



QUAIL-NEWS

THE QUAIL-TECH ALLIANCE NEWSLETTER
Summer2011



Quail-News: Issue 5.0

SPECIAL FIRE AND DROUGHT EDITION

What's Been Going On?

By Brad Dabbert

Charles Hodges and I made a trip to visit Dr. Bill Palmer and Mr. Shane Wellendorf at the Tall Timbers Research Station in Tallahassee, Florida in early June (see Charles' article in this issue). Bill and Shane were very gracious during this trip and provided us a wealth of knowledge concerning quail management in the Southeastern United States and techniques that they have developed to successfully imprint and release wild strain quail back into the wild. Additionally we met with Mr. Brad Mueller of American Wildlife Enterprises that is located near Tallahassee. Mr. Mueller makes the radiotransmitters we use for monitoring quail. Brad took us on a tour of an intensively managed plantation in south Georgia with whom he consults concerning northern bobwhite management. This trip was a tremendous benefit to me and is going to foster collaborative research efforts with Dr. Palmer and his program at Tall Timbers that should be highly beneficial for quail in the Rolling Plains of Texas. The Hill Country Chapter of the Quail Coalition has just generously provided funding to construct a propagation facility for production of wild-strain and F-1 generation northern bobwhite in which we will use our new knowledge gained from the trip (more details to come). Additionally, the Burnett Foundation has provided a wonderful gift that will fund our efforts in disease countermeasures and genetics research. I cannot thank these two generous groups enough.

We have just completed 525 male whistling call count points during the months of May and June. Sadly, counts are down across the Rolling Plains of Texas due to the current drought, which many climatologists are categorizing as the worst in the last 100 years. Quail-Tech Alliance anchor ranches averaged 2.7 northern bobwhites per point during our 2010 counts. 2011 counts have declined to an average of 1.8 northern bobwhites per point. This reduction is not as drastic as you might expect, but keep in mind the 2011 average is being buoyed by numbers on a few ranches that have increased (doubled in some cases) during 2011. However, only ranches that received rainfall during late May or early June and some ranches that are currently supplementally feeding have maintained or increased their call count numbers. Scaled quail counts are similarly reduced. The only silver (very tarnished) lining is that there are a few more birds present than we are actually hearing. The really negative thing is that these birds have stopped reproduction in many areas and are starting to reform small coveys. This situation projects that recruitment into the fall population is going to be minimal.

You are probably not in the mood, but some explanation would likely be beneficial. The life cycle of birds is largely controlled by photoperiod (the light and dark cycle). Receptors in the eye and brain detect the increasing hours of daylight in the spring and trigger the release of gonadotropins (hormones) that cause the ovaries and testes to grow. Yes, this happens each spring. The gonads of birds shrink (many fold) during the nonreproductive period and must go through a multi-week process of recrudescence each spring (regrowth) before reproduction can occur. When fully functional, production of sperm in males and egg laying in females can begin. Additionally, the behavioral characteristics associated with reproduction such as incubation and broodiness in females and whistling in males (yes and some broodiness) also begins. We use whistling males as an index of abundance in spring. This is an index and not a precise measure of population size because not all males, especially mated males who do not need to advertise for a mate, whistle during a given time period. Drought short-circuits this process.

Field Day!!!!

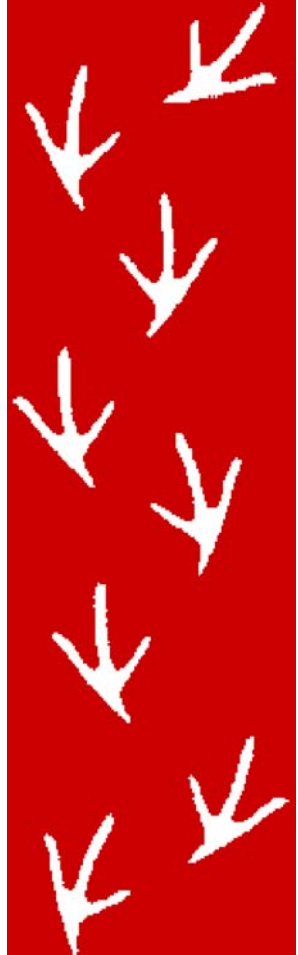
Quail-Tech Field Day set for October 1st, 2011 at Tongue River Ranch in Dumont, TX!

