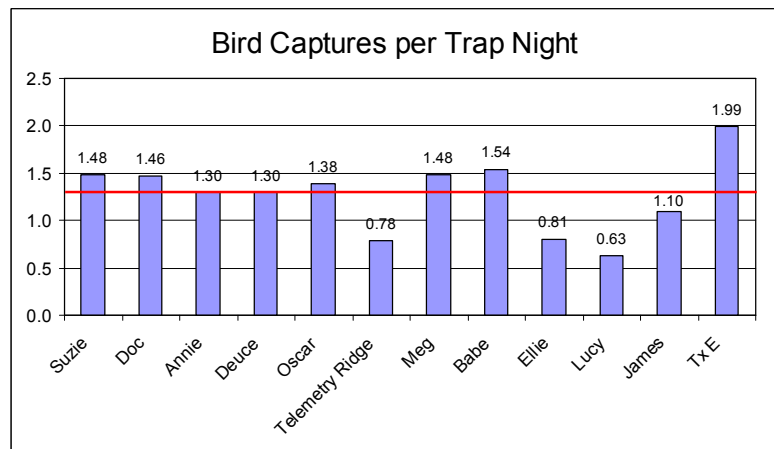
Radio Telemetry - RPQRR Staff

Spring trapping of quail began in February and continued through March. A total of 93 quail (including 11 scaled quail) were radiomarked and an additional 269 birds were leg-banded from mid-Feb through mid-March. However, because of lack of manpower, surveillance of those birds did not begin in earnest until 15 May. Between 15 March and 15 May, 61 birds were either killed or lost. Weekly survival was estimated from the birds remaining on the air as of 15 May (n=32 birds). Survival was estimated weekly, for a period of 12 weeks, from 15 May through 31 July (see figure above). The probability of a bird surviving this time period was 0.33 (SE = 0.072). As of 1 Sept, nine hens were still alive. Trapping and banding of quail began again in December (see below).



Fall Trapping/Banding - Lloyd LaCoste and Kurt Huffman

From 17 October through 16 January 09, 831 birds were leg-banded and 83 were radio-marked over a trapping period which included 1046 trap nights. There was an average of 1.27 birds per trapping night across the Ranch. The graph to the right shows averages for each pasture and the overall average (red line).

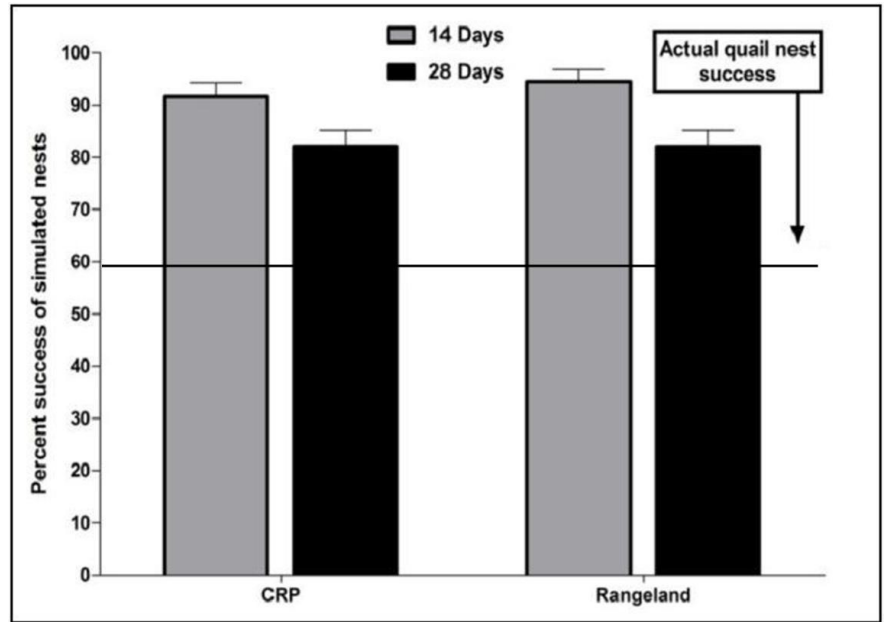
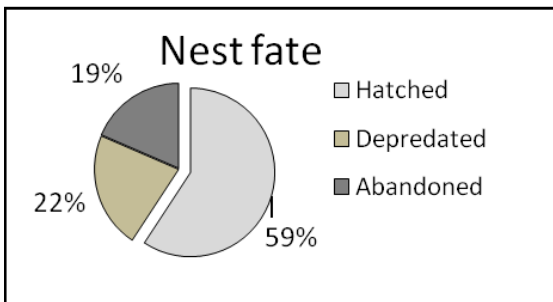
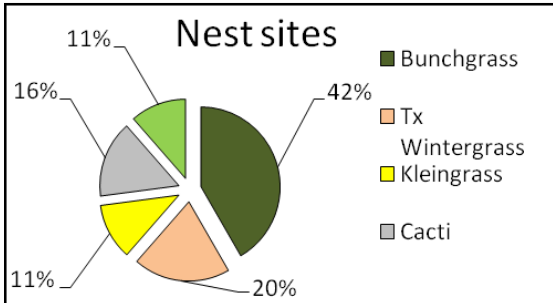


QUAIL POPULATION ECOLOGY (cont.)

