Dedication

"If I have seen further it is only by standing on the shoulders of giants."
- Sir Isaac Newton, 1676

This symposium is dedicated to the memory of those "giants" who came before us. Though no list would be complete, the following certainly lifted us from ignorance:

F.M. Baumgartner  A. Leopold
A.S. Jackson       P.W. Parmalee
D.W. Lay           W. Rosene
V.W. Lehmann       H.L. Stoddard
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FROM "QUAIL CAPITOL" TO "WHAT'S A QUAIL?": BOBWHITEs IN THE TEXAS BLACKLAND PRAIRIES AND POST OAK SAVANNAH.

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Abstract: Today, the Blackland Prairies and Post Oak Savannas of Texas support few huntble populations of northern bobwhites (Colinus virginianus). In these ecoregions, small and relatively isolated populations of quail currently exist in fragmented patches of habitat. Some of the classic natural history studies of quail were conducted in the early 1950s in these 2 ecoregions. During this period, a mean harvest of 6.9 and 5.4 bobwhites per hunter per day in the field during the 1950–1951 and 1951–1952 hunting seasons, respectively, in Brazos, Robertson, Madison, and Grimes counties was documented. These harvest rates eclipse those seen since the early 1980s in both the Rolling Plains and South Texas Plains (respectively, 1.7–4.1 and 1.8–3.4 bobwhites per hunter per day in the 1981–1982 through 1982–1983 and 1986–1987 through 2001–2002 hunting seasons; Texas Parks and Wildlife Department, unpublished data). If bobwhites are to return to numbers seen in the past, 3 fundamental needs must be accomplished; (1) there is a need to perfect effective ways of converting coastal Bermudagrass and other tame pastures into usable space for bobwhites, (2) sufficient numbers of land managers must be convinced to provide landscapes for bobwhites over large spatial extents, and (3) these changes must be economically and socially feasible. Unfortunately, there are few ranches and farms in these ecoregions large enough to provide sufficient habitat to support a bobwhite population; therefore, regional wildlife management cooperatives will be required to secure requisite large blocks of habitat. If bobwhites are to again thrive in these ecoregions, teams of researchers, agencies, and land managers will be needed to put together landowner incentive programs to support these bobwhite cooperatives.
WHAT QUAIL REALLY WANT

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Abstract: Defining the things that quail need is relatively simple:
- A place to nest and rear their young
- An abundance of food
- Plenty of shelter from predators and the weather

Defining what those things look like, how to provide them, and the proper amount of each is what makes it difficult.

Nesting cover should comprise about 30–40% of a bobwhite’s home range. Bobwhites prefer bunchgrasses approximately the size of a basketball. Bunchgrasses such as big and little bluestem and broomsedge are preferred nesting cover because they provide a dense cover overhead with open alleyways near the ground so that the bobwhites may travel easily. Older bunchgrasses are more suited for nesting because the overhead protection is better and they usually do not contain much ground litter. Good nesting habitat provides 250-400 suitable nest sites per acre. Viewed another way, this would be a nest sites every 10-15 feet.

Brood-rearing cover should comprise another 30–40% of the bobwhite’s range. It must be more open at ground level so the chicks will be able to move around easily. A newly-hatched bobwhite chick only stands about two inches tall and weighs less than a ¼-ounce (about 8 grams). Up to 70% of the brood cover can be relatively open and about 30–60% should be made up of early-successional, food-producing plants like forbs. Unlike nesting cover, brooding cover is best in areas that have recently been disturbed by burning, disking, or other means. A chick’s diet is comprised solely of insects for the first 2 weeks. Therefore good brooding areas (sometimes referred to as “bugging grounds”) should contain green foliage to attract abundant insects and good overhead cover to protect the chicks as they “hunt”. Umbrella-shaped plants, like ragweed and doveweed, provide good overhead cover and are relatively open at ground level.

The bobwhite is an omnivore with the amount of animal matter consumed differing with season, age, and even sex. Bobwhites forage heavily in the morning just after sunrise and in late afternoon just before sunset. A juvenile bobwhite diet is made up of about 85% animal matter while an adult’s diet is about 85% plant matter (mostly seeds). In fall and winter bobwhite consume the seeds of native and exotic plants. Wild fruits, leaves and stem of succulent greens and insect are consumed in spring and summer. The summer diet of adult females is about 20% invertebrates while a male will only consume about 5%. Bobwhites forage on a multitude of food items including wild and cultivated seeds, fruits, leaves and stems from plants such as panic grass, Johnsongrass, wild bean, western ragweed, and annual sunflower to name a few. Forbs provide quail with an abundance of seeds. A single adult quail consumes an average of 0.05 lbs. (between 1 and 2 ounces) of food per day.
About 5–30% of the bobwhite’s range should be shrubs that provide loafing cover (quail houses). Loafing cover is needed when bobwhites are not feeding. It must provide protection from predators and harsh weather conditions. Shrubs and bushes are best suited for this type of cover. The best cover areas are from 10–30 feet wide, and the plants should be 4-12 feet tall. Plants such as sumac, yaupon, lotebush, and half-cut mesquite are adequate loafing cover.

Escape cover consists of thickets of grass and shrubs that are located close to foraging and brood-rearing areas so that the quail may escape quickly and be protected from predators. Escape cover does not have to be as tall or thick as loafing cover, so long as it will make it difficult for predators to detect or reach quail.

Interspersed among the other cover types, there also needs to be small open bare ground areas where quail can dust bathe to remove parasites and excess oil from their feathers.

What constitutes good habitat? Quite possibly the most important aspect of bobwhite quail habitat is “usable space.” In other words, to maximize bobwhite populations, the birds should be able to use every inch of the habitat every day of the year. This means that it must have a good mixture of all the different types of cover within close proximity of each other and they must create an area of edge, where two different cover types come together. Bobwhites can not be expected to use an area where they don’t feel secure, so adequate cover is important. They probably will not continue to use that area unless they are able to find the resources that they need, such as food, water, or suitable nest sites.

How much usable space is enough? Given the erratic nature of bobwhite populations and the fact that Texas is on the edge of the bobwhite distribution, only populations of at least 3,000 birds can be expected to have an acceptable chance of surviving for a long time. Such a population may require at least 30,000 acres of usable space.
MANAGING FOR QUAIL AT THE APPROPRIATE SCALE

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Abstract: The appropriate scale to manage bobwhite habitat and populations is a complex and often confusing problem. The problem is that the amount of area needing to be managed varies with how hostile or friendly the landscape in which that area resides is to bobwhites. In the spatial context, bobwhite management can be conducted at the pasture, ranch, county, state, regional, or national scale. Habitat fragmentation occurs as the emergence of discontinuities (fragmentation) in an organism's preferred environment (habitat). Bobwhite populations on small patches of permanent cover appear extremely vulnerable to extinction, whether hunted or not. As quail populations become more and more isolated from each other, the probability of extinction increases. Recent research states that 800 birds are needed in late winter/early spring for a bobwhite population to persist for 100 years. The amount of area needed for this many birds varies depending on the density of birds, but is thought to range from 2,500 to 5,000 acres depending on the landscape in which it is situated. Quail management associations or cooperatives are a possible solution for landowners with small acreages to join together to create enough area to effectively manage quail habitat and populations.

Turning to quail harvest. Hunter efficiency and relative harvest rates tend to increase as quail abundance declines. The resulting impact is that during population lows the average hunter is more skilled and more effective than the average hunter during peak quail populations, and a higher portion of the population may be harvested. Within this context, moderate restriction or liberalization of hunting regulations would likely do little to impact the relationship between quail populations and the nature of quail harvest. The implication of these results is that wildlife agencies control quail hunting (i.e., effort, means, and methods) as opposed to actual harvest.

