

THE LINEBERY POLICY CENTER
FOR NATURAL RESOURCE MANAGEMENT

**The Economic Impact of
Critical Habitat
for the
Lesser
Prairie Chicken
on
New Mexico Farming**

2015 revised edition
Linebery Position Paper #2-B



Table of Contents

| | |
|--|-------|
| <i>Introduction</i> | 4 |
| <i>Methodology</i> | 5 |
| <i>Assumptions</i> | 6 |
| <i>Area Affected by Critical Habitat Designation</i> | 6 |
| <i>New Mexico Farming Industry</i> | 6 |
| <i>10 County Region</i> | 7 |
| <i>Chaves County, New Mexico</i> | 8 |
| <i>Curry County, New Mexico</i> | 9 |
| <i>De Baca County, New Mexico</i> | 10 |
| <i>Eddy County, New Mexico</i> | 11 |
| <i>Harding County, New Mexico</i> | 12 |
| <i>Lea County, New Mexico</i> | 13 |
| <i>Quay County, New Mexico</i> | 14 |
| <i>Roosevelt County, New Mexico</i> | 15 |
| <i>San Miguel County, New Mexico</i> | 16 |
| <i>Union County, New Mexico</i> | 17 |
| <i>Discussion</i> | 18 |
| <i>Conclusion</i> | 19 |
| <i>Appendix</i> | 20-23 |

Authors

Roy Seawolf, M.S., J.D-Natural Resource Law and Economic Policy Analyst

Dr. John Fowler- Policy Center Director/Tom Linebery Distinguished Chair

Dr. Jerry Schickedanz- Evelyn Linebery Distinguished Chair

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Introduction

Farming remains an important part of New Mexico agriculture, supporting local county economies and the state economy as a whole. The farming industry includes the value-added activities from growing and processing agricultural products, as well as crop production. Moreover, economic activity in the farming industry has multiplier effects, generating additional jobs and sales in the local economy. The farming industry purchases inputs from other sectors of the economy (indirect effects) and earnings (profits and wages) from the industry are spent on New Mexico goods and services (induced effects). These multiplier effects provide additional stimulus to other sectors of the local economy that one can measure by output (sales), value added (GDP), labor income, and jobs.

The goal of this paper is to determine the economic consequences that the listing and ultimate Critical Habitat designation of the Lesser Prairie Chicken (LPC) will have on the farming industry, on each Individual county, the 10 county regional economy, and the state economy as a whole.

Because of the interaction between the farming industry and numerous businesses and individuals in the region, cut backs in the farming sector will have extensive negative impacts statewide. This report attempts to identify and analyze the potential economic impacts of the designation of Critical Habitat for the LPC on the farming industry, businesses, and private citizens in 10 Counties in eastern New Mexico.

The ESA and the Farming Industry

The listing of the LPC as threatened is cause for concern for the farming industry. Under the Endangered Species Act (ESA), the possibility that private property will be impacted begins with the "listing" ¹ of an endangered² and or threatened³ species. When the Secretary of the Interior ⁴, through the United States Fish and Wildlife Service (USFWS), lists a species as endangered and or threatened the ESA protections commence.

Once a species is listed under the ESA there are prohibitions related to the "take" of listed species and certain

1 http://www.fws.gov/sacramento/es_species/Lists/es_species_lists-form.cfm

2 An Endangered Species is a species at risk of extinction because of human activity, changes in climate, changes in predator-prey ratios, etc., especially when officially designated as such by a governmental agency such as the U.S. Fish and Wildlife Service.

3 Threatened species are any species (including animals, plants, fungi, etc.) which are vulnerable to endangerment in the near future.

4 The current Secretary of the Interior is Sally Jewell, sworn in as the 51st Secretary of the Interior on April 12, 2013.

activities may require the landowners to obtain a permit from the USFWS in order to improve or make changes to their private property. The term "take" should not be confused with Fifth Amendment takings⁵. In this instance the statute is interpreted to mean almost any act that could adversely affect a protected species member or its habitat including; harassing, harming, pursuing, hunting, capturing, or collecting a listed animal⁶.