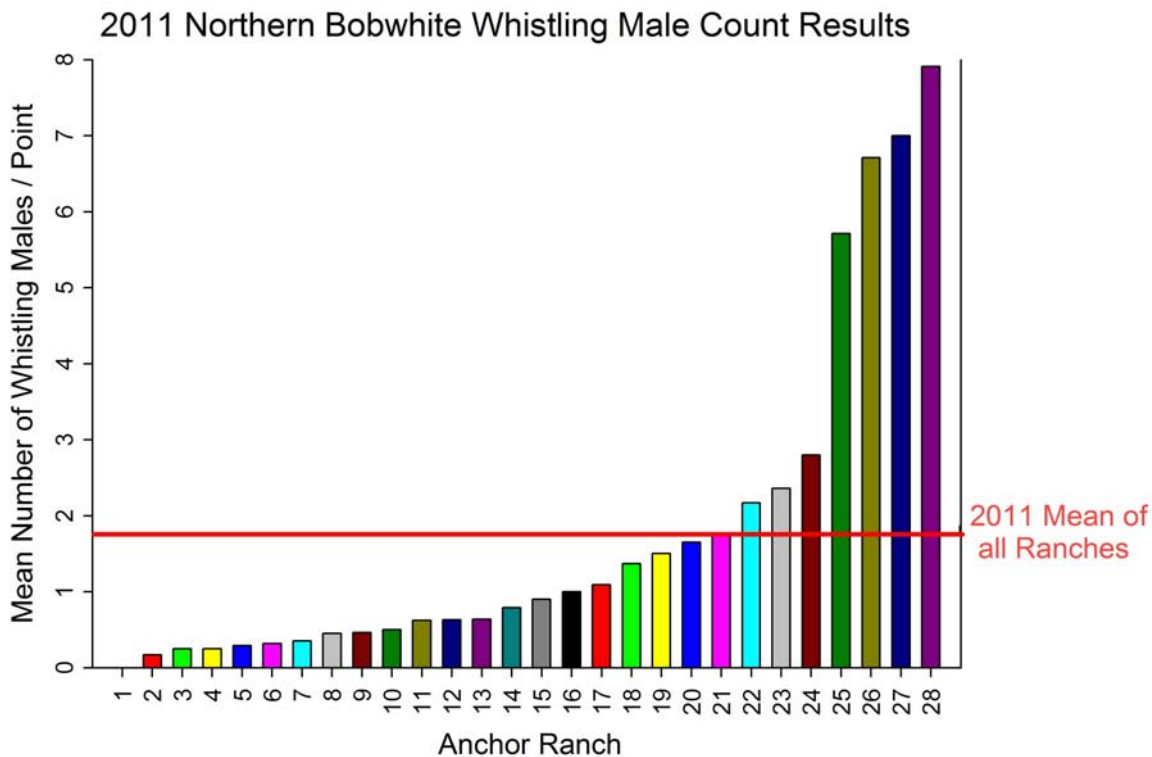
Save the Date!

Quail-Tech Best Management Practices

Trap, Trap, Trap!
All nest predators.

One saved egg now is worth 200 in a normal year!!





Stress hormones released because of factors such as food and water deprivation and heat stress that are caused by drought, override the reproductive system causing the gonads to inactivate and shrink. Sperm and eggs are not produced and behaviors associated with reproduction (including whistling) are depressed. Unfortunately, this is what we have seen at many of our points. Birds are often present in small groups but are not whistling or whistling at very low rates because of this stress. Though it is positive to at least see birds (or hear their covey calls), the fact remains that reproduction is only minimally occurring and the population drainer predation is continuing to occur. What do we do? First, I suggest hoping and praying for rain. The optimist in me knows late hatches can occur (rainfall and the resulting food supply can restimulate reproduction). However, the realist in me knows populations are built on early season broods. Second, I suggest you supplementally feed into the habitat using a spreader. Our data (yes only 1 year so far) suggest that this feeding method increases survival and keeps birds in reproductive condition during drought (see articles in this issue). I realize our data also show low chick survival despite supplemental feeding, but I predict some of these individuals are going to survive. Further, supplementally fed birds are still attempting to reproduce. If rain comes they won't have to wait for their gonads to respond. They have a much better chance of raising a brood before frost than unfed birds which are currently joining coveys. Last, I suggest you at least consider predator control, especially around your feeding areas. I do not have data for the Rolling Plains of Texas to support this suggestion. But, in a year when losses to predation are not being offset by reproduction, every bird surviving to the next reproductive season counts.

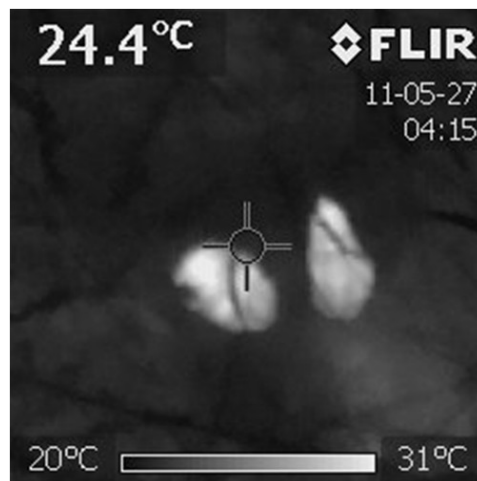
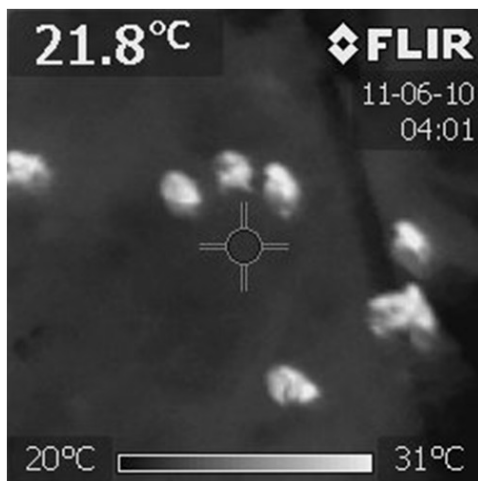
Thermal Imaging Aids Quail-Tech

Quail-Tech Alliance Researchers Develop Techniques to Count and Capture Quail Chicks Using a Thermal Imaging Camera