An unfortunate, erroneous conclusion often derived from the above research is that harvest regulations have no negative effect on quail populations (i.e., regulations protect against over harvest). Researchers warned against this tendency noting their findings would not hold at small spatial scales (e.g., individual ranches or wildlife management areas). Harvest regulations established by state wildlife agencies are appropriate for regulating quail hunting at broad scales, but are not designed to micromanage quail harvest at small scales. Harvest rates at small spatial scales can be high enough to alter the resiliency of local quail populations. Managing quail harvest at the same spatial scale of hunting especially on intensively exploited populations, may best be accomplished by those directly managing properties, and could serve to protect populations from over harvest.
The native grasslands of Texas have been steadily disappearing since the arrival of the first settlers. With urban development and the conversion of land to row crops and pastures of non-native grasses, only about 96 million of the original 148 million acres of native grasslands remain. Much of the remaining grassland area has been degraded by overgrazing and the encroachment of brush.

The conversion of native grasslands to non-native pasture grasses is one of the most notable changes in land use in Texas over the last decade (Fig. 1). There are now more than 10 million acres of non-native pastureland in Texas, with much of it planted to coastal bermudagrass for hay production and cattle grazing. Bermudagrass and other non-native grasses are normally managed as monocotypic (single species) stands of grass, so the plant diversity of the original ecosystem is lost.

Non-Native Grasses and Wildlife

The conversion of native grasslands to bermudagrass pasture is detrimental to most native wildlife species. Bermudagrass is a dense, matting grass that provides little cover or nesting habitat for bobwhite quail, turkeys and songbirds. Its growth structure eliminates bare ground, which these birds need for feeding and moving easily through the landscape. Bermudagrass crowds out the native forbs (broadleaf species) and grasses that provide food for birds and other native wildlife.

Species such as bobwhite quail, bobolink, dickcissel, eastern meadowlark, grasshopper sparrow and Attwater’s prairie chicken are all dependent upon habitats associated with healthy native grasslands, and all of these species have been declining over the last 2 decades.

Figure 1. Much of the native grassland in Texas has been converted to improved pastures (left) or cropland (right).

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Reasons for Restoring Native Grasslands

Many cattle producers and other rural landowners are looking for ways to reduce the amount of money and labor invested in their operations. It can be costly to grow bermudagrass because it requires regular fertilization to produce high quality forage and hay. Many warm-season native grasses and forbs produce enough forage, with adequate protein, to meet the needs of livestock without expensive fertilization. Little bluestem, Indiangrass, switchgrass and others are considered excellent forage for livestock and hay production. The native bunchgrasses make ideal habitat for wildlife that depend on these plants for food, cover and nesting. The bare ground between bunchgrasses makes excellent travel and feeding areas for grassland birds and also allows a variety of native forbs to germinate and grow.

Benefits of Native Grasslands

- Wildlife habitat
- Recreation
- Livestock forage
- Erosion control
- Healthy watersheds
- Low maintenance
- Nutrient cycling
- Sustainability

Many landowners are also interested in enhancing wildlife habitat on their properties. The Texas property tax code now allows landowners to retain their agricultural tax valuation if they manage and/or restore their land for wildlife habitat, and this includes the restoration of native grasses. This tax incentive may extend to owners of smaller tracts that are often created when large ranches are sold and subdivided, but there are different acreage minimums in different regions of the state. Restoring native grasslands is an important way to enhance wildlife habitat and meet one requirement for qualifying for wildlife management tax valuation.

This quail has found cover in native bunchgrasses.

Converting Pastures to Native Grasslands

Before native grasses are planted, bermudagrass must be controlled. Treating it with herbicide is a primary means to reduce or remove it. The bermudagrass should be treated when it is actively growing. Bermudagrass usually starts to grow when the soil temperature reaches 65 degrees F, which is earlier on sandy soils than on clay soils. Therefore, bermudagrass on clay soils should be treated later in the year when the weather is warm, and may need more than one herbicide application. A stand also may need more than one application of herbicide if it is especially vigorous. So soil type and the vigor of the bermudagrass will affect the timing of both herbicide application and seed planting.

Suggested steps in restoring native grasses are as follows:

- Determine the location and acreage of the pasture to be converted to native vegetation.
- Burn, mow or heavily graze the site during late winter to prepare it for herbicide application. Remove as much plant litter as possible.
- Purchase seed and herbicide and arrange for services such as tractor work and herbicide application.

Once the bermudagrass is actively growing and at least 6 inches high, apply glyphosate herbicide (41% active ingredient) at a rate of 4 quarts per acre on sandy soils and 6 quarts per acre on clay soils. The best time for herbicide application in South Central Texas (based on research) is after May 15. The date will vary in other parts of the state. Midsummer, when the weather is hot and humid, may be the best time.

If more than one application is needed, apply 2 quarts per acre in June, 2 quarts in July and 2 quarts in August.

If one application is made, use a no-till drill to plant native seed into dead sod about 2 weeks after spraying. The native seed mix should contain several bunchgrass and forb species that occur in the area (ask your county Extension agent, Texas Parks and Wildlife Department biologist, or the local Natural Resources Conservation Service staff about a recommended mix for your area). The recommended seeding rate is 6 to 7 pounds of pure live seed (PLS) per acre.

The photo above shows a treated site on sandy loam soil. The photo below shows the same site, two growing seasons later, after control and seeding.
Another method is to disk the sprayed area and broadcast seed. If seed is broadcast, the amount of seed should be doubled to compensate for weed competition.

If more than one herbicide application is needed throughout the summer, delay seeding until late winter or early spring and plant with a no-till drill. Seed must have adequate soil moisture to germinate.

- Exclude the planted area from grazing for at least two nondrought growing seasons.
- Once the native grasses and forbs are established, manage the area with prescribed burning every few years or with rotational grazing. This will prevent thatch formation, stimulate growth and maintain vegetation diversity.

**Factors Affecting Grassland Restoration**

- Plant selection
- Soil type
- Planting technique (drill or broadcast)
- Planting time
- Seeding rate
- Site preparation
- Seed quality
- Site maintenance
- Soil moisture

**Plants Recommended for Reseeding**

**Grasses**
- Little bluestem
- Indiangrass
- Eastern gamagrass
- Blackwell switchgrass
- Side oats grama
- Big bluestem

**Forbs**
- Maximillian sunflower
- Engelmann daisy
- Illinois bundleflower
- Bush sunflower

**Expected Results**

Research was done on sandy, sandy loam and clay soils in Washington, Falls and Grimes Counties in South Central Texas. Three different rates of glyphosate herbicide were tested—6 quarts, 5 quarts and 4 quarts per acre. Two years after application, the three rates produced an average of 86 percent bermudagrass control on sandy soil, 90 percent on sandy loam soil, and 52 percent on clay soil. Better control might be observed on clay soils if the herbicide is applied later in the spring or more than one application is made.

Native species can be slow to establish from seeding. However, controlling the bermudagrass with herbicide will reduce the competition for sunlight and nutrients and help the native species become established.

Other native grasses and forbs are likely to emerge along with the species that are planted. On test sites, these other species included wooly croton, ragweed and broad-leaf signalgrass. The test sites have gone from one species (bermudagrass) to an average of nine grass species and eleven forb species per site. This diverse plant community can now provide wildlife with food and cover that was lacking before.

Figures 2, 3 and 4 show the diversity of plants at test sites two growing seasons after seeding. All sites were treated with 6 quarts per acre of glyphosate in the spring and planted with a no-till drill in the spring.