The Lesser Prairie Chicken (LPC) is a species of grouse common to the grasslands, with half of the population living in western Kansas, and the remainder living in Oklahoma, Texas, and eastern New Mexico⁷.

The Historic Range of the LPC is located almost entirely on privately owned land ⁸. The farming industry will certainly be affected by the listing of the LPC as threatened, even more so if it becomes listed as endangered due to the fact that the farming industry utilizes large amounts of land in and around potential proposed Critical Habitat areas. This could result in reduced land in production.

The listing itself is done solely on the basis of the best scientific commercial data available to the Secretary of the Interior without reference to economic costs or private property rights, however the Secretary is required, when designating the Critical Habitat⁹ of the species that both scientific, and economic impact data be considered in the decision process, as well any other relevant impacts to private property interests¹⁰.

In March of 2014 the USFWS declared that the LPC population was in severe decline, listed the LPC as threatened, and began implementation of protection procedures¹¹. According to a study done by the Center for Environmental Science, Accuracy, and Reliability (CESAR) however, the United States Fish and Wildlife Service only assumed the population were in decline and that the loss of genetic diversity was based on "after the fact" rationalizations in order to support the listing, even though the best available data on population

5 The Takings Clause, the last clause of the Fifth Amendment, limits the power of eminent domain by requiring that "just compensation" be paid if private property is taken for public use

6 Annett, Alexander F. (1998) Reforming the Endangered Species Act to Protect Species and Property Rights, The Heritage Foundation 214 Massachusetts Ave., N.E. Washington, D.C.

7 Conservation Needs of the Lesser Prairie-Chicken U.S. Fish and Wildlife Service Technical White Paper July 2012

8 http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull//?cid=nrcs-dev11_023912, Retrieved January 2014

9 Critical habitat - vital land area protected for the survival of endangered or threatened species.

10 Id at 1

11 <http://www.fws.gov/southwest/es/LPC.html>, retrieved February, 2014

growth and genetic health demonstrated that the LPC is not in decline throughout a significant portion of its range.¹²

The divergent viewpoints concerning the condition of the LPC gives rise to the need for additional study. If indeed the LPC is not threatened as CESAR claims then the need to understand the economic impact to the 10 county region affected is imperative. However, if the LPC is threatened as claimed by the USFWS then an understanding of how to mitigate the impact to the 10 county region farming industry is equally important.

Methodology

“Critical Habitat is a geographic location that is occupied by the Lesser Prairie Chicken (LPC) at the time it was listed. These areas are determined to have the requisite physical and biological features necessary for the conservation of the LPC. Critical Habitat may also include areas that are not inhabited by the LPC at the time of the listing, but are considered essential to its conservation.”

Because the Lesser Prairie Chicken requires large parcels of intact native grassland and shrub land, often in excess of 20,000 acres to maintain self-sustaining populations, it is likely that farmers will face more challenges allowing only a certain acreage of farming on particular land and limiting the length of time they are allowed to farm. Inevitably, this leads to reduced cultivated acres and reduced output.

There has been some discussion whether or not the ESA affects private land holdings. The argument is that unless there is a federal “nexus” between the land owner and the federal government, the ESA does not apply.

In *N. Cal. River Watch v. Wilcox*, (633 F.3d 766; 2011 U.S. App.) the question was asked; is private land adjacent to land under federal jurisdiction subject to ESA requirements and does it constitute a federal nexus? Even though the decision in *River Watch* clearly states that the ESA §9 (a) (2) (B) does not regulate actions that harm a listed plant species (or animal) on private property and creates no federal nexus, the fact that Critical Habitat for the Lesser Prairie Chicken will become a Special Management Area, creates a federal nexus and becomes an area under federal jurisdiction. The language in *River Watch* clearly specifies that federal property interests could be categorized as conservation easements, leasehold estates, and of particular importance,

¹² DATA DO NOT SUPPORT THE PROPOSED LISTING OF LESSER PRAIRIE CHICKEN (2011), Center for Environmental Science, Accuracy, and Reliability (CESAR)

special management areas.