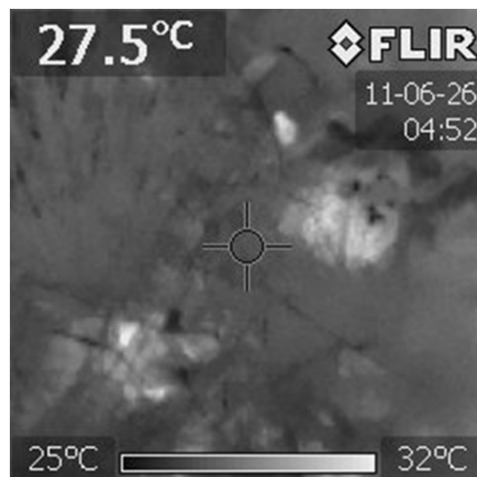
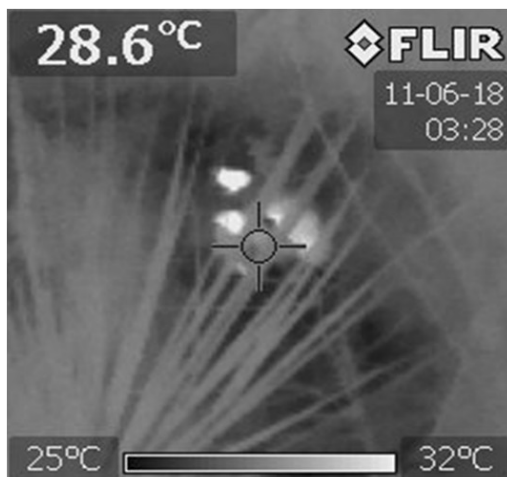
By Alicia Andes, Byron Buckley, Thomas Warren, Paul Woods, Sean Yancey, and Brad Dabbert

From hatch to 4 weeks of age is one of the most difficult periods to monitor in the life history of quail. Their small size and cryptic down make it very difficult to locate chicks in the vegetation within which they normally live. This difficulty has led to a general shortage of information concerning the demographics of this early period in the life of a quail. Information considering the influences of management practices such as supplemental feeding on chick growth and survival are limited principally because of the lack of a time efficient method of counting and capturing chicks. We developed a technique which uses a thermal imaging camera to efficiently count and capture northern bobwhite chicks in the field. We tested the technique in a controlled setting and then in a natural habitat setting within the field.

On the 6666 Ranch, hens were radiomarked, tracked and their nests monitored until hatch. Two hours before sunrise, the location of the radiomarked hens was found to within 10 meters and the approximate position estimated by triangulation. Once the location of the hen was determined, technicians surrounded the roost site, and then walked in to flush the hen. With the hen absent and the roost site surrounded, a thermal imaging camera was used to count the chicks by their heat signature. Chicks can also be easily captured so that we can tag them and weigh them. All technicians vacated the area immediately after a chick count was completed to allow the chicks and hen to reunite.



Thermal images of chicks counted in a control area of the Texas Tech Experimental Rangeland. The image on the left shows 7 chicks while the image on the right shows 2.



Thermal images of broods monitored on the 6666 ranch. The left picture shows a chick as the top-most heat signature with both parents below. The vegetation obstructing the view is a yucca. The right picture also shows both quail parents brooding chicks under vegetation.

As of June 19th, Quail Tech Biologists employed the thermal imaging camera method 28 times in the field with a success rate of 96%. There were only two occasions when the camera was unsuccessful because thick vegetation such as yucca, prickly pear and tasajillo obstructed view of the chicks' heat signature. On average, the thermal imaging camera method allows technicians to count chicks for multiple (2-4) broods in a single night. A thorough chick count of the roost site can be accomplished in a half hour. Chicks can be counted using this method until they are able to fly at approximately 14 days. Finally (and very important), none of the broods were abandoned by the hen. This technique has significantly advanced our efficiency and ability to monitor the influence of our management practices on chick demography.



Roost site for brood 089A with 100% success for counting chicks with the thermal imaging camera. The site is composed predominantly of little bluestem and ragweed.



Roost site for brood 449A with 0% success for counting chicks with the thermal imaging camera. Chicks at this site buried under the dense yucca base and were inaccessible. We were able to count them on a subsequent evening. Yucca and little bluestem are the dominate vegetation for this area.

6666 RANCH—IMPACT OF EXTREME DROUGHT

THE STATUS OF BOBWHITE QUAIL CHICKS AT THE 6666 RANCH, AND THE IMPACT OF THE EXTREME DROUGHT CONDITIONS ON THEIR SURVIVAL AND GROWTH RATE.

By Alicia Andes and Brad Dabbert

A bobwhite quail is most susceptible to mortality in the first two weeks of life. Unfortunately, there is relatively little scientific evidence that quantifies sources of quail chick mortality and the influence of management practices on their demography. One reason for the lack of research on quail chicks is due to inefficient methods used to capture them in the field. Since few investigations have focused on quail chicks, there is virtually no documentation about the effects that management practices designed for adult quail have on chicks in the Rolling Plains of Texas. For example, the application of supplemental feed is one of the most widely used practices designed to support quail population growth. Several studies in Texas have used stationary feeders or broadcast feed directly on roads, but have reported no benefits to quail populations.

Currently, a technique to broadcast milo into vegetation adjacent to roads for quail is in progress on the 6666 Ranch. Researchers at the Tall Timbers Research Station used this feeding technique to benefit quail in Florida and thus far our results in the Rolling Plains of Texas largely agree with results in Florida (see the companion article in this newsletter and newsletters 3.0 and 4.0). The purpose of our research is to quantify the effects that this supplemental feeding technique will have on the survival, body condition, and dispersal of quail chicks and juveniles, because there exists no scientific literature that evaluates supplemental feed consequences to chick demography in the Rolling Plains of Texas.