Nesting Ecology

Nest Sites - *Angel Garcia and Barrett Koennecke*

A total of 27 quail nests were located between 15 May and 25 July 2008; most were situated in bunchgrasses. A total of 16 nests hatched (59%), six were depredated, and five were abandoned. Four hens (all juveniles) re-nested as of 1 August. Two hens successfully hatched both nests; one abandoned first nest but hatched second, and the other had both nests destroyed.



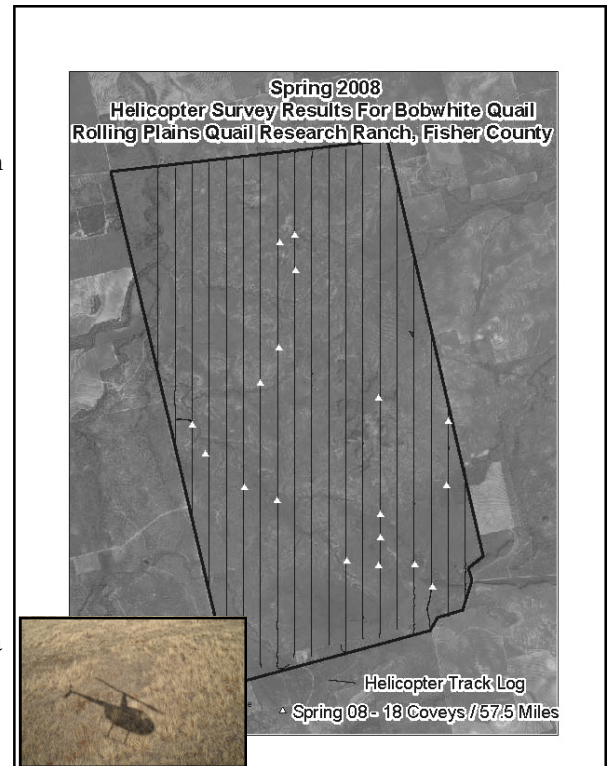
Dummy nest trials - *RPQRR Staff*

Potential nest survival was evaluated with the use of dummy nests. Dummy nests consist of 3 chicken eggs situated in a suitable site for a quail nest. Nests were checked for predation at 2 and 4 weeks. We established a total of 144 dummy nests, half of which were located in CRP fields and the remainder in rangeland. Dummy nest “survival” was an incredible 92% at 14-days—this is the highest “success” we’ve ever monitored anywhere in west Texas (see figure above right). There was no difference in survival of simulated nests at 28 days between CRP and rangeland vegetation types. There was also no difference between nests placed in grass and prickly pear within the rangeland vegetation type.

Covey Census

Helicopter Census—*Matthew Schnup Graduate Student, Caesar Kleberg Wildlife Research Institute*

Helicopter surveys involved 3 observers: 1 observer detected coveys directly on the transect, and 2 observers detected coveys on each side of the transect. Distances to detected coveys were estimated using a laser rangefinder. Helicopter surveys were flown at a height of about 20 ft and a speed of about 22 mph using a Robinson R44. Various transects, dependent on pasture size, were flown on 2 pastures in each eco-region.



Covey Census (cont.)

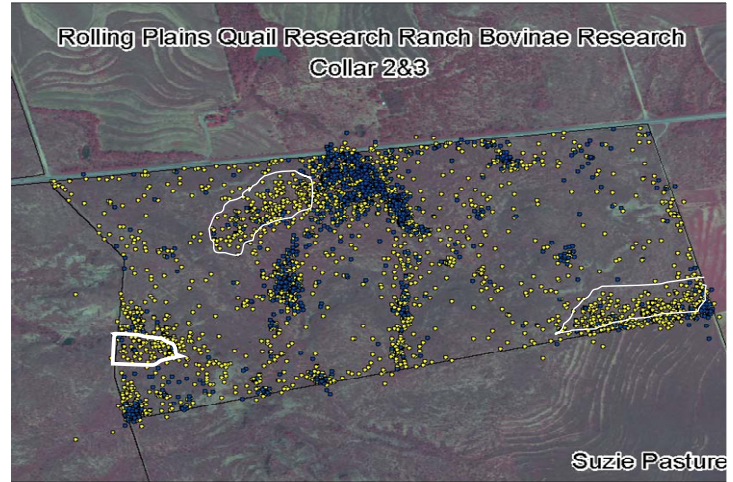
Bird Dog Census— Public Bird Dog Teams

We have been evaluating the utility of GPS-equipped bird dogs as a census technique, following on the heels of recent research at Caesar Kleberg Wildlife Research Institute and Oklahoma State University. Total ranch censuses were attempted with 15 to 25 teams of bird dog handlers in March and October. These data will be compared to counts from helicopter and whistle counts. Thanks to Garmin Int'l. for supplying the Astro dog collars.