The New Mexico statewide, 10 county region, and individual county farming industry will be examined to show the inter connection between the farming industry, other businesses, and private individuals who; whether they realize it or not, partially rely on the industry for their livelihood. Each area is modeled individually using the IMPLAN Group, LLC software, with the model exhibiting conditions of the local economy. This is an important consideration for several reasons. First, the farming industry definition provided above is not consistent across geographies.

At the state level, there are numerous farming operations, as well as intermediate industries that use agricultural products in their operations. This is not necessarily the case at the county level. Some New Mexico Counties do not have any agricultural processing facilities. For these Counties, the farming industry is comprised solely of farming sector which includes, vegetable, nut, and grain farming. Second, when inputs are purchased or incomes are spent outside of the region; those dollars leave the area and no longer circulate throughout the local economy. This event is called “leakage” and results in an inconsistency between the state results and the sum of the 10 county results.

For example, in the state model, a farmer in Chaves County can buy inputs from a business in Bernalillo County and there would be no leakage out of the New Mexico state economy. In the Chaves County model, however, those purchases result in leakage because the area being modeled is the local Chaves County economy. Therefore, the economic contribution of the farming industry to New Mexico is greater than the sum of the contributions from each individual County.

Ultimately we define terms used by the IMPLAN modeling system.

- **Labor income** includes all forms of employment income, including employee compensation (wages and benefits) and proprietor income.
- **Jobs** refer to full-time and part-time wage and salary employment. Persons who are self-employed, proprietors, or unpaid family workers are not included in the jobs estimates.
- **Proprietor income**, however, is counted as part of labor income.
- **Output** is the value of production. In IMPLAN, this represents annual production estimates for the year of the data set valued in producer prices.
- **Value added** is the difference between the value of total output and the cost of intermediate inputs. It

equals gross output (sales or receipts and other operating income, plus inventory change) minus intermediate inputs (consumption of goods and services purchased from other industries or imported).

- **Value added** consists of compensation of employees, taxes on production and imports less subsidies (formerly indirect business taxes and nontax payments), and gross operating surplus.
- **Impact Analysis** measures the change in the County economy while,
- **Contribution Analysis** would show the value of this sector to the New Mexico economy. Contribution analysis removes the backward linkages from the model to show the industry importance to the overall state economy. **Therefore you will find differences in the impact table numbers and the top10 affected table numbers at the state, region, and county levels.**

According to Jim Lane , former Director of the New Mexico Game and Fish Department of New Mexico, the 10 Counties potentially affected by the listing of the LPC in New Mexico are Curry, Chaves, De Baca, Eddy, Harding, Lea, Quay, Roosevelt, San Miguel, and Union Counties (hereafter 'region').

IMPLAN, an input/output modeling software, is used to estimate the county-level impacts to the farming industry. The software combines national industry production functions with county-level economic data collected from a variety of sources to generate average output, employment, and productivity. Multipliers used to determine dollar impacts are derived from dividing the direct impacts in employment, labor income, total value added, and output in each category by the sum of the indirect and induced impacts in each category.

Output data is derived from the IMPLAN data base rather than National Agricultural Statistical Service (NASS) because of IMPLAN's better accuracy . The 2013 version of IMPLAN is used however, according to IMPLAN multipliers have not changed dramatically since 2013 and output numbers are adjusted for inflation to 2015 values.

Assumptions:

1. The farming areas are fully cultivated therefore; moving from Critical Habiata areas to other areas is not an option .
2. Farmed acres are conditioned upon economic conditions and may vary from year to year irrespective of Critical Habitat designation.

3. Reduced farming area because of Critical Habitat designation will result in reduced production thus decreasing farming industry output.