Because native grass and forb seeds need moisture to germinate, there is some risk involved with seeding. The landowner must adjust the restoration plan according to the amount of rainfall received. For example, if the spring is drier than normal, it might be best to wait until summer to treat the bermudagrass and then plant in the fall or the following spring. For more information see publications E-53 and E-117 (both from Texas Cooperative Extension and available at http://tcebookstore.org)

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**Figure 2. Sandy soil.**

- Native Grasses
- Native Forbs
- Bermudagrass

**Figure 3. Sandy loam soil.**

- Native Grasses
- Native Forbs
- Bermudagrass

**Figure 4. Clay soil.**

- Native Grasses
- Native Forbs
- Other non-native grasses
- Bermudagrass

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% Follar Cover

Before

2 years after

-100 -80 -60 -40 -20 0 20 40 60 80

-60 -40 -20 0 20 40 60

-50 -40 -30 -20 -10 0 10 20 30 40 50

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Landowner Resources

The cost of converting bermudagrass pastures to native grasslands is an estimated $100 to $200 per acre or more, depending on the cost of herbicide and seed. One way to do it less expensively is to stop adding fertilizer and soil amendments to bermudagrass pastures while grazing them heavily during the spring and early summer. Eventually this will reduce bermudagrass vigor and cover and allow native species to become established; it is a much lengthier process, however.

Technical and/or cost-share assistance are available to landowners through the following programs.

**PUB—Pastures for Upland Birds**
Administered by the Texas Parks and Wildlife Department
1-800-792-1112
http://www.tpwd.state.tx.us/conserve/wildlife_management/post_oak/upland_game/pub
- Provides herbicide and no-till drilling for converting bermudagrass pastures to native grasslands

**LIP—Landowner Incentive Program**
Administered by the Texas Parks and Wildlife Department
1-800-792-1112
http://www.tpwd.state.tx.us/conserve/lip/
- Helps landowners protect and manage rare species (can include native grasslands)

**Farm Bill**
Administered by the United States Department of Agriculture, Natural Resources Conservation Service
(Texas NRCS, 254-742-9800 http://www.tx.nrcs.usda.gov/programs/)
- Several programs offer incentives for conserving natural resources

**Playa Lakes Joint Venture**
http://www.pljv.org
- Provides technical, financial and educational assistance for conservation work on private land in the Panhandle

**Ducks Unlimited**
Prairie Wetland Project
832-595-0663
http://www.ducks.org
- Provides technical, financial and educational assistance for conservation work on private land

**Partners for Fish and Wildlife Program**
Administered by United States Fish and Wildlife Service
817-277-1100
http://partners.fws.gov
- Helps landowners protect, manage and restore natural resources.

Landowners may also find helpful information at the following Web sites:
http://wildlife.tamu.edu
http://texnat.tamu.edu
http://www.tpwd.state.tx.us
http://www.nrcs.usda.gov
http://cnr.tamu.edu/cgrm/

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**Additional Reading**

B-182, "Know Your Grasses" (Texas Cooperative Extension),
B-6134, "Texas Rural Lands: Trends and Conservation Implications for the 21st Century" (Texas Cooperative Extension),
E-53, "Seeding Rangeland" (Texas Cooperative Extension),
E-117, "Rangeland Risk Management for Texans: Seeding Rangeland" (Texas Cooperative Extension),


NATIVE FORAGES FOR TEXAS

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Abstract: Input costs associated with owning grazing livestock, whether cattle, sheep, or goats, have increased significantly over the past several years, so much so that many livestock producers are concerned whether or not they will be able to remain in the business. At the same time, many landowners have expressed interest in restoring native prairies for wildlife habitat enhancement and improved aesthetic values.

Much of the land purchased in Texas in the past several decades has been for recreational purposes and data indicates that, since 1994, more rural Texas is owned by urban, absentee landowners than by rural Texans. In many cases for these part-time producers, the following issues may be of more importance than realizing a profit from their livestock operation:

1) Maintaining the 1-d-1 Open Space Lands tax appraisal method. Reduced property taxes may actually be the profit in part-time livestock production.
2) Being able to provide a Schedule F with the Federal income tax return to reduce the amount of tax they are liable for. Again, reduced Federal income taxes may be the profit in the enterprise.
3) Enhancing wildlife habitat.
4) Simply enjoying the lifestyle associated with owning property and livestock.
5) Having a place to raise or take children and grandchildren.

Given the economic constraints that are being imposed due to historically high fertilizer costs, the transition back to native forages may be an idea whose time, for many, has come. Besides aesthetic values there are several additional advantages associated with native forages:

1) Native forages provide enhanced wildlife habitat compared with introduced forages.
2) Native forages do not require fertilizer inputs as do introduced forages.
3) Native forages do not require the same level of time commitment as do introduced forages (planning for fertilizer, herbicide inputs, hay baling, etc.).
4) Native forages are drought and cold tolerant.
5) Native forages provide good nutrition for grazing livestock.

Transitioning to native forages is not without some challenges. The greatest challenge may be obtaining a satisfactory stand within a satisfactory amount of time. In many areas where native forages are deemed highly desirable, infestation levels of noxious weed species may preclude the successful establishment of native forages. A second challenge is the re-introduction of native forages into areas that are heavily dominated by introduced forage species.
Noxious Weed Infestation

In South Texas, Central Texas, and the Edwards Plateau, King Ranch (KR) and Kleberg bluestems are among the most prolific of the invasive grass species. In order to obtain a satisfactory stand of native forages, these species must be managed to allow germinating native species a chance to become established. In order to manage the KR and Kleberg bluestems, the following aspects of establishment should be examined:

1) Determine the viability of the KR and Kleberg bluestem seed.
2) Identify the role of prescribed fire in managing the KR and Kleberg bluestems.
3) Identify establishment methods using spray-smother-spray-smother techniques that may eventually exhaust the KR and Kleberg seed source.

Without a thorough examination of the items listed above, it will difficult to provide "customer satisfaction" with native forage establishment. Without successful establishment potential, landowners and managers will be less inclined to transition back to native forages.

Re-Introduction of Native Forages

Native forages originally occupied much of Texas (Fig. 1). With the advent of inexpensive fertilizer materials shortly after World War II, introduced forages with good response to fertility began replacing much of the acreage that had once been occupied by native species. There is currently much interest in re-introducing native forages and restoring native prairies as evidenced by the formation of the Native Prairies Association of Texas, the South Texas Natives project, county-level organizations such as those in Washington and Colorado counties, and increased interest in establishing native grass plots in numerous counties.

Re-introduction of native forages involves significant educational materials and program development and delivery. Besides site and species selection and establishment methods, there will be additional efforts required to re-educate landowners and managers regarding grazing management of native forages and the identification of key species that indicate timely removal of grazing livestock to alternative pastures.
PrairieMap encompasses the historical (pre-European) extent of prairie grasslands.

Ecoregional Provinces historically containing tall, mixed, and short-grass prairies

Prairie Division
- Forest-steppe and prairies
- Prairies and savannas

Temperate Steppe Division
- Steppes
- Dry steppes

Trop. / Subtropical Steppe Div.
- Steppes and shrub
- Shortgrass steppes

If the decision is made to transition from introduced forages to native forages, the following establishment strategies should be considered.

- Plan at least one year in advance of the establishment date.
- Destroy all existing perennial grass vegetation with glyphosate during the late summer or early autumn the year before the native forages are to be established.
- Prepare an excellent seedbed to minimize competition for the native forage seedlings.
- Plant seed at the appropriate rate and depth.
- Follow through with appropriate weed management strategies.
- Graze lightly the establishment year, if at all, and appropriately thereafter.
- Do not harvest native forages for hay.

To minimize transition costs, producers should consider a gradual phase-in of the native forages over time. That is, consider establishing 10-20% of the property per year. This will spread the risk associated with establishment, reduce the capital outlay for establishment in any one year, and eliminate the need for complete de-stocking of livestock during the deferment period. Producers transitioning to native forages should realize native forages developed under a system of nutrient cycling where the soil nutrient status was in equilibrium with the forage produced. Therefore, native forages cannot successfully be established and maintained on a piece of property that has been subject to long-term abuse. If a soil analysis indicates a need for fertilizer nutrients, then appropriate fertilizer inputs will be initially required for establishment. As the forages become established, re-introduce grazing slowly to determine what level of stocking rate will be appropriate for your new forage base. DO NOT OVERSTOCK!