We radiomarked northern bobwhite hens and monitored their nests until hatch on the 6666 Ranch in both supplemental feed and control areas. As of June 27th, of the 44 total radiomarked hens still alive, 19 are currently or have had broods - a 43% brood rate. We then used the new thermal imaging camera technique to determine chicks' survival within the first two weeks of life (See article describing this new technique in this newsletter). The employment of the camera method is applicable between the first 1-12 days of the quail life cycle before flight is capable. We examined 18 broods with the thermal imaging camera at 4-5 days, 8-9 days and 12-13 days to determine chick survival. Out of 136 chicks hatched in 14 broods, only 18 survived to 12 days of age. This translates to a 13% chick survival rate within the first 2 weeks of life. When the chicks reach 34 grams in weight, they will be captured with mist or night nets in order to apply 1.2 g transmitters to track their survival, movements and use of milo surrounding the roads. The first chick received a transmitter on June 28th and weighed 34.7 g.



8 day old bobwhite quail chick being weighed in the field.



26 day old quail chick fitted with a 1.2 g transmitter. Transmitters are attached using an expandable elastic necklace fixture so the chick can grow without problems.



A brooding male before a chick survival count.

Unfortunately, the extreme drought conditions of West Texas prohibit growth of invertebrates necessary for quail chick survival and growth. The deficient food source has resulted in a slower growth rate for wild chicks. Without invertebrates, chicks cannot consume the protein needed to increase body mass during the fast growth (feather and muscle) phases of the first few weeks of life. For example, pen-reared chicks provide an opportunity to compare the difference between their weights to the wild chicks we are currently monitoring. At 14 days, pen-reared chicks provided a protein rich diet weighed more than 25 grams; whereas, 12 day old wild chicks in our study area weighed an average of 11 grams - a difference of 14 grams.

Nonetheless, the advent of supplemental feed has helped chick production as compared to control areas. Hopefully, the information gained from this experiment may facilitate improvements in management practices to increase recruitment into fall populations and maintain sustainable levels of quail for harvest.

Supplemental Feeding Update on the 6666 Ranch

Summer updates for the Supplemental Feeding study on the 6666 Ranch

By Byron Buckley and Brad Dabbert

We are in the process of analyzing and collecting additional data for the supplemental feed study (please see previous newsletters 3.0 and 4.0 for information) at the 6666 Ranch. We have calculated the survival estimates from October 2010 to June 2011. The control sites (supplemental feed withheld) were consistently lower than the experimental sites (supplemental feed provided). The overall survival of hens on the experimental sites was 38%, while the control sites are significantly lower (20%). We are also analyzing home-range estimates for bobwhite hens we radiomarked in the early fall and hope to have this information compiled soon.

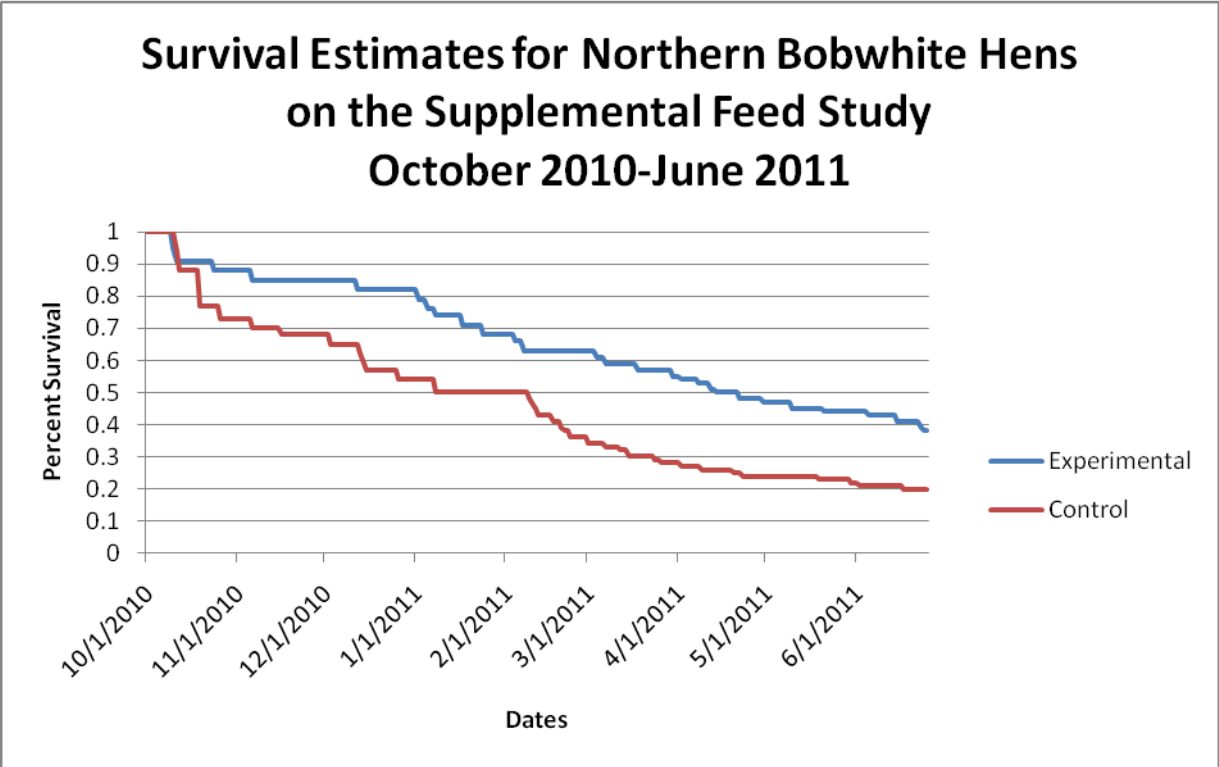


White-tailed deer feeding extremely close to quail nest. The nest was successful.