Area Affected by Critical Habitat Designation

| County | Acres of County Affected | | | |
|--------------------|--------------------------|------------------|------------------|-------------------|
| | Total Acres | Action Area | Current Range | Historic Range |
| Chaves | 3,885,440 | 906,603 | 1,780,827 | 2,719,808 |
| Curry | 899,840 | 317,591 | 846,908 | 899,840 |
| De Baca | 1,488,000 | 130,526 | 313,263 | 757,053 |
| Eddy | 2,676,480 | 85,420 | 569,464 | 939,615 |
| Harding | 1,360,640 | 0 | 0 | 1,093,371 |
| Lea | 2,811,520 | 882,045 | 1,681,399 | 2,811,520 |
| Quay | 1,840,000 | 0 | 424,615 | 1,273,846 |
| Roosevelt | 1,567,360 | 706,416 | 1,479,058 | 1,545,285 |
| San Miguel | 3,018,880 | 0 | 0 | 53,909 |
| Union | 2,451,200 | 0 | 0 | 1,581,419 |
| Total Acres | 21,999,360 | 3,028,600 | 7,095,535 | 13,675,666 |

Source: New Mexico County Acreage Map, USGS

Table 1a -Acres Affected Graph

| County | Percent of County Affected | | |
|------------|----------------------------|---------------|----------------|
| | Action Area | Current Range | Historic Range |
| Chaves | 23% | 46% | 70% |
| Curry | 35% | 94% | 100% |
| De Baca | 9% | 21% | 51% |
| Eddy | 3% | 21% | 35% |
| Harding | 0% | 0% | 80% |
| Lea | 31% | 60% | 100% |
| Quay | 0% | 23% | 69% |
| Roosevelt | 45% | 94% | 99% |
| San Miguel | 0% | 0% | 2% |
| Union | 0% | 0% | 65% |

Source: GIS estimates based on NRCS LPC Action map USFWS conference Report June,2011

Table 2b- Percent Affected Graph

As shown in Tables 1a and 2b above, the Counties under study will be affected more dramatically if Critical Habitat is designated as the Historic Range area, less if the Critical Habitat is designated as the Current Range, and even less if the Action Area is selected as Critical Habitat; Curry, Chaves, Roosevelt and Lea counties will be highly affected regardless of the area chosen for Critical Habitat

NM Farming Industry

| Impact Type | Direct Effect |
|-------------------|----------------|
| Employment | 7,413 |
| Labor Income | \$ 385,734,677 |
| Total Value Added | \$ 420,448,018 |
| Output | \$ 678,367,897 |

IMPLAN 2013

Table 3- Statewide Direct Effects.

Table 3 shows the direct economic impact of the farming industry in the state of New Mexico to be an estimated output (sales) of \$678 million. The direct effects of the farming industry also include more than \$420 million in value added (the local equivalent of gross domestic product,) GDP, \$385 million in labor income (proprietor's income plus employee compensation), and 7,413 jobs (part- and full-time jobs).

| Impact Type | Total Effect |
|-------------------|------------------|
| Employment | 11,671 |
| Labor Income | \$ 536,978,955 |
| Total Value Added | \$ 690,670,167 |
| Output | \$ 1,159,904,017 |

IMPLAN 2013

Table 4- Statewide Total Effects

Economic activity of the farming industry also has multiplier effects (Table 4), generating additional jobs and sales in other sectors of the state economy. Indirect effects account for Farming industry purchases of inputs, while induced effects account for proprietor and employee spending from their incomes. These multiplier effects provide additional stimulus to the state economy. Accounting for these multiplier effects, the total contribution of the farming industry to the New Mexico economy is \$1.15 billion in output, \$690 million in value added, approximately \$536.9 million in labor income and 11,671 jobs.

Every 100 Farming industry jobs in New Mexico support an additional 60 jobs in other industries.

