

## 2008 Quail Nest Depredation Evaluation on the Barham Ranch Navarro County, Texas

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### SUMMARY

The Quail Nest Depredation study was initiated May 16, 2008 on the Barham Ranch, north of Blooming Grove, Texas in the western portion of Navarro County. Four transect sites were selected based upon the vegetation community present and its associated benefits to quail nesting. Simulated quail nests were established on each transect which was then monitored every two weeks for a total period of four weeks. Each nest was monitored for nest survival.

### OBJECTIVES

- Establish simulated quail nests in habitat that is primarily native tall grass prairie and introduced grasses/sodgrass and compare survival rates
- Monitor nest survival every two weeks for four weeks total
- Evaluate predator pressure on quail nests and quail reproduction
- Acquire local data, specific to Navarro County that is timely in nature

### MATERIALS AND METHODS

Four simulated quail nests were established along each transect on alternating sides of the transect (See Figure 1). Each nest had a unique identifying number (T1 = Transect 1 and N1 = Nest 1, etc.). Nests were situated roughly 50 yards apart and were placed in “realistic” quail nesting cover (See Figure 2). Three medium-sized chicken eggs were used for each nest and eggs were replaced with fresh eggs at two weeks (for those nests still intact at that time). Simulated quail nests were monitored every two weeks for four weeks.

#### Transect 1 - Dominant Plant Community

- Little bluestem - *Shcizachyrium scoparium*
- Big bluestem - *Andropogon gerardii*
- Clasping coneflower - *Rudbeckia amplexicaulis*
- Yellow indiagrass - *Sorghastrum nutans*
- Switchgrass - *Panicum virgatum*
- Texas wintergrass - *Stipa leucotricha*
- Sideoats grama - *Bouteloua curtipendula*
- Vine mesquite - *Panicum obtusom*
- Silver bluestem - *Bothriochloa saccharoides*
- Silver leaf nightshade - *Solanum eleagnifolium*
- Mesquite - *Prosopis glandulosa*
- Cocklebur - *Xanthium strumarium*

#### Transect 2 - Dominant Plant Community

- Bermudagrass - *Cynodon dactylon*
- Rescuegrass - *Bromus unioloides*
- Ryegrass - *Lolium perenne*
- Broomweed - *Xanthocephalum spp.*
- Unidentified forbs

Average forage heights for each nest placement were also noted for comparison.

Location	Nest #	30-May	12-Jun	Forage Height
10 foot left of flag	T1N1	X	X	18" tall grass/midgrass
5 foot left of flag	T1N2	X	X	18" tall grass/midgrass
5 foot left of flag	T1N3	X	X	24" tall grass/midgrass
5 foot right of flag	T1N4	X	X	18" tall grass/midgrass
3 foot left and forward of flag	T1N5	X	X	18" tall grass/midgrass
2 foot left of blue flag in mesquite	T1N6	?	X	18" tall grass/midgrass
5 foot left of flag in mesquite	T2N1	X	X	18" tall grass/midgrass
10 foot right of flag in mesquite	T2N2	X	X	18" tall grass/midgrass
15 forward and left of flag	T2N3	X	X	24" tall grass/midgrass
10 foot right of flag	T2N4	X	X	24" tall grass/midgrass
10 foot left of flag	T2N5	?	X	24" tall grass/midgrass
3 foot east of flag	T2N6	X	X	24" tall grass/midgrass
5 foot right of flag on fence	T3N1	X	X	24" broomweed
15 foot right of flag on fence	T3N2	X	X	8" bermuda
2 foot from flag	T3N3	Predated		6" bermuda
18 foot from flag	T3N4	X	X	10" johnson/bermuda
5 foot behind flag on fence	T3N5	X	X	12" forbs
10 foot from flag	T3N6	X	X	12" broomweed/brome
next to post	T4N1	X	X	12" bermuda/broomweed
10 foot from fence	T4N2	X	X	6" bermuda
under fence	T4N3	X	X	8" bermuda
10 foot from fence	T4N4	Predated		10" forbs
under fence	T4N5	X	X	24" forb/broomweed
10 foot from fence	T4N6	X	X	10" bermuda

#### Quail Call/Sightings

BW whistling east of T2N6 at 4:55 pm 5/30

BW whistling South of T1N5 at 4:12 pm 5/30

BW whistling south of T4N2 at 5:05 pm 5/30

2 BW whistling west of T1N4 at 9:30 am 6/12

BW whistling west of T1N6 at 9:57am 6/12

BW whistling south of T2N1 at 10:07 am 6/12

BW whistling south of T3N6 (across fence in native grass area) at 10:35 am 6/12

#### 100% of quail calls noted occurred in the native grass pasture

Average forage height in T1 and T2 = 20.5 inches

Average forage height in T3 and T4 = 11.8 inches

Average forage height of two predated nests - 8 inches

## RESULTS AND DISCUSSION

Nests were monitored approximately every two weeks for four weeks for predator disturbance. During the time of this study range condition was fair with perennial grasses readily available for nesting in the native grass pasture and in the short grass pasture grasses were also actively growing. It should be noted that at the two week evaluation, 2 nests could not be located in T1 and T2 while 2 nests were found to be predated in T3 and T4 combined. Thus at the two week evaluation the survival rate in the bermudagrass pasture was 83%. However, since two nests were lost (not necessarily predated) in T1 and T2 this difference in survival is actually inconclusive.

It should be noted that bermudagrass pastures are not preferred nesting habitat for

bobwhite quail which is obvious due to the calls that were recorded all occurred in the native grass pasture.



Figure 1: Native Grass Pasture

### **FUTURE RESEARCH NEEDS**

This demonstration was completed in part through the cooperation of Texas AgriLife Extension Service, Texas Parks and Wildlife, Tracy Barham and the Western Navarro Bobwhite Restoration Initiative. Ideally, this information can provide data for landowners to assess predator pressure on quail nesting sites and potential survival as related to vegetational communities. This demonstration will be repeated in 2009 and changes/considerations for then include:

- Use bermudagrass pasture that is currently grazed
- Put nests closer to flags
- Consider the distance away from the edge, where does predator pressure not become an issue
- Place scent stations to ID predators

### **REFERENCES**

Rollins, D., J. Brooks, N. Wilkins and D. Ransom. 2005. Counting Quail. Bulletin B-6173. Texas Cooperative Extension, College Station, USA.

Wright, B. D., J.C. Cathey and R. K. Lyons. 2005. Habitat Monitoring for Quail on Texas Rangelands. Bulletin B-6172. Texas Cooperative Extension, College Station, USA.

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