The choice of native forages are many, but for most of Central Texas the best choices may include big bluestem, little bluestem, yellow indiangrass, switchgrass, sideoats grama (state grass of Texas), and eastern gamagrass. Five of the six species listed are considered tall grass species and should not be grazed shorter than approximately 10” in height. Sideoats grama should not be grazed shorter than 4-6” in height. Maintaining these residue heights is important in maximizing persistence of the species. This residue height management will likely require that animals be rotationally stocked to allow forages to recover from grazing events.

As indicated earlier native forages provide much better wildlife habitat than do the monocultures of introduced forages. For many landowners, this in itself may be sufficient justification to restoring the native forages to the landscape. Native forages are also aesthetically pleasing to the eye and there is something about restoring the native prairie that has great appeal to many landowners.

Additional Thoughts

There may be concern for some managers due to the reduction in stocking rate associated with the use of native forages. While the reduction in stocking rate may be significant,
information in the Table 1 may help illustrate the effect of current fertilizer prices on the economics associated with using native forages for a beef cattle operation in the Brazos or Trinity River basins.

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<td>$2,700</td>
<td>-$1,500</td>
<td>$3,991</td>
<td>$1,676</td>
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Thus, although there is a significant reduction in stocking rate, the offset in input costs for the introduced forage system far outweighs any stocking rate gains. While stocking rate reduction may actually be beneficial economically, there are additional issues to be considered with the use of native forages compared with introduced forages. These issues include:

- Native forages can expensive to establish.
- Native forages may be slow to establish compared with introduced forages and may require two or three years to obtain a full stand.
- Native forages will likely need to be rotationally stocked to provide for appropriate residue height management and adequate recovery from grazing events necessary to maintain the stand.
- Hay is generally not harvested from native forages.

The Future

It appears that it is time to once again consider the use of native forages for many Texas pastures for a variety of economic, wildlife, and aesthetic reasons. There are, however, several confounding issues that must be addressed before the actual transition back to native forages can be successful.
USING A CORRIDOR TO RESTORE BOBWHITE QUAIL

JIM WILLIS, Wildlife Habitat Federation, Box 75, Cat Spring, TX 78933 (whf@whf-texas.org).

Abstract: The Wildlife Habitat Federation or WHF was created in 2004 with the original goal of restoring habitat for all wildlife in the San Bernard and Colorado River Basins. Most of the land in this area has either been over-grazed or choked-out with invasive woody species. Critically needed cover, especially nesting cover, is seriously lacking. Very few remnants of native grass remain. Most open areas have been planted to so-called improved grasses, namely bahiagrass and Bermuda grass.

One WHF member, WW Ranch, has been somewhat successful in increasing quail and other wildlife species by focusing primarily on habitat restoration for quail. Research indicates that by reviving habitat for quail, many other species also benefit. It is becoming increasingly evident that ranchers might increase their bottom line by switching to native grass. A core group of individuals and area landowners with the support of several private and public conservation groups set out to use these premises as the basis for restoring the landscape on a grander scale.

WHF realized that a sustainable population of quail and other upland game required a “buy-in” by enough landowners to create sufficient usable space. To create this critical mass, area ranchers would have to be willing to devote enough of their land to re-establish native grass and forbs. After decades of being told by pasture management specialists that introduced grasses were more profitable than natives, few ranchers were willing to convert their improved pastures back to native grass. Many landowners were unaware of the virtues of native grass.

The incentive to convince a few landowners to convert some of their land to native grasses occurred when WHF received a $120,000 Conservation Innovation Grant in 2007. Under this Federally-funded grant WHF is presently completing the construction of a 7-mile long corridor through four ranches which will be dedicated to restoring native grasses and forbs. This 400-acre corridor will ultimately connect with the 10,000 acre Attwater Prairie Chicken National Wildlife Refuge. These ranches represent about 2,000 acres. The corridor width ranges from about 150 feet to more than ½ mile. How and why this corridor was developed and the long-term implications will be discussed.

Participating landowners are for the first time willing to defer grazing and allow WHF to help them restore native perennial grasses in an effort to benefit wildlife and livestock. Many previously tested and some new restoration techniques are being used based on: 1) conditions within each ranch; 2) machinery, herbicides and other inputs available; 3) and the scale of restoration each landowner is willing to pursue.
QUAIL RESTORATION TECHNIQUES

ROBERT PEREZ, Texas Parks and Wildlife Department, P.O. Box 1081
La Vernia, TX 78121 (Robert.perez@tpwd.state.tx.us)

Abstract: There is no doubt that bobwhite quail have significantly declined across their entire range over the past several decades. The scientific community in general, agrees that these declines are attributed to loss of habitat. Habitat restoration projects across the state of Texas have had mixed results in their effectiveness to re-establish wild quail populations. There are several variables that may affect the success or failure of these restoration attempts which include habitat quality, habitat size, presence of a source population, minimum viable population, translocation of wild birds, and the release of pen-raised quail. Each of these variables will be discussed in this presentation.
GRASSLAND BIRD RESPONSE TO GRASSLAND HABITAT MANAGEMENT

LEONARD A. BRENNAN, Richard M. Kleberg, Jr. Center for Quail Research, Caesar Kleberg Wildlife Research Institute, Texas A&M University – Kingsville (leonard.brennan@tamuk.edu).

Abstract: Recently, Brennan and Kuvlesky (2005) presented an argument that the plight of North American Birds can be considered an unfolding conservation crisis. There is no group of birds in North America that have experienced, or continue to experience, declines that are as widespread and pervasive a grassland birds. One potential grassland bird conservation strategy is to use upland game birds in general, and northern bobwhites in particular as a poster child for such an initiative. While there is nothing wrong, and many things right, about such a strategy, like most things in life, the devil is in the details. For example, a recent research project in the Coastal Plains of Texas evaluated the response of grassland birds to two management disturbance techniques: summer fire and roller-chop, fire and herbicide, along with open-grassland control sites that were purported to represent the desired future condition, presumably as habitat for the endangered Attwater's prairie-chicken. In general, species richness of both breeding and wintering grassland birds was lowest on the open grassland control sites. Grassland bird response on the treatment sites was largely variable, and species specific, generally in response to the habitat requirements of each species.
ESTIMATING QUAIL ABUNDANCE: HOW DO WE KNOW IF WE SUCCEED?

MIKE PETTER, Resource & Land Management, Inc., 905 Oak St., Jourdanton, TX 78026 (mpetter@resourceandland.com).

Abstract: In light of what we know about all those subjects surrounding habitat management and bobwhite quail, it always comes back to numbers. Numbers? Yes, hunters and bird watchers are fixated on numbers, and that good news lends reason to approximate what the population is made of numerically!

In relative terms, that is population densities inside the graphs of Booms and Busts, we have tools that help us determine health of the populations, which can be examined and help us in asserting some type judgment on habitat health. Once we think we have it all lined out, and the habitat we manage has reached that perfect stage, our tools always scream to indicate that some type degradation in habitat quality is occurring. This is natural in that habitat management is dynamic, and the work never ends.

The measure of a manager’s dedication suddenly appears. Will you pay attention to what is going out there, or will you consider your work a job well done?

If you are that manager that is constantly fertilizing the field with your footsteps, you will keep a record of your work, as well as the results of the great labor and capital used in habitat manipulation.

To tie all this together, you are learning the habitat requirements and how to respond to those changes in habitat affecting quail populations. Using your knowledge base now, you are able to measure your work in “productivity” terms, that is in asking “How many birds do I have?”. By performing census before and after manipulation practices, you as a manager can get an idea of how well the landscape responded in provided the needs of quail (as well as other species).