The farming industry supports 11,671 jobs. 7,413 of those jobs are directly attributed to the farming industry and the additional 4,258 jobs are a result of economic activity stimulated by the farming industry that occurs in other sectors of the New Mexico economy. multipliers are in ratio format. As shown in table 5 for example, employment has a ratio of 1 to .6 .There-

fore using "100" jobs as your identifier, the ratio becomes 100 to 60. Multipliers are extremely useful to the farming producer. Each category of multiplier can be gauged against income derived from farming produced on any farm to measure how the LPC will affect them personally.

| Impact Type | Multiplier |
|-------------------|------------|
| Employment | 0.6 |
| Labor Income | 0.4 |
| Total Value Added | 0.6 |
| Output | 0.7 |

IMPLAN 2013

Table 5- Statewide Multipliers

Multiplier Implications

- For every loss of 100 jobs in the farming sector, 60 jobs are lost in the economy.
- For every \$100 loss of labor income from the farming sector, \$40 is lost in the economy
- For every \$100 loss of value added from farming industry, \$60 is lost to the economy.
- For every \$100 loss of output from the farming sector, \$70 is lost to the economy

Ten County Region

| Impact Type | Direct Effect |
|-------------------|----------------|
| Employment | 1,325 |
| Labor Income | \$ 125,935,853 |
| Total Value Added | \$ 133,026,459 |
| Output | \$ 251,619,136 |

IMPLAN 2013

Table 6- 10 County Direct Effects

The Counties of Curry, Chaves, De Baca, Eddy, Harding, Lea, Quay, Roosevelt, San Miguel, and Union (Table 6), is comprised of the farming sector with estimated output (sales) of \$251 million. The direct effects of the farming industry also include more than \$133 million in value added (the local equivalent of gross domestic product, GDP), \$125 million in labor income (proprietor's income plus employee compensation), and 1,325 jobs (part- and full-time jobs)

| Impact Type | Total Effect |
|-------------------|----------------|
| Employment | 2,352 |
| Labor Income | \$ 167,154,787 |
| Total Value Added | \$ 209,279,531 |
| Output | \$ 390,226,332 |

IMPLAN 2013

Table 7- 10 County Total Effects

Economic activity of the farming industry also has

multiplier effects, generating additional jobs and sales in other sectors of the local economy. Indirect effects account for Farming industry purchases of inputs, while induced effects account for proprietor and employee spending from their incomes. These multiplier effects provide additional stimulus to the local economy. Accounting for these multiplier effects (Table 7), the total contribution of the farming industry 10 county economy is \$390 million in output, \$209 million in value added, approximately \$167 million in labor income, and 2,352 total jobs.

Every 100 Farming industry jobs in the Ten county Region supports an additional 80 jobs in other industries

The farming industry in the 10 county region supports 2,352 jobs. 1,325 of those jobs are directly attributed to the farming industry and the additional 1,027 jobs are a result of economic activity stimulated by the farming industry that occurs in other sectors of the New Mexico economy.

Multiplier Implications

| Impact Type | Multipliers |
|-------------------|-------------|
| Employment | 0.8 |
| Labor Income | 0.3 |
| Total Value Added | 0.6 |
| Output | 0.6 |

Table 8- 10 County Multipliers

- For every loss of 100 jobs in the farming sector, 80 jobs are lost in the economy.
- For every \$100 loss of labor income from the farming sector, \$30 is lost in the economy
- For every \$100 loss of value added from the farming industry, \$60 is lost in the economy.
- For every \$100 loss of output from the farming sector, \$60 is lost to the economy.

