

My name is Steve Manning. I am a 5th generation rancher from Coryell County in Central Texas. My testimony will focus on the Leon River Restoration Project (LRRP) and the Leon River Restoration Project Phase I Report issued by Texas A&M University, September 2004.

The LRRP is a research brush control program within the Leon River watershed of Hamilton and Coryell Counties, Texas. The primary objective of the research component is to quantify the impacts of Ashe juniper removal and rangeland management on water yield and quality, wildlife habitat, and forage production for livestock. Juniper removal and rangeland management practices are implemented on selected private rangelands that are within habitat for the golden-cheeked warbler and the black-capped vireo, both of which are endangered species. The LRRP is significantly unique in the success it has accomplished by bringing together a large number of stakeholders to work effectively toward diverse goals in a common project.

This project has been the coordinating mechanism to bring together a number of diverse non-governmental organizations and federal and state agencies, working with private landowners and land managers. Partners include Texas Wildlife Association, Texas and Southwestern Cattle Raisers Association, Central Texas Cattlemen's Association, Texas Audubon Society, Environmental Defense, Nature Conservancy, Coryell County Commissioners Court, Hamilton County Commissioners Court, Hamilton/Coryell Soil & Water Conservation District, Texas Department of Agriculture, Texas Water Development Board, Texas Parks and Wildlife Department, Texas A&M University, University of Texas Center for Space Research U.S. Department of Agriculture Natural Resource Conservation Service, U.S. Department of Interior Fish and Wildlife Service, U. S. Army III Corps and Fort Hood, National Fish and Wildlife Foundation, Brazos River Authority, Blackland Research Experiment Station and others.

The following are major objectives of the LRRP related to the research components:

- ? To evaluate changes in water yield and water quality resulting from brush management.
- ? To improve wildlife habitat and increase populations, including the federally listed black-capped vireo and golden-cheeked warbler.
- ? To incorporate long-term management practices to maintain water and wildlife improvements.
- ? To assess and analyze the economic impacts of the project on participating landowners.
- ? To quantify the impacts of ashe juniper removal and rangeland management on water, wildlife, and forage production for livestock in a way that optimizes transferability of the data to similar areas.

The four major research components of the LRRP are Water, Wildlife, Range and Economics. This testimony will highlight results of the wildlife and economics components.

The project area for the LRRP is the Leon River watershed in Hamilton and Coryell Counties,

Texas. The watershed encompasses over 700,000 acres in these 2 counties of which approximately 350,000 acres is rangeland suitable for participation in the project. As a part of the wildlife research component presence/absence surveys were conducted throughout the project area using standard survey protocol. Species targeted in the surveys include northern bobwhite quail, white-eyed vireo, Bell's vireo, black-capped vireo, golden-cheeked warbler, painted bunting and brown-headed cowbird. Two of these species, the black-capped vireo and golden-cheeked warbler are federally listed as endangered.

Presence/absence surveys have been conducted in 2003, 2004 and 2005. Results have been consistent in all 3 survey years indicating a sizeable population of both listed species throughout the project area.

During 2004, 400 survey points within the 54,430 acre Coryell Creek catchment were established, 70 of which were also part of the LRRP survey in 2003. The surveys were on native rangeland and included primarily Low Stony Hill and Steep Adobe ecological sites. Golden-cheeked Warblers (GCWA) were detected at 129 points accounting for 32% of the total points surveyed. Over 50% of the Low Stony Hill sites were occupied by GCWA. These one-year survey results provide an estimate of 19,732 acres occupied by GCWA, or 36.2% of the entire Coryell Creek catchment. Black-capped Vireos (BCVI) were detected at 26 points, or 6.5% of the points surveyed and over 65% of the points were on Low Stony Hill sites. It is estimated that BCVI occupy 3,090 acres or 5.7% of the entire area.

Use of cost share and technical guidance within the project allowed access to private land for wildlife surveys. These survey results show that landowners in rural Texas are doing a good job managing their lands for wildlife.

The second research component of interest is the economics component. As part of the project design multiple sources of funding for cost share were made available to landowners in the project area. Sources of funding include National Fish and Wildlife Foundation grants (NFWF), Texas Parks and Wildlife Department Landowner Incentive Program, US Fish and Wildlife Service Private Stewardship Grants (FWS) and specially designated dollars within the NRCS EQIP. The project area was broken out into different sub-watersheds and the landowners within these sub-watersheds were enrolled in the project using the different funding sources. In certain sub-watersheds only NFWF dollars were made available, in others only FWS dollars and in 2 sub-watershed only EQIP dollars. In some sub-watersheds different combinations of options were made available to landowners.

Two series of landowner interviews were conducted in the project area. These were face to face interviews averaging 1 1/2 hours. One series of 30 interviews focused on land use and land cover. The second series involved approximately 60 landowners and focused on landowner characteristics.

Three broad categories of landowners were identified in the project area. These categories represent groups of landowners with similar ideas and values regarding land management and government involvement in natural resources. We refer to these groups, or profiles, using names that we have assigned to them that we feel embody the values each group represents; 1)

"Born to the Land", 2) "Ag. Business", and 3) "Re-born to the Land".