PATCH-BURN GRAZING - A quail-friendly approach to prickly pear management

Livestock Response to Patch-Burn Grazing - Kurt Huffman

Prickly pear cacti are considered problematic on many rangelands of Texas. While prickly pear can afford excellent nesting habitat for quail in west Texas, densities of cacti can subsequently preclude huntability. Cacti can be controlled effectively with fire followed by the herbicide picloram, but forb shock and damage to desirable woody plants are undesirable side effects of this approach. We seek to test patch herbivory following burning as a method to manipulate prickly pear without undesirable side effects for quail. Our objectives are to determine how patch burning impacts grazing distribution. Burns were conducted on 17 March 2008 and cattle were introduced on the same day and remained in pastures until 27 July. Two cows in each herd were fitted with GPS collars that recorded a waypoint every two hours. Figure at right illustrates grazing distribution from mid-March till late-May.



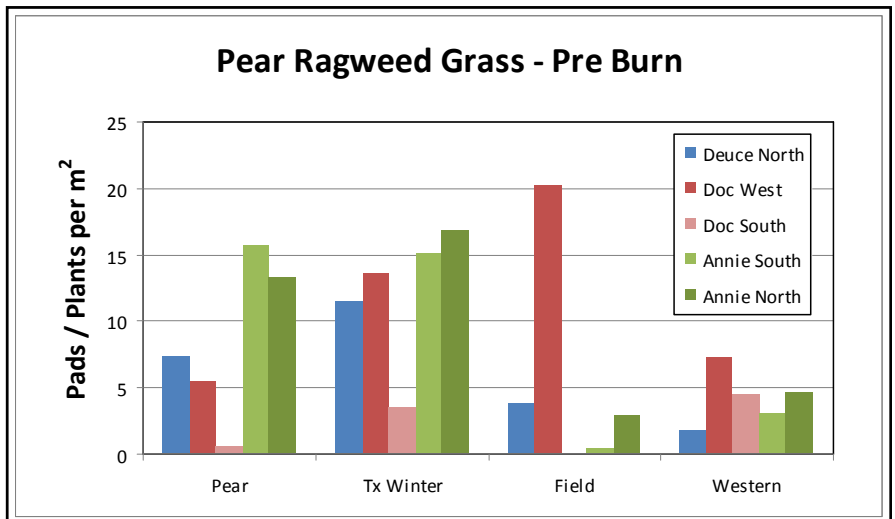
Patch Burn Vegetation Response

Large Patch— David Barre and Kurt Huffman

A project is underway (see “Planned Research”) to determine the effects of cool season burns on seed production of western ragweed and grass, forb and prickly pear recovery over time. This will consist of a two-tiered approach; firstly to determine the abundance and cover of ragweed, pear and grasses, by using random points along each transect, and secondly to use points randomly selected away from the transect to determine both abundance/cover and seed production. There were three patches burned in spring 2008 in two of the rangeland pastures (Suzie and Ellie) and there will be a further three patches burned in each of these two pastures in winter of 2009. For the already burned patches, ragweed has been sampled in one burn patch for each pasture and in an adjacent unburned patch. Seed counts will be done to see if fire has an effect on ragweed seed production.

Small Patch— David Barre

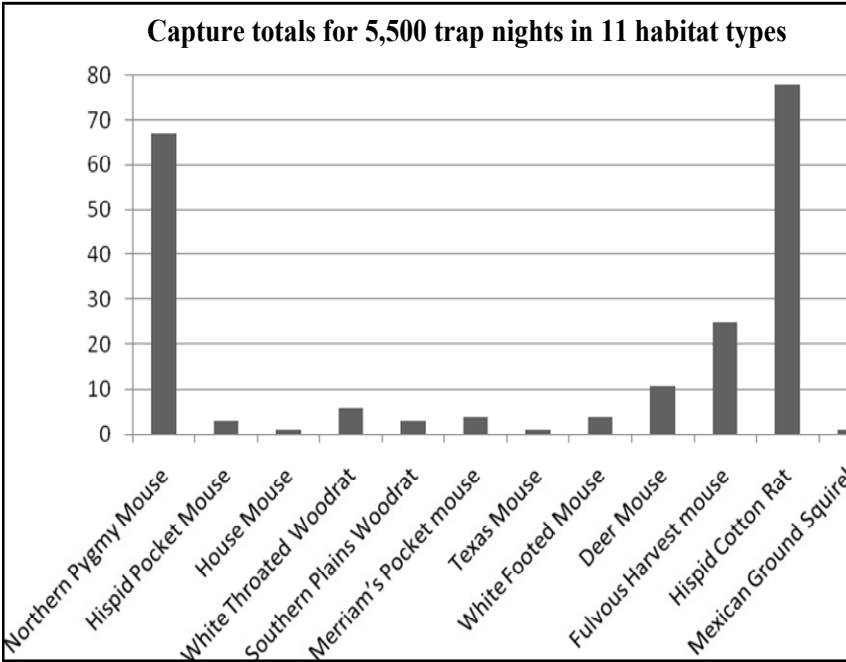
Small patches/plots are also being studied within the Doc, Deuce and Annie pastures to see if fire has an effect on the succession of western ragweed, field ragweed, prickly pear, and Texas wintergrass abundance. Since burning will occur in early 2009, only pre-burn figures are available, however, it can be seen that a variety of densities of each species occur across the Ranch in rangeland habitat.