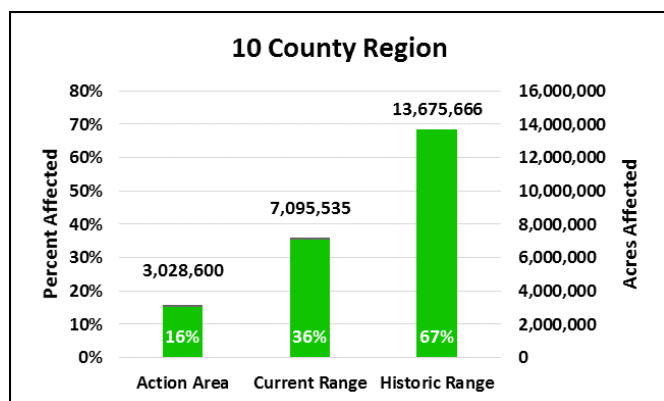


Figure 1- 10 County Percent Affected Graph

Figure 1 illustrates that Sixty seven percent or 13,675,666 acres of the 10 counties under study lie within the Historic Range of the LPC, 36% in the Current Range or 7,095,535 acres, and 16% in the Action Area or 3,028,600 acres; the region could see a devastating decline in its farming industry due to Critical Habitat designation. This decline not only affects the industry itself, but dozens of other businesses that the farming industry supports region wide. From banking to wholesale establishments, real estate to food services, dozens of small businesses will be negatively impacted (Appendix Table 40: Top Ten Industries Affected by the farming industry in the Ten county Region.)

Chaves County, New Mexico

| ImpactType | Direct Effect |
|-----------------|---------------|
| Employment | 166 |
| Labor Income | \$ 27,864,550 |
| Total Value Add | \$ 30,416,280 |
| Output | \$ 51,732,216 |

Table 9- Chaves County Direct Effects

The farming industry in Chaves County is comprised of the farming sector with estimated output (sales) of \$51.7 million (Table 9). The direct effects of the farming industry also include more than \$30.4 million in value added (the local equivalent of gross domestic product, GDP), \$27.8 million in labor income (proprietor’s income plus employee compensation), and 166 jobs (part- and full-time jobs)

| ImpactType | Total Effect |
|-----------------|---------------|
| Employment | 408 |
| Labor Income | \$ 37,351,734 |
| Total Value Add | \$ 47,109,125 |
| Output | \$ 79,363,001 |

Table 10- Chaves County Total Effects

Economic activity of the farming industry also has multiplier effects, generating additional jobs and sales in other sectors of the local economy. Indirect effects account for Farming industry purchases of inputs, while induced effects account for proprietor and employee spending from their incomes. These multiplier effects provide additional stimulus to the local economy. Accounting for these multiplier effects, the total contribution of the farming industry to the Chaves County economy is \$79 million in output, \$47 million in value added, approximately \$37 million in labor income, and 408 total jobs (Table 10)

Every 100 farming industry jobs in Chaves County supports an additional 150 jobs in other industries

The farming industry in the Chaves County supports 408 jobs. 166 of those jobs are directly attributed to the farming industry and the additional 242 jobs are a result of economic activity stimulated by the farming industry that occurs in other sectors of the New Mexico economy.

Multiplier Implications

| ImpactType | Multipliers |
|-----------------|-------------|
| Employment | 1.5 |
| Labor Income | 0.3 |
| Total Value Add | 0.5 |
| Output | 0.5 |

Table 11- Chaves County Multipliers

- For every loss of 100 jobs in the farming sector, 150 jobs are lost in the economy.
- For every \$100 loss of labor income from the farming sector, \$30 is lost in the economy.
- For every \$100 loss of value added from the farming industry, \$50 is lost in the economy
- For every \$100 loss of output from the farming sector, \$50 is lost to the economy