Born to the Land

This group exhibits a very strong "connection" to the land. They speak of the generations that have farmed or ranched on the land they now own, and they speak of a strong sentimental attachment to that particular piece of geography. Agricultural production is a source of their livelihood, and though many of the landowners in this group recognize the potential value in a sophisticated wildlife operation, many are still not willing to make the sacrifices necessitated by such a transition. While, in many cases, they are struggling to survive, they are not willing to sacrifice their way of life for the additional income that capitalizing on wildlife enterprises would provide. Each of these landowners exhibited a strong sense of stewardship or responsibility for the land that was under their authority.

Ag. Business

This group of landowners seemed to be more "connected" to their "business" than they were to the piece(s) of geography upon which the operation was located. They were very maximum profit oriented - everything revolved around the bottom dollar. Agricultural production and wildlife enterprises were a source of pride and personal satisfaction for these people, rather than a source of their livelihood. Most of the respondents that were placed in this category came from successful business backgrounds and were now focused on creating a profitable agricultural business.

Re-Born to the Land

Our third group also exhibited a strong connection to the land. This group consisted mostly of individuals who, as with the previous group, had come from successful backgrounds, but unlike the "Ag. Business" group, their attention now is on recreation and getting back to their roots. Their focus is on the aesthetic and recreational value of their land, and they feel strongly that they have a responsibility to "take care of the land".

An aspect that should be of particular interest to agencies is that due to the admitted naivety and ignorance of the "Re-Born to the Land" group, it is of extreme importance that agencies reach them with sound management principles soon in their land management career. If this does not happen, it is likely that these landowners will seek knowledge in other arenas, and may be swayed in their thinking against sound resource management. The implications of this study for state and federal agencies with missions to educate and provide assistance to landowners and/or enhance the overall conservation of natural resources embodied in private lands can be summarized as follows:

Focusing efforts to increase the awareness of available programs and services on The "Reborn to the Land" group of landowners will likely result in large increases in the number of landowner participants and/or clients. Securing participation of large-tract landowners, and thus a larger portion of total acreage, will require focusing attention and providing services that facilitate the more economic land use goals of the traditional and business oriented landowners. Achieving over-all

success will require providing a variety of programs, services and incentives due to the significant and increasing variation in goals and motivations of current-day private landowners.

Conclusion

The discovery of the 3 groups of Central Texas landowners and their respective ideals and motivations regarding management and program participation for natural resources could have significant impacts on future natural resource policy decisions. However, in the present, agency personnel can also take advantage of this knowledge by being attentive to easily recognizable demographic and property characteristics that will allow them to profile their clientele regarding their likelihood of participation in various available programs. Additionally, the mere approach agency personnel utilize to publicize particular programs could be made more effective by recognizing dominant profiles in a particular county or region of interest and promoting available programs in a way that will likely appeal to that audience.

It is important to note that while there are changes taking place in land ownership in Texas, "Born to the Land" owners still operate the largest portion of the land that we sampled, and therefore should not be discounted completely. However, in many parts of the state, where land is undergoing high rates of turnover, it is likely that "Reborn to the Land" and "Ag. Business" profile groups are and will continue to operate larger portions of the real estate. In regions where this is the case, attention should be paid to the influence the presence of these groups may have on the natural resources in their care. Subsequently, changes may be needed in the availability of particular types of programs in those areas, or at least in the way those programs are marketed to various landowners.

Leon River Restoration Project

Phase I

Texas A&M University Research

September 30, 2004

Executive Summary

Watershed: Rainfall simulator runs indicate decreased infiltration rates and increased sediment losses immediately following brush removal. The degree of these soil losses varied by soil and range condition. Infiltration rate were starting to recover to pretreatment conditions one year following treatment. Spring water discharge quality was considered good to excellent for the rangeland watersheds.

Spring discharge measurements indicate there is a potential for increased water yield by removing brush which would reduce water losses due to transpiration. There was a cyclic

variation in flow during a 24 hour period. This variation appears to be related to soil water evaporation and transpiration by plants. On one spring, the daily difference in discharge is about 0.035 feet (head) or equal to about 26,000 gallons per day or 9.6 million gallons per year. If the loss due to brush use is about half of this difference, then after brush removal there could be a net increase of about 5 million gallon per year.

Wildlife: During 2004, 400 survey points within the 54,430 acre Coryell Creek catchment were established, 70 of which were also part of the LRRP survey in 2003. The surveys were on native rangeland and included primarily Low Stony Hill and Steep Adobe ecological sites. Golden-cheeked Warblers (GCWA) were detected at 129 points accounting for 32% of the total points surveyed. Over 50% of the Low Stony Hill sites were occupied by GCWA. These one-year survey results provide an estimate of 19,732 acres occupied by GCWA, or 36.2% of the entire Coryell Creek catchment. Black-capped Vireos (BCVI) were detected at 26 points, or 6.5% of the points surveyed and over 65% of the points were on Low Stony Hill sites. It is estimated that BCVI occupy 3,090 acres of 5.7% of the entire area.