Considering scale, it is normal to think that small scale management may not produce. However, in thinking about the model here in eastern Colorado County with the task of establishing corridors, then small places are all quite often keystone elements to the success of the project at hand. Responses may not been measured on the impact area, but are essential in improving the neighborhood. I like to look at the corridor approach as a neighborhood improvement project. Estimating quail abundance can very well be the best tool suited to establish trend lines for judging the efficacy of the manipulation performed. It will also become that tool for judging the economic comparison among the varied means of habitat manipulation practices. The viability of various practices can be compared using the census trends, with adjustments being made to accommodate budgets and positive responses to practices.

Spring counts are useful in assessment of the relative abundance of calling roosters and give an idea of the distribution of bobwhites on the landscape. Fall covey counts are not specific to calling roosters, but are listening to coveys ‘waking up’ giving the listener an
idea of distribution of coveys, and relative abundance of birds. Extrapolation of this information can be made to give you an idea of density of coveys and/or birds on the landscape. This is done with a few assumptions that will be discussed. However, the useful nature of this information will be that of providing the assessor the beginning of a trend to work with.

Speaking of trends, note that using census information is better used as just that, trends; do not assume that census numbers will give you a good data point. It is safer to use this data as trend building rather than point on a timeline data. Establishing trend lines smooths out the information, it gives the manager time to think through the data and gives him time to plan a response to the trends.

Using field data recording sheets and data summary sheets provided by the Team Quail website, Quail Masters, and both the Trans-Texas Quail Count and Texas Quail Index projects, the simple tools are available for you to download and use in performing a census on your property.

Details or protocol for the data collection that will be summarized are as follows:

- Spring Call Counts
  - Protocol
  - Field Methods and equipment needed
  - Data Summarization and Characterization

- Fall Covey Counts
  - Protocol
  - Field Methods and equipment needed
  - Data Summarization and Characterization
RED IMPORTED MANAGEMENT CONSIDERATIONS FOR NORTHERN BOBBWHITE QUAIL

BASTIAAN M. DREES, Professor and Extension Entomologist, Texas AgriLife Extension Service, Texas A&M System, College Station, TX 77843-2475 (b-drees@tamu.edu)


Northern bobwhite (*Colinus virginianus*) populations have declined throughout their range during the last 30 years. Change in land management is thought to be a primary cause of this decline, but the invasion of northern bobwhite habitats by the RIFA also may be involved. We compared hatching success and subsequent survival of wild northern bobwhite chicks on the Coastal Prairie of Texas in 1997 and 1998 between broods that hatched under natural conditions or following fire ant suppression treatments. In 1997, the fire ant suppression treatment (e.g., broadcast application of Amdro® Fire Ant Bait, pers. comm. B. Dabbert) resulted in a 70% reduction in the number of RIFA on baits placed in treated nests on the day after hatch. Using two fire ant suppression treatments in 1998 reduced the number of RIFA on baits by >99%. No year or treatment×year interaction effects were detected for hatching success or survival, and no treatment effect was detected for hatching success (*P* > 0.10). However, the proportion of chicks surviving to 21 days was higher (*P* = 0.010) for treated nests (n = 18) than control nests (n = 25; proportions of broods surviving: 53.5 ± 8.6% [± SE] vs. 24.7 ± 6.6%; chick survival: 60.1 ± 7.6% vs. 22.0 ± 6.2%). The probability of chick survival decreased (*P* < 0.001) as our index of RIFA activity in the nest increased. These results indicate northern bobwhite chicks can suffer high levels of mortality due to RIFA, which could explain declines in some northern bobwhite populations following infestations by RIFA. Current methods for controlling RIFA are expensive and may last <3 months. Thus, strategies for mitigating the effect of RIFA to northern bobwhite populations in this area should probably focus on reducing other mortality factors or increasing productivity.

However, in a subsequent proposal, “Protection of Quail Nests from Mammals to Increase Chick Recruitment in Habitat Occupied by the Red Imported Fire Ant” (B. Dabbert and R. Mitchell 2000), http://fireant.tamu.edu/research/projects/ttu/quailprot.html, they stated:
Our research indicates that protection of hatching chicks from RIFA increases chick survival (54% when protected versus 25% unprotected) to 21 days of age. Chick survival is related to the number of RIFA captured in a bait cup placed in nests on the day after hatch. When > 300 RIFA recruit to the bait (food lure) cup, chick survival approaches zero. If < 300 RIFA recruit to the bait cup then survival is similar to that of chicks that hatched from nests protected from RIFA. Thus not all areas of the landscape harbor RIFA populations that are sufficiently active to kill entire broods. Protecting nests from other mortality sources may increase chick recruitment into the fall population. Nests can be protected from vertebrate predation using fences. Other studies have indicated that increasing nest success by altering predator populations initially causes more chicks to hatch. This increased hatch often does not result in greater numbers of birds in the fall, however, because populations are already at or near their carrying capacity. In this situation density-dependent factors such as food limitation, act to limit chick survival, preventing a net increase in population size. We believe that current evidence suggests that northern bobwhite populations coexisting areas with RIFA are below their carrying capacity. We postulate that if more nests in areas containing low RIFA activity survive to hatch, then more chicks should survive to sub-adult status. We suggest nest success can be increased by reducing predator populations in the nesting area or physically protecting nests.

Therefore, although RIFA are a recognized mortality factor where they occur in high enough numbers, other factors may contribute to survival and population levels, and “predator exclusion or removal may provide managers an economically feasible alternative to the $20/ha broadcast insecticide application for red imported fire ant control” (Dabbert and Mitchell 2001).

When RIFA suppression is justified, broadcast application of an approved fire ant bait product can provide 80 to 90 percent control of a population, although the speed or rate of reduction and length of suppression provided varies with the active ingredient(s) of the product selected. Applications can be made using ground equipment using a Herd GT-77 Model Seeder (http://www.herdseeder.com) or using aerial application services calibrated to apply the 1 to 2 lb. per acre rate as directed (see pages 35-43, “2005 Urban IPM Summary Report” at: http://fireant.tamu.edu/research/projects/pdf/2005_urbanIPM_summary_rpt.pdf).

Recent advances in introducing natural enemies of imported fire ants, such as the parasitic phorid fly species, may provide sustainable biological suppression of RIFA (Gilbert et al. 2008).

For management considerations in quail habitats, see:
“Managing Red Imported Fire Ants in Wildlife Areas”,

When quail habitats occur in rangeland, fire ant management options are provided in:
AgriLife Extension fact sheet SP-196, “Management of Imported Fire Ants in Cattle Production Systems”,
Citations


WILDLIFE MANAGEMENT ASSOCIATIONS IN TEXAS: ROLE IN QUAIL MANAGEMENT

KYLE BRAZIL, Quail & Grassland Bird Program Manager, Audubon Texas, P.O. Box 226, Junction, TX 76849 (kbrasil@audubon.org)

BOBBY EICHLER, Technical Guidance Biologist, District 7, Texas Parks and Wildlife Department, 111 E. Travis, Suite 200, Lagrange, TX 78945 (bobby.eichler@tpwd.state.tx.us).

Abstract: The greatest threat to Northern Bobwhites in many areas of Texas, especially east of Interstate 35 and in Central Texas, is land fragmentation and the resulting loss of habitat and isolation of remaining quail populations. As populations are isolated from each other, they become more vulnerable to local extinction. An effective way to combat the problem of land fragmentation and its impact on quail populations is by forming wildlife management associations (WMA’s) and cooperatives (co-ops). Wildlife management co-ops are formed by landowners in order to work together to improve wildlife habitats and populations on member properties and the greater cooperative area. The main benefit of utilizing a co-op is that it facilitates the management of a much larger area than is possible by managing stand-alone properties. By combining acreages, co-op members eliminate the main barrier – having too little land – that keeps individual owners of small properties from being able to successfully manage for quail.