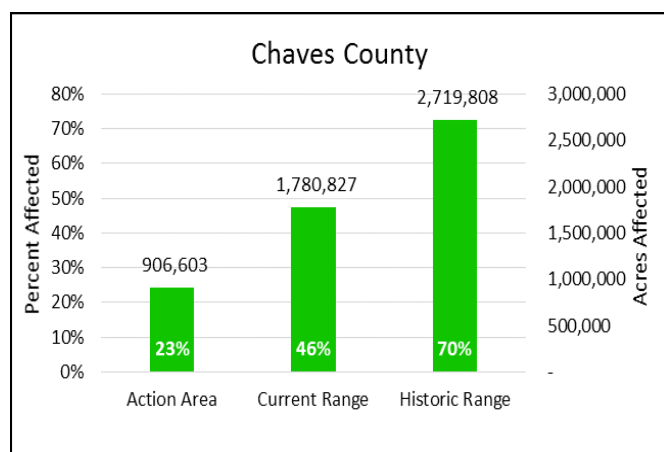


Figure 2- Chaves County Percent Affected Graph

Figure 2 illustrates that 70% of Chaves County or 2,719,808 acres lies within the Historic Range of the LPC, 46% or 1,780,827 acres in the Current Range, and 23% or 906,603 acres in the Action Area. The County could see a devastating decline in its farming industry. This decline not only affects the industry itself, but dozens of other businesses that the farming industry supports statewide. From banking to wholesale establishments,

real estate to food services, dozens of small businesses will be negatively impacted. (Appendix Table 41: Top 10 industries affected by the farming industry in Chaves County.)

Curry County, New Mexico

| ImpactType | Direct Effect |
|-------------------|---------------|
| Employment | 102 |
| Labor Income | \$ 17,163,394 |
| Total Value Added | \$ 16,560,917 |
| Output | \$ 44,169,458 |

Table 12- Curry County Direct Effects

The farming industry in Curry County is comprised of the farming sector with estimated output (sales) of \$44 million (Table 12). The direct effects of the farming industry also include more than \$16.5 million in value added (the local equivalent of gross domestic product, GDP), \$17 million in labor income (proprietor's income plus employee compensation), and 102 jobs (part- and full-time jobs)

| ImpactType | Total Effect |
|-------------------|---------------|
| Employment | 274 |
| Labor Income | \$ 23,605,457 |
| Total Value Added | \$ 28,518,856 |
| Output | \$ 66,431,630 |

Table 13- Curry County Total Effects

Economic activity of the farming industry also has multiplier effects, generating additional jobs and sales in other sectors of the local economy (Table 13). Indirect effects account for farming industry purchases of inputs, while induced effects account for proprietor and employee spending from their incomes. These multiplier effects provide additional stimulus to the local economy. Accounting for these multiplier effects, the total contribution of the farming industry to the Curry County economy is \$66 million in output, \$28 million in value added, approximately \$23.6 million in labor income, and 274 total jobs.

Every 100 farming industry jobs in Curry County supports an additional 170 jobs in other industries

The farming industry in Curry County supports 274 jobs.

102 of those jobs are directly attributed to the farming industry and the additional 172 jobs are a result of economic activity stimulated by the farming industry that occurs in other sectors of the New Mexico economy.

Multiplier Implications

| ImpactType | Multiplier |
|-------------------|------------|
| Employment | 1.7 |
| Labor Income | 0.4 |
| Total Value Added | 0.7 |
| Output | 0.5 |

IMPLAN 2013

Table 14- Curry County Multipliers

- For every loss of 100 jobs in the farming sector, 170 jobs are lost in the economy
- For every \$100 loss of labor income from the farming sector, \$40 is lost in the economy
- For every \$100 loss of value added from the farming industry, \$70 is lost to the economy.
- For every \$100 loss of output from the farming sector, \$50 is lost to the economy.

