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An Analysis of the EQIP Program for Lesser Prairie Chickens in the Northern Texas Panhandle

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Introduction

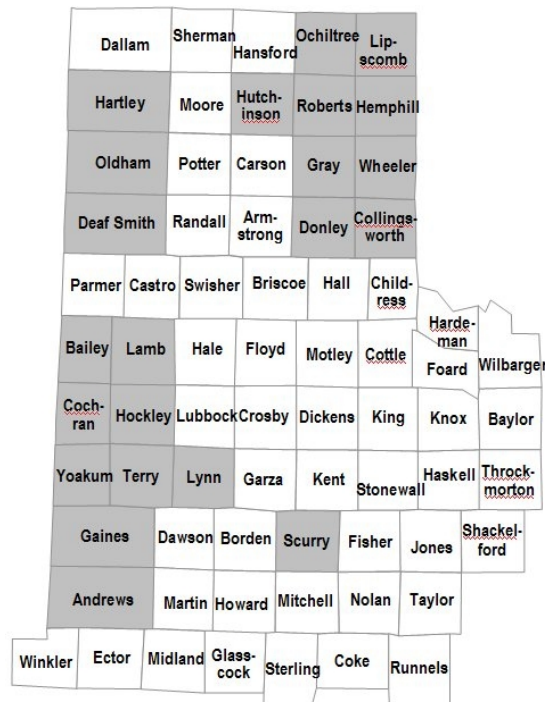
The Lesser Prairie Chicken (LPC) is a prairie grouse species native to the southern Great Plains, including parts of Colorado, Kansas, New Mexico, Oklahoma, and Texas. Prior to the beginning of the 20th century, it is estimated that as many as 2 million LPCs lived in the Texas Panhandle. However, in recent years the LPC has declined significantly in both population and density. This situation results in part from human influences such as the conversion of native rangelands to cropland, herbicide use, petroleum and mineral extraction, and excessive livestock grazing. Severe drought has also significantly impacted prairie chicken populations. In years of low rainfall, heavy grazing can reduce or eliminate residual tall grass cover needed for nesting. Traditional grazing does not leave adequate time for rangeland to recover to a state where it is valuable to wildlife. Consequently, rotational grazing may be the best management strategy to maintain vegetation in suitable condition for LPCs.

In 1995, the U.S. Fish and Wildlife Service (USFWS) received a petition from conservation interests to list LPCs as 'Threatened' under the Endangered Species Act. Primary concerns were the loss, fragmentation or alteration of habitat. A working group of wildlife agencies and private organizations from Colorado, Kansas, New Mexico, Oklahoma, and Texas was created in 1996 to respond to the declines in Lesser Prairie Chicken populations. The group recognized that farmers and ranchers who adopt grazing practices intended to benefit at-risk species such as the LPC should receive appropriate economic compensation. Similar to the Conservation Reserve Program (CRP) and administered by the National Resources Conservation Service (NRCS), the Environmental Quality Incentives Program (EQIP) allows landowners or operators to apply for financial and technical assistance for specific conservation practices. The Lesser Prairie Chicken is identified as a special emphasis area under the EQIP program, and monetary compensation is available for habitat conservation and development. In order to be considered high priority for funding, the applicant must meet all four of the following criteria:

- 1) Acreage contains or is within five miles of a known LPC population as confirmed by a Texas Parks and Wildlife Department (TPWD) or U.S Fish and Wildlife Service (USFWS) biologist or map;
- 2) Acreage is native rangeland;
- 3) Acreage is adequately fenced and watered to carry out prescribed grazing; and
- 4) Applicant agrees to operate under a prescribed grazing plan and stocking rate.

The EQIP Lesser Prairie Program is limited to a maximum of 2,500 acres. For acreage enrolled in the program, a payment of \$7.50 per acre is made in years one and two. Grazing is prohibited during this time. After year two, grazing may be resumed (under prescribed plan and stocking rate as determined by NRCS and TPWD), and an additional payment of \$7.50 is made in year five. The current target counties for EQIP payments for LPCs in Texas are shown in gray on the map below:

Figure 1. Texas Target Counties for EQIP LPC Payments



This paper explores four alternative land use scenarios related to the EQIP Lesser Prairie Chicken program. It provides a five-year financial impact and risk assessment of program enrollment for a typical producer in the Texas Panhandle.

Data and Methods

Study analysis is performed using the Texas AgriLife Extension Service's Financial and Risk Management (FARM) Assistance program. As described by Klose and Outlaw (2005), FARM Assistance is technically a 5 to 10-year pro forma financial analysis that incorporates the research methods of stochastic simulation. The program is aimed at helping farmers and ranchers with strategic planning and risk management. It is a computerized decision support simulation model that uses both farm/ranch-level information supplied by participating producers

and market price forecasts from the Food and Agricultural Policy Research Institute (FAPRI) at the University of Missouri.