Wildlife management associations have been present in Texas since as early as 1955. Although a handful of WMA’s were formed between 1955 and 1990, most were focused on white-tailed deer management, and many were defunct by 1990. A “WMA Revolution” began in earnest in the 1990’s. Today, there are approximately 139 WMA’s found in 73 Texas counties. South Central Texas has approximately 43% of the state’s WMA’s with 60 WMA’s in 17 counties. Recently, WMA’s throughout the state have begun expanding their efforts by focusing more attention on large-scale, active habitat management to benefit a suite of wildlife species to include bobwhite quail. Quail management cooperatives are habitat management cooperatives. If you want quail, you must provide habitat – native grasslands and savannas. Furthermore, quail must have all components of their habitat available in close proximity. Thankfully, quail do not recognize property boundaries, so you can work with your neighbors to ensure all their needs are met. The goal is to provide as large a piece of contiguous suitable habitat as possible within the co-op area.

Examples of successful habitat management associations include the Western Navarro Bobwhite Restoration Initiative (WNBRI) and the Wildlife Habitat Federation (WHF), as well as the prescribed burn associations across the state. Looking to the future, WMA’s and co-ops will be crucial to halting and reversing the decline in bobwhite quail and other priority wildlife species by restoring and maintaining critical grassland and savanna habitat on a landscape scale.
FEDERAL ASSISTANCE FOR GRASSLAND RESTORATION AND HABITAT IMPROVEMENT.

GARRY STEPHENS, Wildlife Biologist, Natural Resources Conservation Service, 13434 Leopard Street, A-14, Corpus Christi, TX 78410-4466 (garry.stephens@tx.usda.gov).

Abstract: The Natural Resources Conservation Service (NRCS) is the leader in putting conservation on the ground. Our mission is to help people help the land. NRCS serves people who want to take steps to reduce erosion, protect wildlife, promote good land use, and install other measures to conserve the natural resources in Texas for future generations on a voluntary basis.

NRCS conservation planning assistance is available through its Conservation Technical Assistance program. NRCS specialists combine your ranching or farming skills with the science-based knowledge and tools they have to develop your conservation plan. After your resources are inventoried and evaluated; the NRCS professional will review conservation alternatives with you. The alternatives you choose are then recorded in your conservation plan. This written plan becomes the primary tool for you to manage the natural resources present on your property.

The Food, Conservation, and Energy Act of 2008 (2008 Farm Bill) authorized several programs that provide both technical and financial assistance for participating landowners.

The Environmental Quality Incentives Program (EQIP) offers technical and financial assistance in the planning and implementation of structural, vegetative, and management practices that benefit the soil, water, air, plants, livestock, and wildlife. Through a locally led process, EQIP funds are targeted to priorities identified by Soil and Water Conservation District-led work groups that include community members, state and federal agencies, and others.

The Wildlife Habitat Incentives Program (WHIP) provides technical and financial assistance to landowners to restore and conserve native wildlife habitats with emphasis on prairies and savannas, riparian zones, wetlands, forestland and woodlands and thorn shrub. Emphasis is placed on restoring native habitats of species experiencing declines or reduced populations due to agricultural impacts. Additional consideration is given to applications that have a high likelihood of success and that result in a significant change in the existing habitat. Offers that provide a definite benefit to federally listed threatened or endangered species receive extra points in the ranking.

The Wetlands Reserve Program (WRP) is designed to restore and protect wetlands on private property. Landowners can enhance wetlands in exchange for retiring marginal agricultural land. Restoration plans include both structural and vegetative measures for maximum environmental benefit.
The Conservation Stewardship Program (CSP) rewards farmers and ranchers who meet the highest standards of conservation stewardship and environmental management on their working agricultural lands. CSP also creates incentives for continued conservation improvements and encourages other agricultural producers to meet higher standards of conservation.

The Farm and Ranch Lands Protection Program (FRPP) helps farmers and ranchers keep their land in agriculture. The program provides funding to state, local, or tribal entities with existing farmland protection programs to purchase conservation easements or other interests.

The Grassland Reserve Program (GRP) helps landowners protect, restore and enhance grasslands on their property. The program protects vulnerable grasslands from conversion to cropland or other uses and conserves the grasslands by helping maintain viable ranching operations.

The USDA through the NRCS provides three plant materials centers in Texas that work to select and evaluate native plant species that are designed to solve natural resource problems and develop plant technology to meet conservation needs.

NRCS conducts soil surveys to furnish soil maps and interpretations needed to guide farmers, ranchers and other land managers in making decisions about the use and management of their soil resources. Soil surveys are now available online at: www.soils.usda.gov.
Introduction

On January 15, 2009, the Federal Register, Volume 74, No.10, announced the Environmental Quality Incentives Program (EQIP) rules and guidelines. The program has been reauthorized through 2012. It expands program purposes to include forest management, organic farming and energy conservation benefits. Payments are limited to $300,000 per person or legal entity, unless a project has special environmental significance. The program requires specific portions of funding to be made available for Limited Resource Producers, Socially Disadvantaged participants, and Beginning Farmers or Ranchers. The program continues the designation that requires 60 percent of funding go to livestock related practices.

Resource Concerns

- Animal Waste Management
- Sheet and Rill Water Erosion Control
- Grazing Land Productivity
- Irrigation Water Use
- Air Quality
- Fertilizer Use
- Wildlife Habitat
- Energy
- Conservation Tillage to improve Carbon Sequestration

Organic Farming

Organic farmers will now be qualified for nutrient management, residue management, air quality management, invasive species management, pollinator habitat, and animal carcass management technology or pest management. Under Organic Farming rules, payments are limited to $20,000 per year or $80,000 during any six-year period. NRCS is authorized to cancel a contract if the participant is receiving payments related to organic practices but is not pursuing organic certification or is not in compliance with the Organic Production Act of 1990.

Applications and Application Ranking

Applications for EQIP will be accepted at any time during the year. However, funding cycles will vary based on budgetary allocations. Applications are ranked based on overall cost effectiveness, how effectively and comprehensively the project addresses the designated resource concerns and fulfills the purposes of EQIP, and how well it improves conservation.

Payment Limitations

The 2008 Act lowers the payment limitation for participants from $450,000 to $300,000 during any six-year period, except for projects having special environmental significance; in such cases the payments will be limited to $450,000. For the purposes of applying the payment limitation and in accordance with the 2008 Act, the six-year period will include those payments made in fiscal years 2009 through 2014. It proves an increased payment rate to historically underserved producers that include beginning, and socially disadvantaged farmers and ranchers. The Act provides advance payments, of up to 30 percent of the anticipated costs to be incurred for the purpose of purchasing materials or services to implement a conservation practice, to historically underserved producers. It establishes a national target to set aside five percent of EQIP funds for socially disadvantaged farmers or ranchers and an additional five percent of EQIP funds for beginning farmers or ranchers.

In the event a contract is cancelled on the part of the participant or terminated because of non-compliance, the NRCS state conservationist has the ability to retrieve all or a proportion of the payments.
Irrigation Provisions

For applications that include water conservation or irrigation efficiency conservation practices, the 2008 Act amendment also requires NRCS to give priority to applications that demonstrate a reduction in water use by the agricultural operation. As a condition of receiving a higher ranking with the grouping of water conservation applications, the producer agrees not to use any associated water savings to bring new land under irrigation production, excluding incidental land needed for efficient operations.

Program Priorities

The following national priorities, consistent with the statutory resource concerns that include soil, water, wildlife, air quality, and related resource concerns, will be used in EQIP implementation:

1) Reductions of nonpoint source pollution, such as nutrients, sediment, pesticides, or excess salinity in impaired watersheds; the reduction of surface and groundwater contamination; and the reduction of emissions, such as concentrated animal feeding operations.

2) Conservation of ground and surface water resources.