Currently, we are in full swing with summer data collection on the 6666 Ranch. We have been shifting from intensive radio telemetry to monitoring and evaluation of northern bobwhite nests. The environmental conditions have been extremely harsh in north Texas; however, we are able to report that bobwhites on the experimental site (fed) exhibit higher nest incubation rates (92%) than those hens on the control site (7%). Nest incubation on experimental sites was begun approximately a week earlier than those on the control site. As of June 22nd, 73% of the nests have successfully hatched while 19% were depredated/destroyed and 7% abandoned their nest. The depredated nests were due to coyotes and a few unknown mammals while the destroyed nest was due to a cow stepping on the nest bowl. The abandoned nests were caused by extreme weather conditions and human intervention. We are currently monitoring the active nests with motion sensor trail cameras to determine any nest disturbance or depredation events. To date, we have not lost a nest while the cameras have been deployed. We have, however, documented cows and deer moving extremely close to the nest while leaving the nest undisturbed. Eggs in these nests were all successfully hatched. So far, the average clutch size appears to be consistent with previously documented studies (12-14 eggs), however we have documented nests that have exceeded these numbers (16-17 eggs). We have had a first nesting attempt by the majority of the experimental hens and anxiously await the rest of the hens on the control sites. While we wait for the remaining control site hens to begin nesting (if they do), we are in the process of finding second nest attempts by hens on experimental sites. We will have the complete nesting data available as soon as possible.



Cow feeding and walked over the nest to check out the camera. The nest was successful.



Survival estimates of northern bobwhite hens that are both provided (experimental) and denied (control) supplemental feed.

Post-Wildfire Management of “Burned-Over” Rangelands

By Ron Sosebee



Image courtesy of NRCS

No one needs to remind us of how dry it has been since October 2010 (officially, Lubbock has had 0.91 inch of precipitation from November 1, 2010 through June 6, 2011). To date, the precipitation pattern and amount in 2011 is unlike any previous year even though there have been other years with single digit averages for the year (1917, 1924, and 1933; Lubbock long-term records). Similarly, most of these very low rainfall years had limited amounts of rainfall January through May or June.

Neither do we need to be reminded of the fires that have occurred during this very dry period and, at least temporarily, the devastation that has occurred to the vegetation caused by the fires. Wildfires have a different impact on rangelands than prescribed fire or controlled burns. The negative impact is not limited to the direct removal of vegetation by the wildfires themselves. With the removal of the vegetation, the rangeland is poised for serious soil erosion caused by both wind and water (see accompanying article on storm characteristics). In fact, soil erosion has already begun to occur on the bare rangeland. And when it rains, the soil will be eroded by the rainfall and runoff.

One of the questions that has recently arisen relates to the possibility of weed production this year, or lack thereof. I shall attempt to discuss weed production and the possibility of soil erosion in relation to rangeland recovery. There is a great deal of similarity between the recent wildfires throughout much of the Rolling and High Plains and the wildfires that occurred in the Panhandle in 2006, and the lack of rainfall following the fires. The wildfires that occurred in the Panhandle in March 2006 removed much of the rangeland vegetation similar to the wildfires that have occurred this year. Soon after the fires in 2006, the area received a convectional thunderstorm that mostly ran off and almost none was infiltrated into the soil. It remained dry until about mid August 2006. There was no grass or forb (weeds) production during the growing season of 2006. Herbaceous production was delayed until the growing season of 2007.

If la Niña weakens and el Niño becomes the "norm" by mid-summer, weeds are likely to be the first plants to respond to the open rangeland. Grasses probably will not be productive until, at least, next spring. Therefore, it is incumbent upon us as landowners, ranchers, and resource managers to protect our range resource to the best of our ability. If it is feasible to create some surface roughness across the burned-over rangeland, wind velocity at the surface can be reduced concomitantly reducing wind erosion, and surface runoff can also be reduced, thereby reducing water erosion. Hoof action is not a very good means to create surface roughness. This is easier to accomplish on cultivated land than it is on rangeland. And, the larger the acreage that is burned, the less feasible it becomes on rangeland.

Because weeds will probably be the first plants to respond following the fires (in fact, they have already begun to respond in some areas), grass response can be enhanced by spraying the weeds. **Weed spraying should be done with discretion for the benefit of the quail. Rather than spraying fence row to fence row, strips could be sprayed to allow weeds for quail habitat and food source and to enhance grass production.** Grazing should be curtailed at least through the rest of this year (even through the autumn) to allow the grasses to respond as best as they can. It would even be best to defer grazing, where possible, next year during the growing season to give the grasses a chance to be more fully rejuvenate. If one can wait until after the growing season next year to graze burned-over areas, assuming that we receive adequate rainfall, the rangeland will be more productive than if we graze it before the grasses have a chance to become fully rejuvenated.

One of the questions that always arises when rangelands are denuded as with a fire or any other reason is "Should I reseed my pastures?" My response always is "reseeding should be the absolute last resort." Reseeding native, climax grasses is a very high risk treatment. Success in reseeding native pastures is very slim, and if one is successful, it usually takes 10, or more, years to realize a satisfactory stand of desirable native species. If one controls the weeds discretionarily, as described above, the native grasses will nearly always come back. In 40+ years, I have seen only one pasture in which the grasses did not respond to either weed or brush control following "denudation" and that was in southeastern New Mexico.

If wildfires burned your ranch and you have a livestock operation, you should reduce your numbers of livestock to the numbers that the non-burned portion of the ranch can support. This is a very painful process, but one that is necessary in order to allow your rangeland to recover. Another option is to lease additional pastureland on which to graze your livestock. A less desirable option is to confine your livestock in a drylot situation and feed them.