While these are preliminary estimates, when compared with the 2003 surveys across the entire LRRP area, the same general patterns emerge with respect to occupancy by ecological site. However, the Coryell Creek catchment has over twice the concentration of GCWA as was found in 2003 across the entire LRRP area, likely due to the higher concentration of preferred ecological sites.

Remote Sensing: During 2004 work was conducted with the University of Texas Center for Space Research (UTCSR) to acquire LIDAR data for 24,710 contiguous acres in the Coryell Creek catchment. The UTSCR provided a digital elevation model and 3-dimensional records of the vegetation at 2m resolution. QuickBird Satellite imagery was also acquired at the same resolution. These data provided 225 times more resolution than conventional LandSat imagery.

The primary purpose of the 2004 work with imagery was to collect data on habitat occupancy by GCWA and BCVI along with related high-resolution remote sensing on habitat composition and structure. The data are being used to refine models for predicting habitat occupancy that are being developed for the LRRP area. High-resolution remote sensing data was collected to explore the use of that technology in gaining more reliable estimates of juniper cover, the effects of juniper removal, and to explore the use of alternate technology for developing more reliable predictions of the influence of rangeland restoration practices on habitat changes for the 2 bird species of interest.

Range: The range component was designed to provide a detailed evaluation of the current (pre-treatment) vegetation composition and condition for use as a baseline of comparison to changes that occur following reduction of Ashe juniper and application of post-treatment grazing and fire management plans. Vegetation samples were collected on transects (sample lines) to represent the major ecological sites in the watershed. Almost 20 miles of transects were evaluated across the watershed. The results indicate a high level of woody plant canopy across most sites. Ashe juniper was the most abundant woody species followed by shin oak, live oak and Spanish oak plus a variety of other shrubs and trees.

The most commonly occurring herbaceous vegetation, cedar sedge, a shade tolerant species, is an indicator of the heavy woody plant cover. Few late successional species were encountered;

indicating very low range conditions scores determined by comparison to USDA NRCS Technical Guides. Overall the range condition was rated poor. These data indicate a great potential for increased herbage production following brush (primarily juniper) management. Economics: Livestock production remains the top land use category on 89% of the acreage sampled in this study. Approximately half of the acreage is leased for hunting and the majority of the hunting lease income adds to income derived from livestock. About half of the landowners lease to outside parties.

The estimated annual enterprise value per acre of the properties that were sampled ranged from negative (\$5.00) per acre to a high of \$45.00 per acre, with an average of \$16.00 per acre. This large variability of the values per acre is due to the different enterprises on the land, management practices of privately owned livestock herds, and varying land characteristics. Properties that lease for hunting in combination with privately owned livestock herds averaged slightly over twice the average value of those not leasing.

The average treatment cost per acre for a site that has been cleared, re-seeded, and composted is \$264.00, while the average annual enterprise value of the land is only \$16.00 per acre. The significant difference between treatment costs and the annual economic value of the land strongly supports the importance of government cost-share programs for removal and management of Ashe juniper and other practices on private properties.

Landowner Characteristics: Three categories of landowners were identified. One group, referred to as the "Born to the land" group, has a very strong connection to the land over generations that have farmed or ranched on the land they now own. A second group was identified as the "Ag. Business" group. These people were more connected to their business than they were to a piece of geography (land) upon which the operation was located. Most came from successful business backgrounds and they were interested first and foremost in the creation of a successful agricultural business. A third group was identified as the "Re-born to the land" group. This group, like the Ag. Business group, came from successful business background, but their attention is now more aesthetic and recreational and in getting "back to their roots."

The identification of the three groups and their respective ideals and motivations regarding management and participation in natural resource management programs could have significant impacts on future natural resource policy decisions. These data provide a basis for profiling of clients by agency personnel in order to be more effective in assessing the likelihood of participation in available programs.

While "Born to the land" owners still operate the largest portion of the land, "Reborn to the Land" and "Ag. Business" are and will continue to operate larger portions of the real estate. Attention should be paid to the influence these groups have on natural resources in their care. Subsequently, changes may be needed in the availability of particular types of programs in those areas, or the way the programs are marketed to various landowners.

Transferability: An objective of Phase I of the LRRP project was to quantify important parameters in the watershed in a way that would facilitate transfer of information to locations with similar soils, topography and vegetation. This is being accomplished in Phase I work by

linking all the data gathered to ecological sites. Ecological sites are areas of the landscape with the capacity to produce similar kinds, amounts and proportions of vegetation and that will respond similarly to treatments. Ecological site descriptions will provide vegetation steady states, transitions between states and pathways to plant community changes. This information will be valuable to agencies, NGO and landowners in developing management plans for watersheds with ecological sites common to or significantly similar to the LRRP.

The entire report can be found on the web at:

<http://cnrit.tamu.edu/cgrm/lrrp/warning.htm>