RELATED FAUNA

Small Mammal Trapping - Barrett Koennecke and Brandon Wilson

The objective was to collect baseline data on the diversity of rodents in eight different habitat types across the Ranch; food plots, riparian, CRP fields, prickly pear, rocky ridges, old crop, Mesquite woodland, and sandy soil areas.

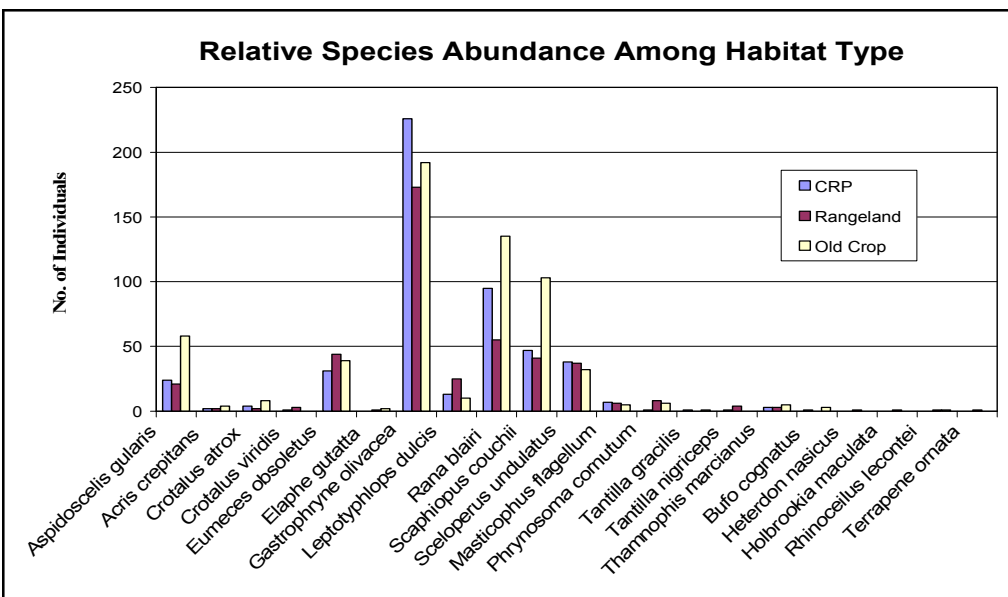
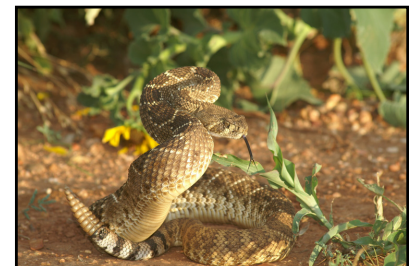


We used 25 Sherman Traps in a grid of 5x5 per location. With five locations in each of the eight habitat types over a total of four nights, we had a total of 4,000 trap nights. The reason for finding the relative diversity of rodents in certain areas is to determine whether there is a correlation between high numbers of rodents in areas with heavy seed production and large quail numbers since they compete for the same food sources.

There were 12 different species of rodents observed with an average of four different species per habitat type. The Hispid Cotton Rat, Northern Pygmy Mouse, and Fulvous Harvest Mouse occurred in large numbers across the ranch. The Hispid Cotton Rat is primarily limited in numbers in the food plots and riparian areas and the Northern pygmy mouse is found more in Prickly Pear stands and rangeland.

HERPETOFAUNA COMMUNITY - Drew McEachern

Three habitat types (native range, old cropland and CRP) were sampled using drift fences with pitfall traps in conjunction with funnel traps, coverboards, and time-constrained collection. Herpetofaunal communities were similar between habitat types, with more variation being shown within each habitat type than among habitat types. Pitfall traps collected a total of 1,424 specimens (93% of all specimens), while funnel traps, coverboards, and time-constrained collection detected a total of 106 specimens combined.



VEGETATION MONITORING

Random Points for Vegetation Monitoring - RPQRR Staff

Vegetation cover measurements of brush, grass, forbs and prickly pear were recorded at 108 random points across the Ranch. These points were established in 2007. Four transects, set perpendicular to one another and radiating from each random point, are used to measure and monitor vegetation cover. This totaled 432 transects, spread over all pastures randomly, which were used to determine vegetation cover. Ground cover estimates were calculated for each random point (site), averaging each of the four transects at each site. Ten 0.25-m² frames were laid out along each transect as well as the middle point of the site, totaling 41 sample points for each site. Ground cover was assessed for Woody, Grass, Forb, Bare Ground, Pear and Litter and expressed as a percent of the frame. Cover within each frame was estimated as a visual percentage of the frame when viewed from above.