3) Reduction of emissions such as particulate matter, nitrogen oxides, volatile organic compounds, and ozone precursors and depleters that contribute to air quality impairment violations of National Ambient Air Quality Standards.

4) Reduction in soil erosion and sedimentation from unacceptable levels on agricultural land.

5) Promotion of at-risk species habitat conservation.
Fact Sheet - July 2009

Overview
The Grassland Reserve Program (GRP) assists landowners and operators in protecting grazing uses and other related conservation values by restoring and conserving eligible grassland and certain other lands through rental contracts and easements. GRP emphasizes:
1) Supporting grazing operations;
2) Maintaining and improving plant and animal biodiversity; and
3) Protecting grasslands and shrublands from the threat of conversion to uses other than grazing.

Special Initiatives for 2009
2009 has been a devastating year for Texas grasslands. Hurricane Ike carried a surge of nearly 20 feet high inland in Galveston and surrounding counties. Wildfires across the north and north central portions of the state denuded the soil of cover. Dry conditions in south Texas have placed 78 counties in the highest drought designation categories, extreme and exceptional. Therefore, the Natural Resources Conservation Service and Farm Service Agency will place emphasis on those two areas for conservation practices, rental agreements and easements through the Grassland Reserve Program for Fiscal Year 2009.

In the sea water contaminated areas of Galveston, Chambers, Jefferson, and Orange counties, the GRP would offer landowners cost-share for either permanent easements or restoration agreements. The lack of rain has worsened the situation as several hundred thousand acres are saturated in salts that may take years to flush away. These areas are in severe need of protection to prevent further erosion and loss of grasslands.

In north and north central Texas, high temperatures of wildfires destroyed vegetation, fences, and livestock as high winds pushed the flames across the landscape. GRP would offer resource solutions to landowners in Archer, Clay, Comanche, Eastland, Hamilton, Jack, Montague, Palo Pinto, Shackelford, Stephens, Taylor, Throckmorton, Wheeler, Wichita, and Young counties.

Triple digit temperatures and below average rainfall has left 78 counties in south Texas in the extreme and exceptional drought condition. These counties account for 40 percent of Texas' cow herd and 6 percent of the U.S. beef cow herd. There is a critical shortage of forage for grazing and hay. Through GRP, landowners could defer land from grazing for a rental payment until grazing conditions improve.

Program Requirements
For enrollment purposes, only landowners may submit applications for easements. For rental contracts, applicants must own or provide written evidence of control of the property for the duration of the rental contract. All participants in GRP are required to implement a grazing management plan approved by the Natural Resources Conservation Service (NRCS). The easement or rental contract must grant USDA or its representatives a right of ingress and egress to the easement or rental contract area.

Easement participants are required to convey unencumbered title that is acceptable to the United States and provide consent or subordination agreements from each holder of a security or other interest in the land. The landowner must warrant that the easement granted the United States or eligible entity is superior to the rights of all others. The easement grants development rights, title, and interest in the easement area in order to protect grassland and other conservation values. The program participant must comply with the terms of the easement or rental contract and comply with all terms and conditions of the grazing management plan and any associated conservation plan or restoration agreement. Easement and rental contract allow, consistent with their terms and the program purposes, the following activities as outlined in the grazing management plan:
1) Common grazing practices, including maintenance and necessary conservation practices and activities;
2) Haying, mowing, or harvesting for seed production subject to appropriate restrictions, as determined by the State Conservationist, during the nesting season for birds in the local area that are in significant decline, or are conserved in accordance with Federal or State law;
3) Fire suppression, rehabilitation, and construction of firebreaks;
4) Grazing related activities, such as fencing and livestock watering facilities; and
5) Wind power facilities for on-farm use power generation.
Program Restrictions
GRP easement and rental contracts prohibit the following activities:
1) The production of crops, fruit trees, vineyards, or other agricultural commodity that is inconsistent with maintaining grazing land; and
2) Wind power facilities for off-farm power generation.

Rental contract participants are required to suspend any existing cropland base and allotment history for the land under another program administered by the Secretary. Easement participants are required to eliminate any existing cropland base and allotment history for the land under another program administered by the Secretary.

Land Eligibility
GRP is available on privately owned lands, which include private and Tribal land. Publicly owned land is not eligible. Land is eligible for funding consideration if the NRCS state conservationist determines that the land is:
1) Grassland, land that contains forbs, or shrubland (including improved rangeland and pastureland) for which grazing is the predominant use; or
2) Located in an area that has been historically dominated by grassland, forbs, or shrubland and the state conservationist, with advice from the State Technical Advisory Committee (STAC), determines that it is compatible with grazing uses and related conservation values. Land that could provide habitat for animal or plant populations of significant ecological value if the land is retained in its current use or is restored to a natural condition would also be eligible.

Participant Eligibility
To be eligible to participate in GRP, an applicant:
a) must be a landowner for easement participation or be a landowner or have control of the eligible acreage being offered for rental contract participation;
b) Agree to provide such information to USDA that is necessary or desirable to assist in its determination of eligibility for program benefits and for other program implementation purposes;
c) Meet the Adjusted Gross Income requirements for conservation programs; and d) Meet the highly erodible and wetland conservation compliance requirements of the Food Security Act of 1985.

Application Procedures
Interested parties may submit an application through a local USDA Natural Resource Conservation Service office located in county seats across Texas. Applications are accepted throughout the year and should identify the duration of the easement or rental contract for which they seek to enroll their land. Rental contracts may be for a duration of 10-years, 15-years, or 20-years; easements may be permanent in duration or for the maximum duration authorized by State law.

More Information
For more information regarding the Grassland Reserve Program contact your local NRCS office, the Texas State GRP Manager, Claude Ross at 254 742-9822 or Mark Habiger, NRCS Assistant State Conservationist for Programs at 254 742-9881.

Helping People Help the Land
USDA is an equal opportunity provider and employer.
Program Administration

On January 16, 2009, the Federal Register, Volume 74, No.11, announced the Wildlife Habitat Incentives Program (WHIP) rules and guidelines. The program has been reauthorized through 2012. The purpose of WHIP is to help participants develop fish and wildlife habitat on private agricultural land, nonindustrial private forest land, and Indian land. The Natural Resources Conservation Service (NRCS) may enter into agreements with Federal and State agencies, Indian tribes, conservation districts, local units of governments, public and private organizations, and individuals to assist with program implementation.

Program Requirements

To participate in WHIP, an applicant must:
1) be in compliance with the highly erodable and wetland conservation provisions of the 1985 Farm Bill;
2) be in compliance with the terms of all other USDA-administered conservation program contracts to which the participant is a party;
3) develop and agree to comply with a Wildlife Habitat Development Plan (WHMP) and Operations and Maintenance Agreement;
4) enter into a cost-share agreement;
5) provide NRCS with written evidence of ownership or legal control for the term of the proposed cost share agreement;
6) agree to provide all information to NRCS determined to be necessary to assess the merits of a proposed project and to monitor cost-share agreement compliance;
7) agree to grant to NRCS or its representatives access to the land for purposes related to application;
8) provide a list of all members of the legal entity and embedded entities along with members’ tax identification numbers and percentage interest in the entity;
9) supply information, as required by NRCS to determine eligibility for the program, including but not limited to information to verify the applicant’s status as a limited resource farmer or rancher or beginning farmer or rancher and payment eligibility as established Adjusted Gross Income requirements. Eligible land includes private agricultural land, nonindustrial private forest land and Indian land.

National and Texas Priorities

National priorities for WHIP will be to promote the restoration of declining or important native fish and wildlife habitats; protect, restore, develop or enhance fish and wildlife habitat to benefit at-risk species; reduce the impacts of invasive species on fish and wildlife habitats; and protect, restore, develop or enhance declining or important aquatic wildlife species’ habitats. NRCS will use the national priorities in conjunction with state and local priorities to assist with prioritization and selection of WHIP applications, and periodically review and update the national priorities utilizing input from the public and affected stakeholders to ensure that the program continues to address priority resource concerns. Texas priorities will address the restoration of prairie and savanna’s riparian areas, woody corridors, and wetlands habitats.