Good Luck. And, may it soon rain.

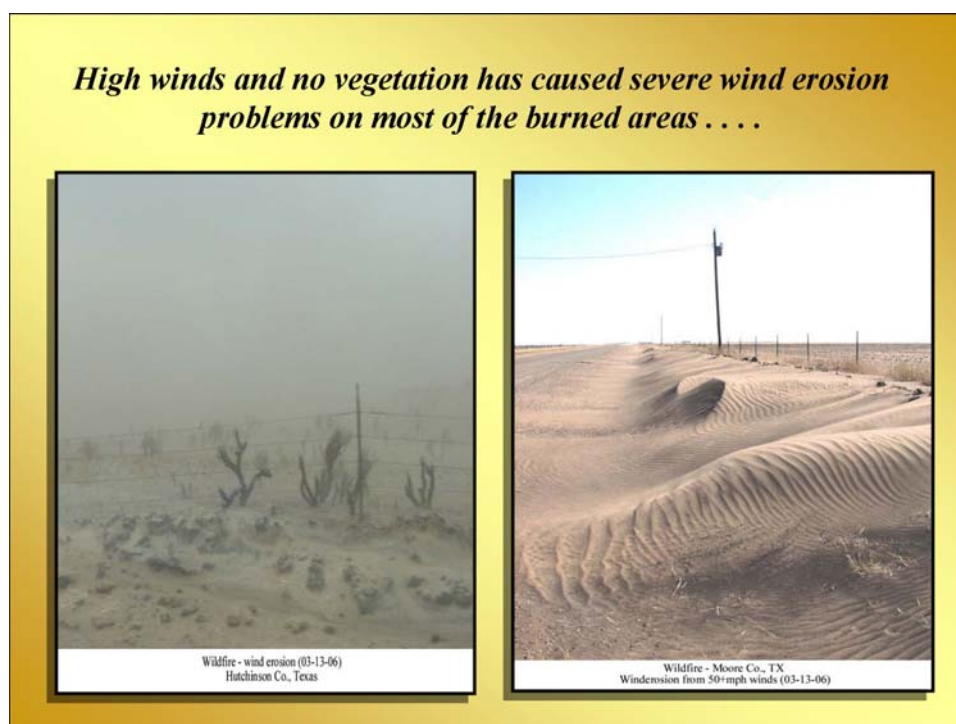


Image courtesy of NRCS

Storm Characteristics

By Ron Sosebee



Roberts Co., Texas (03-28-06)
Very shallow & draw range sites following wildfire

Image courtesy of NRCS

It is important to understand **precipitation storm** characteristics to have an appreciation of vegetation management following wildfires and drought. This brief presentation will provide somewhat of an insight into the typical storms in the southern Great Plains, including the Southern High Plains and the Rolling Plains. Precipitation events can be broken down into three main categories; convectional, cyclonic (or frontal), and orographic. In the Plains region, we don't have orographic storms. They are caused when warm air ascends mountain ranges and the air cools triggering precipitation. We don't often have frontal storms. They occur when cold fronts move down through the Plains and a rainstorm "sets in" and it rains for extended periods of time. Typically, frontal storms produce very gentle rains over an extended period of time. Frontal storms occur more frequently during the winter in the southern Great Plains, if they occur at all.

The storms that occur in the southern Great Plains most frequently are **convectional storms** that occur as cloudbursts and produce very high intensive rainfall events. Our research over many years and in several different locations throughout the southern High Plains, the Rolling Plains, and the Chihuahuan Desert indicate that convectional storms commonly occur as cloudbursts that produce rainfall **rates of 5-10 inches/hr for the first 15 minutes**, or so. Unless there is good ground cover, 80-90% of this rainfall runs off. Even under buffalograss cover, infiltration is only about 10% of the rainfall. Therefore, it is very important that we as land managers, land owners, and ranchers maintain adequate vegetative cover (grasses and litter are superior to forbs) to enhance as much rainfall as possible. Our goal should be to retain as much precipitation as possible on site where it falls. After the initial cloudburst, if the rainfall continues, it moderates to 0.5 inch/hour, or so. Under denuded rangeland conditions, essentially all of the rainfall that occurs runs off causing serious soil erosion.

Another contributor to soil erosion on bare soil is **splash erosion** caused by the impact of the falling raindrop. The raindrop knocks the soil particles loose from the surface of the soil enabling them to be washed away with overland flow of runoff and by blowing wind. Many of our dust ("dirt") storms occur soon after a hard rainfall event.

*Most of the Texas Panhandle had not received any moisture since August 2005
... severe drought conditions existed at the time the wildfires broke out !*



Wildfires - burned rangeland
Wheeler Co., TX (03-13-06)

Image courtesy of NRCS

Soil erosion caused by **wind** can be just as devastating as that caused by water, but the amounts of soil loss are more subtle. Although we all can appreciate the amount of "dirt" in the air during a dust storm, it is not until later (sometimes much later) that we realize how much soil was removed by the wind. Soil particles must be loosened from the surface soil by some means including the falling raindrop and by surface creep (soil particles too large to be lifted into the air by blowing wind, but pushed along the ground by the wind, knocking smaller soil particles loose from their position in the surface soil). Wind velocity at the soil surface is a major contributor to soil erosion caused by the wind. Therefore, it is our goal as resource managers to reduce the velocity of the wind at the surface of the soil. Vegetation serves as excellent protection of the surface soil. This is the principle behind windbreaks. Windbreaks are a matter of scale ranging from trees to shrubs to forbs to grasses. Sand piled up along fencerows is evidence of excessive wind erosion. Another example is pedestaled plants on rangelands. The drought of the 1950's killed many grasses on the Jornada Experimental Range in southern New Mexico. Within those grasses that were killed, many were killed by water stress caused by the drought. Many that were not killed by water stress were killed by being covered up by blowing soil.