Grass Cover and Biomass - David Barre

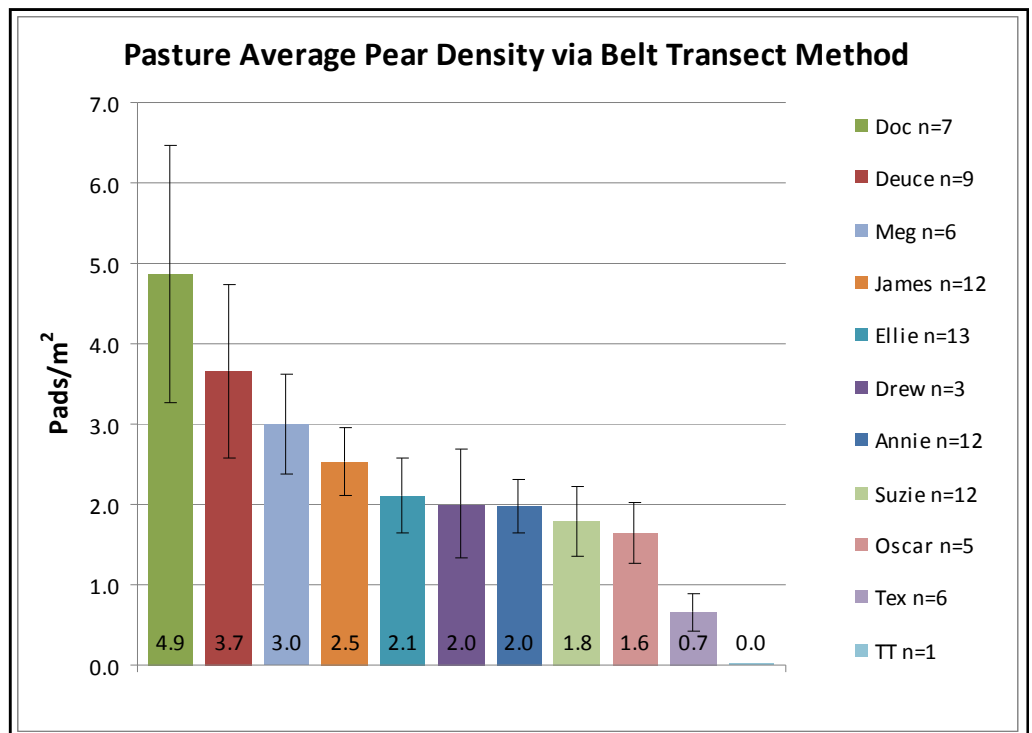
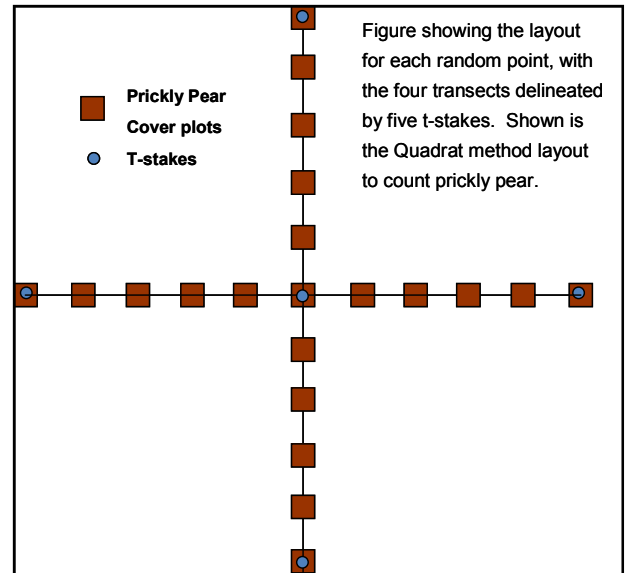
Grass cover across the Ranch varied between 21% and 70% depending on pasture and vegetation type. The Meg, Deuce and Ellie pastures showed the highest percent grass cover, while Suzie, James and TT pastures have the lowest.

Using the Robel pole method (to gauge biomass and screening cover), vegetation density was calculated every 4 m along each transect, for a total of 41 points per site. These densities were averaged per transect and also for each site. Averages were also calculated for each pasture.