A model ranch is developed for this study through focus groups consisting of AgriLife Extension employees, local producers, and agribusiness representatives. Group participants are asked to identify certain characteristics they feel are most representative to Texas Panhandle ranches. These parameters are combined with local producer database information to build a skeleton operation through the FARM Assistance program. The model ranch represents the Base (status quo) Scenario, which is then compared to three alternatives.

The model ranch is a Northern Texas panhandle cow/calf operation located in Hemphill County, Texas. The ranch has 200 mother cows and 6 bulls on 7,000 owned acres of native pasture. The calving rate is estimated at 85%, with 50% being heifers and 50% being bulls. All calves are sold as weaned or kept as replacements. The culling rate is 10% for cows and 20% for bulls. Heifer replacements come from the herd while bull replacements are purchased. Total cow costs are projected to be \$50 per head per year. Estimated 2009 cattle prices are as follows: replacement cows - \$700/hd; replacement heifers - \$700/hd; cull cows - \$0.45/lb; cull bulls - \$0.57/lb; weaned calves - \$1.00/lb. Overhead costs are \$10,000 for labor, \$2,600 for real estate taxes, \$1,000 for accounting and legal fees, \$15,500 for repairs and insurance, \$11,000 for fuel and lube, \$3,500 for utilities, and \$40,000 for family living withdrawals. **The base scenario assumes that no land is leased and no land is enrolled in the EQIP program.**

Alternative 1 assumes that the rancher enrolls 2,000 acres of pasture in the EQIP program. Payments of \$7.50 per acre are made in years one, two and five. To make up for lost grazing, the operation leases an additional 2,000 acres of grass for \$5.50 per acre in 2009 and 2010.

Alternative 2 assumes the rancher culls 50 head of older cows at the beginning of 2009, and then enrolls 2,000 acres in the EQIP program. Overhead expenses are reduced by 25% in 2009 and 2010, and one less bull is replaced. At the end of 2010, the operation purchases 50 head of replacement heifers and one additional bull. It then resumes normal grazing on all acres in 2011-2013. An EQIP payment is made in years one, two, and five.

Alternative 3 assumes the rancher culls 50 head of older cows at the beginning of 2009, and then enrolls 2,000 acres in the EQIP program. Overhead expenses are reduced by 25% in 2009 and 2010, and one less bull is replaced. The operation does not rebuild the herd as in Alternative 2, but instead purchases 75 head of summer stockers from 2011-2013. An EQIP payment is made in years one, two, and five.

Results

Based on current market conditions and analysis assumptions, the model ranch shows marginal levels of profitability, liquidity, and financial efficiency, and rising levels of debt. These results can be primarily attributed to volatile feed costs and unstable cattle prices. The ranch does, however, exhibit steady equity levels. As illustrated in Figures 2 and 3, average net cash farm income (NCFI) over the five-year period is \$4,820 for the Base Scenario, \$9,760 for Alternative 1, \$11,090 for Alternative 2, and \$18,120 for Alternative 3. Average real net worth is \$1.262 million for the Base Scenario, \$1.271 million for Alternative 1, \$1.272 million for Alternative 2 and \$1.268 million for Alternative 3.

Alternative 1 (enroll in program and lease land) and Alternative 3 (enroll in program, sell cows and replace with stockers) show favorable changes over the Base Scenario in terms of both profitability and equity. Alternative 1 projects an additional average income of \$4,940 from 2009-2013 while Alternative 3 projects an additional income of \$13,300. Alternative 2 (enroll in program, sell cows and replace with heifers) also shows a \$6,270 improvement in profitability over the base scenario. However, this alternative appears to be more risky than the other scenarios. While Alternative 2 exhibits a 2009 net cash farm income that is \$49,760 higher than the Base due to additional cow sales, there is an offsetting \$35,150 decrease in 2010 resulting from a reduced herd size and the purchase of replacement heifers.

Figure 2. Average Net Cash Farm Income, All Scenarios (\$1,000)