Applications and Application Ranking

Applications for WHIP can be obtained at local NRCS offices at anytime. NRCS will evaluate the application and make enrollment decision based on the fish and wildlife habitat need using some or all of the following criteria:
1) contribution to resolving an identified habitat concern of national, regional, or state importance;
2) relationship to any established wildlife or conservation priority areas;
3) duration of benefits to be obtained from the habitat restoration practices;
4) self-sustaining nature of the habitat restoration practices;
5) availability of other partnership matching funds or reduced funding request by the person applying for participation;
6) estimated costs of fish and wildlife habitat restoration activities;
7) other factors determined appropriate by NRCS to meet the objectives of the program; and
8) willingness of the applicant to complete all conservation improvements during the first two years of the WHIP cost-share agreement.

Payment Limitations

NRCS shall offer to pay no more than 75 percent of the costs of establishing conservation practices to develop fish and wildlife habitat. Historically underserved producers and Indian tribes may receive the applicable rate and an additional rate that is not less than 25 percent above the applicable rate, provided the this increase does not exceed 90 percent of the estimated incurred costs associated with the conservation practice. Cost-share payments may be made only upon a determination by the NRCS that a conservation practice or an identifiable component of a conservation practice has been established in compliance with appropriate standards and specifications. Payments made or attributed to a participant, directly or indirectly, may not exceed, in total, $50,000 per year.

The Wildlife Habitat Development Plan

The Wildlife Habitat Development Plan will be developed jointly with the participant by NRCS or other public or private natural resource professions approved by NRCS. The WHDP shall be approved by NRCS and address at least one of the following:

1) Fish and wildlife habitat conditions that are of concern to the participant;
2) Fish and wildlife habitat concerns identified in State, regional and national conservation initiatives; or
3) Fish and wildlife habitat concerns identified in an approved area-wide plan that addresses the wildlife resource habitat concern.

The WHDP includes a schedule for installation and maintenance of the conservation practices, as determined by NRCS. All conservation practices in the WHDP must be approved by NRCS and developed and carried out in accordance with the applicable NRCS Field Office Technical Guide. The participant is responsible for the implementation of the WHDP.

Cost Share Agreements

To apply for WHIP cost-share assistance, a person or legal entity must submit an application for participation at a USDA service center to an NRCS representative. A WHIP cost share agreement shall incorporate the WHDP, be for a time period agreed to by the participant and NRCS, with a minimum duration of one year after the completion of conservation practices identified in the WHDP and a maximum of 10 years, include all provisions as required by law or statute, include any participant reporting and recordkeeping requirements to determine compliance with the cost-share agreement and program, be signed by the participant, specify payment limits, include an O&M agreement that describes operation and maintenance for each conservation practice and the Agency expectation that WHIP-funded conservation practices will be operated for their expected lifespan.

For more information regarding the Wildlife Habitat Incentives Program, please contact Mark Habiger or Doug Sharer at 254 742-9800.

Helping People Help the Land.
USDA is an equal opportunity provider and employer.
WRP Overview:
The goal of Wetlands Reserve Program (WRP) is to attain the greatest wetland functions and values, while optimizing wildlife habitat on all enrolled acres. WRP is:
- voluntary program.
- provides technical and financial assistance to eligible landowners.
- addresses wetland, wildlife habitat, and related natural resource concerns on private lands WRP provides landowners technical and financial assistance to restore, protect, and enhance wetlands.
- landowners will be asked to retire marginal land from agriculture.

Texas has three priority areas for targeting wetland restoration projects under the Wetlands Reserve Program:
1. Playa lakes and coastal depressions.
2. Bottomland hardwoods in the Trinity River watershed.
3. All other wetlands within the state.

What Lands Qualify?
To be eligible for WRP, land must be restorable and be suitable for wildlife benefits. This includes:
- Wetlands farmed under natural conditions;
- Farmed wetlands;
- Prior converted cropland;
- Farmland pasture;
- Farmland that has become a wetland as a result of flooding;
- Rangeland, pasture, or production forestland where the hydrology has been significantly degraded and can be restored;
- Riparian areas which link protected wetlands;
- Lands adjacent to protected wetlands that contribute significantly to wetland functions and values; and
- Previously restored wetlands (Conservation Reserve Program [CRP] land is eligible if it meets WRP requirements).

Land that is adjacent to eligible land may be enrolled if it will maximize wildlife benefits and:
- Is farmed wetland and adjoining land is enrolled in CRP with the highest functions and values and is likely to return to production after leaving CRP,
- Is a riparian area along streams or other waterways that will link wetlands protected by an easement, or at least seventy percent of project area will be restored to the original condition to the extent possible.

How Does WRP Work
1. Landowners and tribes may file an application for a conservation easement or cost-share agreement with NRCS. Applicants are volunteering to limit future use of offered acres, but retain private ownership.
2. All applications will be ranked using the Wetlands Reserve Program, Texas Ranking Criteria.
3. Ranking will be made in consultation with U.S. Fish and Wildlife Service.

WRP offers three enrollment options:
Permanent Easement. This is a conservation easement in perpetuity. Easement payment will be the lesser of: the agricultural value of the land, an established payment cap, or an amount offered by the landowner. In addition to paying for the easement, USDA pays 100 percent of the costs of restoring the wetland.

30-Year Easement. This is a conservation easement lasting 30 years. Easement payments are 75 percent of what would be paid for a permanent easement. USDA also pays 75 percent of restoration costs.

Restoration Cost-Share Agreement. This is an agreement (generally for a minimum of 10 years in duration) to reestablish degraded or lost wetland habitat. USDA pays 75 percent of the cost of the restoration activity. This does not place an easement on the property. The landowner provides the restoration site without reimbursement.
Eligibility

Landowner. To offer a conservation easement, the landowner must have owned the land for at least 7 years prior to enrolling the land in the program unless the land was inherited or the landowner can prove the land was not obtained for the purpose of enrolling it in the program. To participate in a restoration cost-share agreement, the landowner must show evidence of ownership unless it is determined by the State Conservationist that:

(i) The land was acquired by will or succession as a result of the death of the previous landowner;
(ii) The ownership change occurred due to foreclosure on the land and the owner of the land immediately before the foreclosure exercises a right of redemption from the mortgage holder in accordance with State law; or
(iii) The land was acquired under circumstances that give adequate assurances, as determined by NRCS, that such land was not acquired for the purposes of placing it in the program, such as demonstration of status as a beginning farmer or rancher.

NRCS will pay compensation to landowner for 30 year and permanent easements accepted for WRP. 30 year contracts will be compensated at 75 percent of that which is payment for permanent easements as determined by the following methods:

• The fair market value of the land using the Uniform Standard for Professional Appraisal Practice, or base on an area-wide analysis or survey; or
• The geographic area rate cap determined by State Conservationist in consultation with State Technical Committee; or
• The landowners offer.

Ineligible Land. Ineligible land includes wetlands converted after December 23, 1985; lands with timber stands established under a CRP contract; Federal lands; and lands where conditions make restoration impossible.

Uses of WRP Land

A landowner continues to control access to the land—and may lease the land—for hunting, fishing, and other undeveloped recreational activities. At any time, a landowner may request that additional activities be evaluated to determine if they are compatible uses for the site. This request is needed for such activities as permission to cut hay, graze livestock or harvest wood products. Compatible uses are allowed if they are fully consistent with the protection and enhancement of the wetland.
Texas AgriLife Extension programs serve people of all ages regardless of socioeconomic level, race, sex, religion, disability or national origin.