Prickly Pear Abundance - David Barre

While prickly pear is mildly tolerated by bird dogs, quail are found to take refuge and nest in mottes of prickly pear greater than one meter (three feet) across. Using the same random points described above, and by utilizing three different methods to determine density, prickly pear pads were counted and compared between pastures. Methods used were: (1) Quadrat method, laying down a 1-m² frame every 10m along each 50m transect; (2) Line Intercept method, counting pads that intersect the 50m transect;

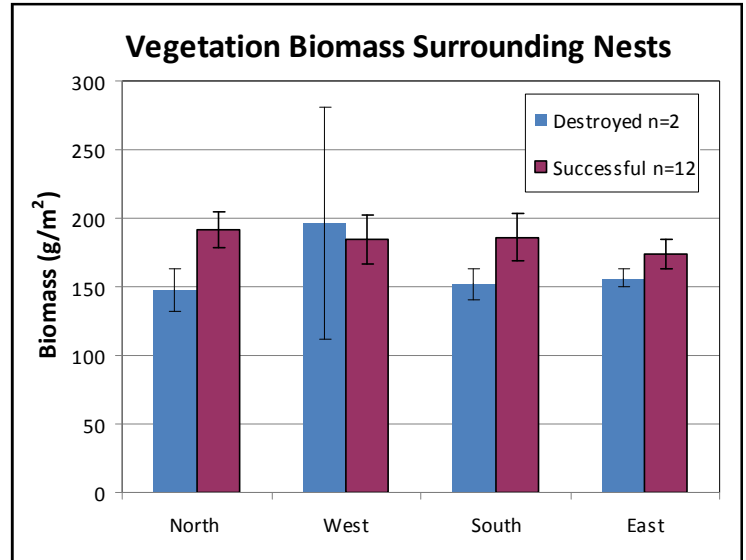
(3) Belt Transect method, where pads are counted in a 2-m wide strip along each 50-m transect. Averages were calculated from all four transects at each site. All three methods were found to correlate well, with the Line Intercept and Belt Transect having the best correlation ($R^2=0.97$). The density of the prickly pear affected which methods were most effective with the Belt Transect method being more representative since it measures pad counts over a 400 m² area per site. The graph below shows pasture averages using the belt transect method. On a pasture-wide basis, Doc and Deuce have the highest prickly pear densities, while Tex and TT pastures have the lowest.



VEGETATION MONITORING (cont.)

Nest Site Vegetation Characteristics - David Barre

For known locations of quail nests, the Robel pole method was utilized in the same way as each random point in order to determine grass biomass (a gauge of visibility) at each nest site. The four cardinal directions were measured for grass biomass and nests averaged to see if preference was taken to a greater biomass in a certain direction. The data were separated depending on whether the nest hatched or was destroyed. Those nests abandoned were excluded from analysis. As seen in the graph to the right, there is greater average grass biomass, at successful nests, on the northern and southern sides of the nest. There seemed to be no difference in biomass between cardinal directions for successful nests. There is more variability for destroyed nests however no significant results can be obtained due to the small sample size of n=2.



Fifty meter transects were taken in all four cardinal directions from each of 18 of the 27 known nests and the availability of nest sites counted. Nest availability was determined in a 2-m strip, 50m length, by counting grass clumps larger than 18 inches in diameter and also prickly pear patches greater than one meter (three feet) across. The Ranch-wide average was 1950 possible nest sites per hectare (789 nests per acre). The average grass biomass in a 50-m radius surrounding successful nests was 161g/m² (1,436 lb/acre) and 138g/m² (1,231 lb/acre) surrounding unsuccessful nests (Again, only 2 unsuccessful nests were sampled).



HABITAT MANAGEMENT

Mesquite IPT- RPQRR Staff

Mesquite on West Texas rangelands can become a problematic species if not managed properly. The Rolling Plains Quail Research Ranch actively manages the encroachment of mesquite by the use of Individual Plant Treatment (IPT) method to maintain the desired density for this species. The spray mixture is a 1% solution of Reclaim plus Remedy (1/2% of each) in water with a blue dye added. Herbicide is sprayed only on the individual trees chosen to be eradicated i.e. less than 7 feet tall, making this method a cost efficient and very selective type of management.

Mechanical Control - James Jackson, Brandon Wilson and Lloyd LaCoste

Warren Caterpillar donated the use of a D5 tractor during the month of July. We used the dozer primarily to grub junipers from the east side of Telemetry Ridge. While we had access to P. Melton's rangeland disc, we had about 20 miles of additional disking done in mid-May along existing roads and in 4 CRP fields (Babe, Annie and Lucy pastures). Sorghum and sorghum alnum were broadcast behind the disc. Good to excellent stands were attained in this manner. Additional disking was done in 2 sites to prepare fire lines for burning in prickly pear infestations (west side of Chittam along FM 611 and east side of Annie along boundary line). The Chittam site was seeded to sorghum alnum, sorghum, catjang pea, lablab pea ('Rio Verde'), rape, and buckwheat.