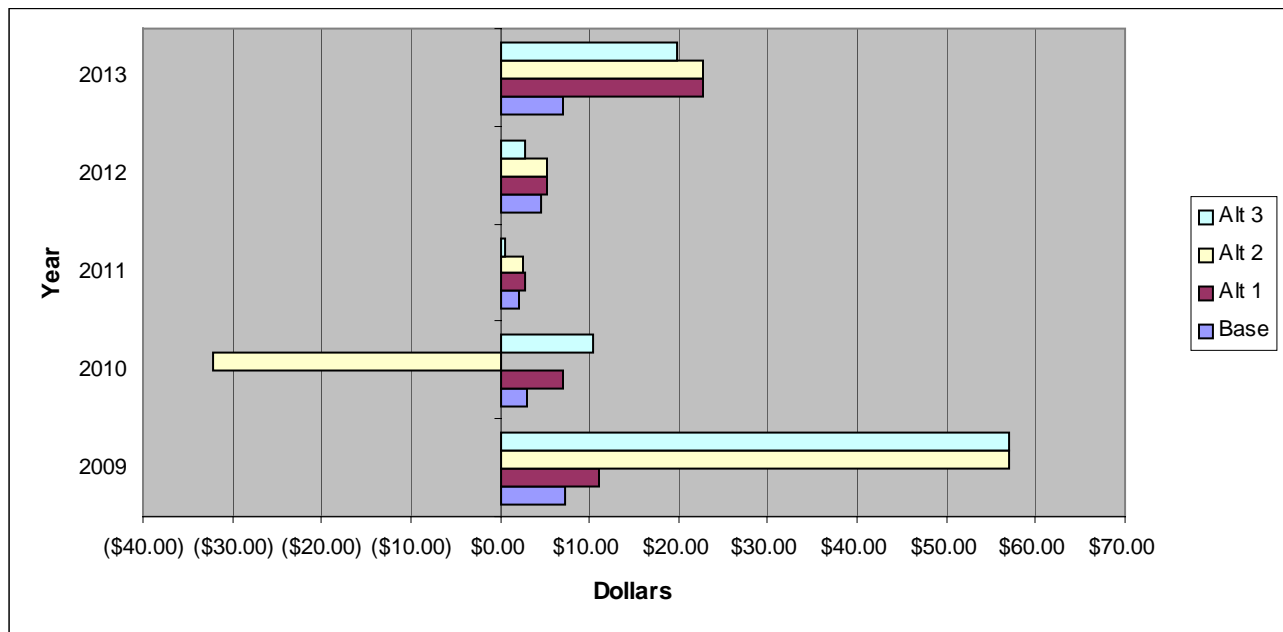
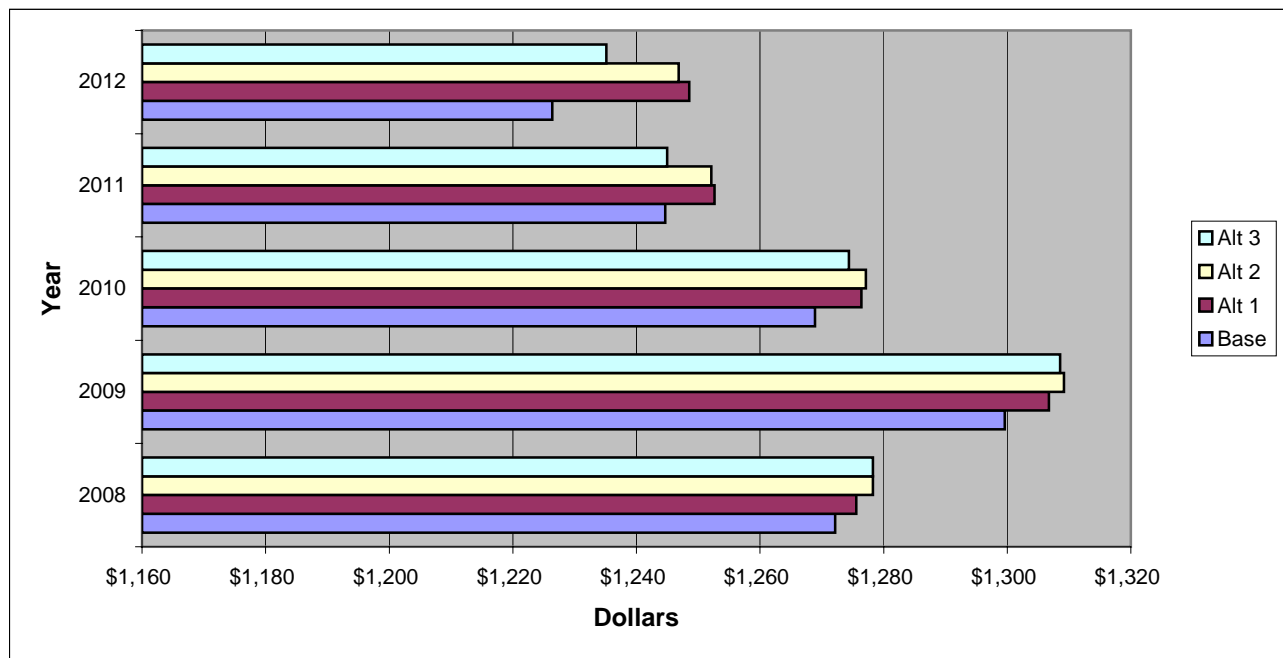


Figure 3. Average Real Net Worth, All Scenarios (\$1,000)



Summary and Conclusions

FARM Assistance analysis results indicate a potential improvement in overall financial position by enrollment in the EQIP Lesser Prairie Chicken program. While all three-enrollment alternatives show an increase in net income, Alternative 3 (sell cows and replace with stockers) indicates the most desirable financial improvement. Furthermore, although Alternative 1 (replace program land with leased land) and Alternative 2 (sell cows and replace with heifers) share similar average income numbers, Alternative 2 significantly increases the operation's income risk, and is therefore the least attractive scenario.

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