We need to protect our soil resource. If we take care of our soil, it will take care of us.

NORTHERN BOBWHITE POPULATION RESPONSE TO WILDFIRE: THE EAST AMARILLO COMPLEX EXAMPLE

By Thomas Warren and Brad Dabbert



This NRCS Public Photo shows the devastating effects of the East Amarillo Complex Wildfire near our study sites in Gray County, Texas; one day post-fire.

The recent wildfires in the Rolling Plains of Texas have caused a lot of concern about the consequences for quail populations in these burned areas. Unfortunately, the one-two punch of wildfire and drought this spring and summer is going to be very hard on quail populations. Quail populations in areas that have not received rainfall (which is most of the area) will have a difficult time achieving any reproduction. Additionally, adult birds that stay in burned areas (we have heard calls in burned areas) will likely be subject to a greater rate of predation than if the herbaceous and woody cover of their home range were present (not burned). Thus, I believe quail populations in these areas will greatly dwindle until we receive sufficient rainfall to allow regrowth of herbaceous vegetation and resprouting of shrubs. Given the wildfire, loss of shrubs is a major concern, but one about which we have data from a similar catastrophic wildfire.



Though you still see the skeletons of burned dead limbs poking out at top, 2 years post-fire, this shrub has recovered much of the volume it had before the East Amarillo Complex Fire. Photo courtesy of NRCS.

The current 2010-2011 fire season bears many similarities to that of 2005-2006. Plentiful precipitation during spring and summer 2005 created lush stands of herbaceous and woody cover quickly followed by prolonged drought conditions turning the vegetation to volatile tinder primed for explosive wildfires. Two of those fires, the Borger and Interstate 40 fires, ignited nearly simultaneously on March 12, 2006. These two large-scale wind-driven fires, known collectively as the East Amarillo Complex wildfires, were the second largest wildfire in recent history to burn in the lower 48 states and burned approximately 907,245 acres of prime quail habitat in the Eastern Panhandle. These intense fires moved rapidly and resulted in extensive damage to structures and livestock and loss of human life. Destruction of woody and herbaceous vegetation was extensive, leaving wildlife with little food or cover. Ironically, fire can be used as a positive influence for quail populations. Prescribed fires are often used for habitat management, because of the beneficial changes the fires may bring about in the plant community. Cool season burns generally favor weeds and do relatively little damage to shrubs. The effects of the more homogenous and intense wildfires on quail populations at the time of the fire were largely, unknown. Warm season burns can be sufficiently intense to severely set back shrubs, that form the base for quail habitat. We were concerned about how long this habitat loss would negatively influence quail populations within the burned areas. We trapped, radiomarked, and monitored northern bobwhite hens within this burn complex to estimate their survival and reproductive success 2 and 3 years after the burn.



A northern bobwhite chick hides in the vegetation of a burned site 2 years post-fire. Photo courtesy of NRCS.

Our analysis indicates hen survival was 43% and 40% during 2008 and 2009, respectively. Nesting success was 65% and 63% during 2008 and 2009, respectively. These findings are similar to a study conducted in similar non-burned habitat on the rolling plains region in western Oklahoma where investigators reported estimates for survival and nest success were 35% and 48%, respectively (Cox et al. 2004, 2005). Comparatively, these figures suggest a normal recovery of bobwhite populations and required habitat two years post-wildfire. Shrubs, including wild plum and aromatic sumac, had regained much of their previous volume by summer 2009 (see accompanying photos). In fact, fire ecologists in our department estimated plant primary productivity 2 and 3 years after the fire to be relatively unaffected and described the results of the wildfire as similar to prescribed fire (Rideout-Hanzak et. al 2011). They suggested that this resurgence and its rapidity were aided by favorable rainfall 2 years after the fire. We have not examined quail response to wildfire near areas burned this summer, but the plant communities are similar and these same shrubs occur in areas burned this year. Right now we are at the mercy of the drought. Just how long it takes these burned areas to recover will depend upon the return of rain.

AS IRON SHARPENS IRON, MAN SHARPENS MAN

By Charles Hodges

Kindred Spirits at Tall Timbers

Early June provided a time for Dr. Dabbert and I to travel afar looking for kindred spirits, and likeminded Quailers. I have always admired the work at Tall Timbers Research Station in Tallahassee Florida, but mostly, I have admired the courage to throw out conventional thinking. Like Quail-Tech, Tall Timbers Quail Program Director Dr. Bill Palmer and Biologist Shane Wellendorf seem committed to replacing past theories with new realities.

For many years, I have listened to the experts' opinion that disease wasn't a factor in the Quail decline and that supplemental feeding was a waste of money.

Quail-Tech has plowed its' own ground in disease discovery, and now, others are becoming believers. Tall Timbers was courageous enough to validate what Quail managers have told me away from seminars. Supplemental Feeding Works!

The new Quail-Tech Reproduction and Flight Research Center is underway thanks to donations from the Hill Country Quail Coalition. It was imperative that we research and develop the cutting edge of reproduction and imprinting techniques so that the facility was properly designed.