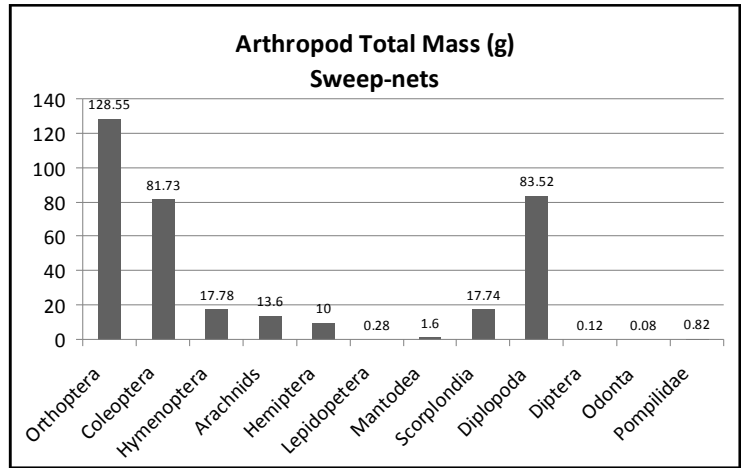


ARTHROPOD DYNAMICS

Arthropod Baseline Data - *Josh McGinty and Cathy LaCoste*

Arthropods are the staple of bobwhite diets whenever they are available, and are vital for chicks. Sweep nets and pitfall traps were used to sample the insect community on burned and unburned sites across the Ranch and in various vegetation types. To compare insect communities, 5 permanent waypoints were established in each of the vegetation types. At each point, a random heading was established, and 25 sweeps were conducted in 4 directions at each point. To

compare insect communities in burned vs. unburned, two arrays (transects) of 10 pitfall traps were established in (a) each burned area and (b) unburned areas 100 yards from burned areas. Pitfalls were checked every 3 days for a total of 15 days (five sample dates for each). Insects collected were sorted to Order and weighed.



Associated Research Efforts 2008

Bobwhite response to large scale wildfire in the Texas panhandle: a GIS based analysis - *RPQRR Staff*

GIS software (ArcView 9.2, ESRI, Redlands, CA) was used to evaluate habitat occupancy by northern bobwhites (*Colinus virginianus*) for wildfire-burned areas in the panhandle of Texas. Specifically, we examined how far into the burned area quail penetrated and their relative abundance for 2 years post-fire. Year one (2006) showed that quail had a clear preference for the unburned areas when compared to burned areas. Year 2 (2007) was more complex with some sites having greater use of the burned area while other burned plots still had no quail present. This variation may be a function of different fire intensities and/or soil texture.

Evaluating various techniques for estimating scaled quail fall abundance - *Chris Snow, Graduate Student*

Various counting methods will be evaluated for their ability to accurately estimate fall abundance for scaled quail. Methods include ones currently accepted such as roadside counts, dummy nest surveys and spring call counts as well as novel techniques like helicopter and ATV flush counts. This study is conducted on University of Texas land holdings.

Averaged Raw Data table

Count Data	2007-2008	2008-2009
Call Count	2.75	.79
Quail per mile		
Nesting Success	44 % success	9.5 % success
Roadside count	6	1.8
Quail per mile		
ATV Count	7.2	3.75
Quail per mile		
Helicopter	9.2	2.0
Quail per mile		
Helicopter	88	1417
Acres per quail		
Hunter Data		
Hours hunted	3.8	
Coveys Seen	12.3	
Juv. per hunt	13.7	
Adults per hunt	6	
Ratio J to A	2.3 to 1	

There are clear differences between year 2007-8 season and 2008-9 season. Spring and summer 2007 had considerable rainfall when compared to spring / summer 2008. Rainfall timing is essential for a good insect crop on which the chicks feed. Blue quail are an eruptive species taking advantage of favorable conditions for optimal reproductive success. Conditions in 2007-8 were favorable while the data show that conditions in 2008-9 were less than favorable. The hunter data are still being collected for



Planned Research 2009 & beyond

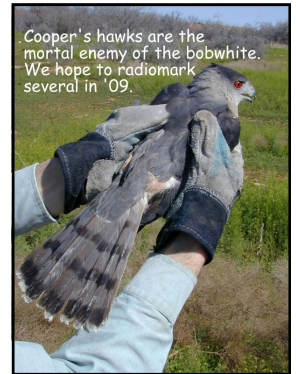
Patch Burn Grazing

The objective is to evaluate patch-burn-grazing as a quail-friendly means of controlling prickly pear and promoting heterogeneity in quail habitat on the Rolling Plains. Patch burn grazing is a technique whereby small sections of a pasture are burned and cattle are allowed to graze freely throughout the pasture in both burned and unburned areas. This technique provides the benefits of fire and grazing in stimulating grass and forb growth, while simultaneously promoting heterogeneity. The study focuses on the effect of fire on increasing the palatability of low-growing prickly pear cactus to cattle, as well as the effect of fire and grazing on western ragweed seed production and arthropod dynamics. Although burn bans prevented the burns planned for Winter 2008, baseline data are being collected for cattle grazing preferences (using GPS collars), prickly pear density, and western ragweed density and seed production.



Hawks and Quail

Various hawks can be locally important predators of quail, especially during winter. In conjunction with Dr. Clint Boal at Texas Tech University, we will attempt to trap and radio-tag four Cooper's hawks and four Northern harriers (marsh hawks) for study during February and March. Our objectives are two-fold: (1) document capture rates on bobwhites vs. other species (e.g., rodents, songbirds), and (2) conduct an in vivo assessment of "radiohandicapping" (i.e., are radio-marked bobwhites more susceptible to predation by Cooper's hawks?).



Herbicides

Prickly pear densities at the Ranch often influence "huntability", i.e., preclude bird dogs from hunting effectively. We will be evaluating several combinations of fire (summer vs. winter burns) and various herbicides to document direct (e.g., prickly pear mortality) and indirect effects (e.g., ragweed succession, arthropod dynamics). This study will continue for at least three growing seasons following treatment.

Feeding a Layer Ration for Enhancing Quail Productivity During Drought

Drought conditions during fall and winter (i.e., typical of a La Nina weather pattern) tend to correlate with poor reproduction the following spring. We will test whether such drought-induced handicaps can be mitigated by feeding a layer ration (24% crude protein) just prior to the breeding season (e.g., Feb-Apr). Radio-marked hens will have access to various treatments to determine if supplementation enhances productivity following dry winters.

Greater Roadrunner summer diets - RPQRR Staff

Roadrunners are often maligned by landowners and hunters alike as predators of quail eggs and chicks, but scientific evidence of their relationship is limited. Greater roadrunners will be radio-marked in late-winter in order to locate their nests later in the spring. Once nest location is known, we will place a camera to monitor the food items the parents deliver to their young during the peak breeding season for bobwhites (May - July).





PLANNED RESEARCH (cont.)

Coyote diets - RPQRR staff and Dr. Warren Ballard, Texas Tech University

Coyotes are the primary carnivore at RPQRR, and scat evidence suggest they are abundant. In order to determine their dietary niche relative to quail, we will be collecting 25 scats per month from ranch roads. After two years of scat collection, we will seek a graduate student at Texas Tech University under the direction of Dr. Warren Ballard to analyze the scats. Annual diets will be compared to seasonal prey availability (as gauged by quail counts, rodent trapping, and arthropod abundance).

Habitat Use by Mesomammals during the Nesting Season of Bobwhites - Dr. Susan Cooper and RPQRR staff

Medium-sized mammals ("mesomammals") are important predators of quail nests. We seek to study how two mesomammal species (e.g., coyotes and raccoons) use various habitats (in a spatial sense) found on the Ranch during the nesting season of bobwhites. We will trap four coyotes and four raccoons and fit them with GPS collars in March 2009. The collars will record a waypoint every five minutes during May-June, and then drop off to be retrieved. These data will provide information as to whether certain habitats (e.g., heavy prickly pear) are avoided by mesomammals during the nesting season.

Western Ragweed Seed Production - RPQRR staff

Seeds of western ragweed are usually major components of the winter diet of bobwhites in the Rolling Plains. We seek to measure the production and "reliability" of such ragweed seed crops over a period of years. We will also be measuring seed yield from various habitats on the Ranch, and whether burning stimulates seed production of ragweed, as it does for some other species.



Education 2008

What good is research if the information never reaches the public? Education will always be at the forefront of what we do at RPQRR. The programs listed here were held over the past year—they are just the beginning.

Inaugural Field Day

Inaugural Field Day - The inaugural field day was conducted on September 12, 2008--a total of 115 people participated.

Educational efforts

- TPWD training
- Brush Sculptor field day
- Bobwhite Brigade hunts (2)

Publicity

- Austin American Statesman
- Tyler Morning Telegraph
- Field & Stream Magazine (print and blog)
- Garmin Inc blog
- Livestock Weekly
- Farmer Stockman Magazine
- Quail Unlimited Magazine



Texas Master Naturalist—Big Country Chapter

The Texas Master Naturalist program is a partnership between the Texas AgriLife Extension Service and Texas Parks and Wildlife. Its goal is to recruit/equip interested volunteers to provide education, outreach and service to the state of Texas. We have invited them onsite and provided instruction for certain portions of their coursework.

Website development

Up and running by the end of 2007 the website is the worldwide electronic gateway to the Ranch. At a glance you will be able to see what's been going on at the ranch. Research and education programs will also be highlighted and data will be presented in multimedia format. You can find us at <http://teamquail.tamu.edu/RPQRR2.htm>.

A new website is scheduled to be online by June '09. The new web address will be at www.quailresearch.org.





Rolling Plains Quail Research Ranch
1262 US Highway 180 West
Rotan, Texas 79546
325-776-2615

On the web at <http://teamquail.tamu.edu/RPQRR2.htm>

If you wish to speak to someone about activities at the Ranch
please contact Dale Rollins at 325-653-4576 ext. 218
or on the web at drollins@ag.tamu.edu



WWW.QUAILRESEARCH.ORG