The following are a layman's definitions of important terms when considering released birds for repopulation through natural reproduction:

1. "Pen Raised Quail": Birds that are hatched and raised in captivity, usually from domestic broodstock, for release, or for hunting or training.
2. "Wild Strain Pen Raised Quail": Birds hatched in captivity from Wild Quail eggs gathered in the wild, and hatched and raised in captivity for release or egg production.
3. "F-1 Wild Strain Quail": The first generation of offspring hatched from the eggs of "Wild Strain Pen Raised Quail."

Now the most important definition is:

4. "Imprinted F-1 Wild Strain Quail": Offspring of wild strain quail hatched in the laboratory and imprinted with the brooding instinct before and after hatching and brooding by natural or surrogate hen or adult. ". These are the birds that will be released as part of the "Swap a Covey" Program Quail-Tech is formulating. This is the bird that we at Quail-Tech define as worthy of re-release. There is no point in releasing birds for repopulation that lack the brooding instinct.



Tall Timbers biologist Shane Wellendorf explains imprinting techniques



Rosemary Plantation hunting area with one year of regrowth after burn.

The current pen raised industry does a fine job of raising hard flying healthy birds for hunting or training release. I have trained my pups on birds purchased in DeLeon, Texas and have many times watched them flush and sail across my pasture, sail over the Brazos River and settle onto my neighbors place 1,000 yards away. However, after the release of over 1,300 birds in past years, I have only seen two coveys, spawned from, or thought to be spawned from, those birds. Without brood imprinting, they may nest, lay, and hatch, but a large percentage may not know how to brood and rear chicks.

Think of imprinted birds as the thoroughbreds of released Quail; the best bloodlines, the best genetic traits, the best disease resistance, the best chance for returning a ranch's Quail population when Mom Nature needs a little help.

Ok Let's hit the road

Always willing to "stir the fire", so to speak, the Quail-Tech delegation traveled to Florida to share ideas on chick imprinting with Dr. Bill Palmer and biologist Shane Wellendorf. These gentlemen, and I stress that word, offered a true breath of fresh air with open idea exchange and collaborative dialogue about what they had already accomplished in chick imprinting and brooding instinct.

As a layman, I was privileged to be present as the scientists charged with preserving our sport, exchanged ideas openly and with great enthusiasm. Releasing birds, whether pure, wild strain, or otherwise, is a risky proposition without specific attention being paid to brooding and rearing instinct.



Rosemary Plantation hunting area with two years of regrowth after burn.

I have had the privilege of spending quiet moments in the pasture watching both Blues and Bobs brooding chicks. That job must have been the genesis for the term "herding cats". It is truly a labor of love, and Dr. Palmer and Mr. Wellendorf believe that only 20% of hens are natural brooders when placed to brood surrogate chicks. It's perhaps the missing link in programs that release birds in an attempt to reestablish huntable populations on ranches near and far.

Our quest was to learn from those "new thinkers" methods to be employed in the already growing Reproduction and Genetics Program at Quail-Tech.

We had just gotten the thrilling news that the Hill Country Quail Coalition had funded Phase One of our new facility at Texas Tech. With that news came the responsibility to really do our homework in order to minimize expenses and maximize results. That is why Tall Timbers were the chosen collaborators.

OK, let's first state the obvious, Tall Timbers lies in the center of Disneyland for Quailers in the United States. Not because of natural populations of bobwhite, but because the area between Thomasville, Georgia and Tallahassee, Florida has, for over a century, been the center of plantation lifestyles dedicated to Quail hunting and owners committed to preserving that tradition.

Yes, we have anchor ranches that could throw a blanket over the entire area but none to compete, acre for acre, with the effort solely for the preservation of the Quail population. This area, which includes plantations owned by families of the Titans of industry, is a throwback to the priorities of life before the electronic revolution. Mow, burn, and feed are the year round mantra of the Quail managers.



Supplemental feeder wagon with dual spinners.

One of our co-hosts on this trip was Brad Mueller of American Wildlife Enterprises. Brad is the maker of the radio telemetry collar that Quail-Tech uses to track birds for research. Brad was kind enough to host a tour at Rosemary Plantation, an approximately 4,000 acre property managed exclusively for Quail. "Managed" in terms of Rosemary standards doesn't mean sit on the porch, have a beer, and hope it rains. A fleet of John Deere Tractors is in constant motion year round, mowing, doing burn clean up, cutting sapling re-growth, and spreading supplemental feed – three bushels of milo to the acre. To put that in rolling plains terms, it would mean I would have fed 356,400 lbs. of milo instead of the 32,000 lbs I fed last year at Esperanza ranch in Spur Texas. However, Mother Nature has blessed the West Texas area with a large variety of native seed bearing plants not present at Tall Timbers - that is in years we actually get rainfall.

Our management may be less costly, but seldom do we see Quail populations of 2 birds per acre either.

OK, back to science.

As I marveled at some of the technologies discussed and ideas exchanged by the group of scientists, I got the distinct impression that our sport was seeing a large ray of hope shining through the fog of conventional thought.

This group was willing to learn from past successes and think way beyond current failed thinking. It seemed that we had found kindred spirits. We are grateful to Dr. Bill Palmer and to Shane Wellendorf for their pioneering accomplishments, and their willingness to share the experience with Quail-Tech.

Armed with the knowledge gained at Tall Timbers, and confidence in the Quail-Tech Research Team, I feel that the "Hill Country Quail Coalition Reproduction and Flight Facility" will be the cutting edge program base for Quail restoration in Texas. Coupled with the accomplishments in disease discovery from year one, that sets the bar pretty high for year two at Quail Tech. We certainly have the team to achieve our goals. Go out to the kennels and tell your bird dogs; hope is alive, and help is on the way.

Quail First
Charles Hodges