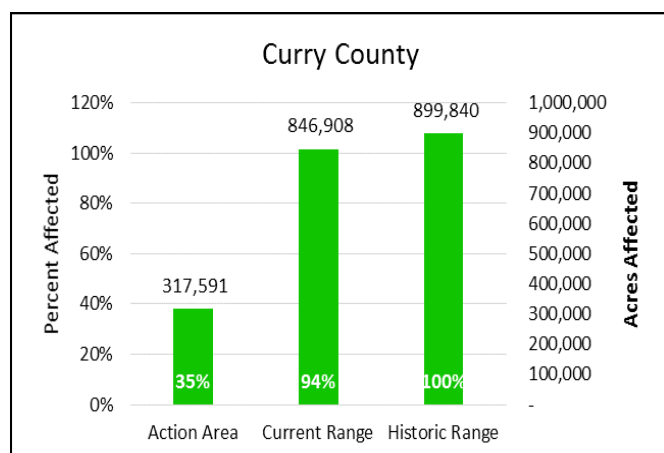


Figure 3- Curry County Percent Affected Graph

Figure 3 illustrates that 100 percent of Curry County or 899,840 acres lies within the Historic Range of the LPC, 94% or 846,908 acres in the current range, and 35% or 317,591 acres in the Action Area. The county could see a devastating decline in its farming industry. This decline not only affects the industry itself, but dozens of other businesses that the farming industry supports statewide. From banking to wholesale establishments, real estate to food services, dozens of small businesses will be negatively impacted (Appendix Table 42: Top Ten Industries affected by the farming industry in Curry County.)

De Baca County, New Mexico

| ImpactType | Direct Effect |
|-------------------|---------------|
| Employment | 80 |
| Labor Income | \$ 4,624,725 |
| Total Value Added | \$ 3,773,172 |
| Output | \$ 6,041,756 |

IMPLAN 2013

Table 15- De Baca County Direct Effects

The farming industry in De Baca County is comprised of the farming industry sector with estimated output (sales) of \$6 million (Table 15). The direct effects of the farming industry also include more than \$3.7 million in value added (the local equivalent of gross domestic product, GDP), \$4.6 million in labor income (proprietor's income plus employee compensation), and 80 jobs (part- and full-time jobs).

| ImpactType | Total Effect |
|-------------------|--------------|
| Employment | 96 |
| Labor Income | \$ 4,934,889 |
| Total Value Added | \$ 4,609,516 |
| Output | \$ 7,848,833 |

IMPLAN 2013

Table 16- De Baca County Total Effects

Economic activity of the farming industry also has multiplier effects, generating additional jobs and sales in other sectors of the local economy (Table 16). Indirect effects account for Farming industry purchases of inputs, while induced effects account for proprietor and employee spending from their incomes. These multiplier effects provide additional stimulus to the local economy. Accounting for these multiplier effects, the total contribution of the farming industry to the De Baca County economy is \$7.8 million in output, \$4.6 million in value added, approximately \$4.9 million in labor income, and 96 total jobs.

Every 100 Farming industry jobs in De Baca County supports an additional 20 jobs in other industries

The farming industry in the De Baca County supports 96 jobs 80 of those jobs are directly attributed to the farming industry and the additional 16 jobs are a result of economic activity stimulated by the farming industry that occurs in other sectors of the New Mexico economy.

Multiplier Implications

| ImpactType | Multipliers |
|-------------------|-------------|
| Employment | 0.2 |
| Labor Income | 0.1 |
| Total Value Added | 0.2 |
| Output | 0.3 |

IMPLAN 2013

Table 17- De Baca County Multipliers

Eddy County, New Mexico

| Impact Type | Direct Effect |
|-------------------|---------------|
| Employment | 347 |
| Labor Income | \$ 30,133,291 |
| Total Value Added | \$ 33,776,226 |
| Output | \$ 49,325,152 |

IMPLAN 2013

Table 18- Eddy County Direct Effects

- For every loss of 100 jobs in the farming sector, 20 jobs are lost in the economy.
- For every \$100 loss of labor income from the farming sector, \$10 is lost in the economy.
- For every \$100 loss of value added from the farming industry, \$20 is lost in the economy.
- For every \$100 loss of output from the farming sector, \$30 is lost to the economy.

The farming industry in Eddy County is comprised of the farming industry sector with estimated output (sales) of \$49 million (Table 18). The direct effects of the farming industry also include more than \$33 million in value added (the local equivalent of gross domestic product, GDP), \$30 million in labor income (proprietor's income plus employee compensation), and 347 jobs (part- and full-time jobs).

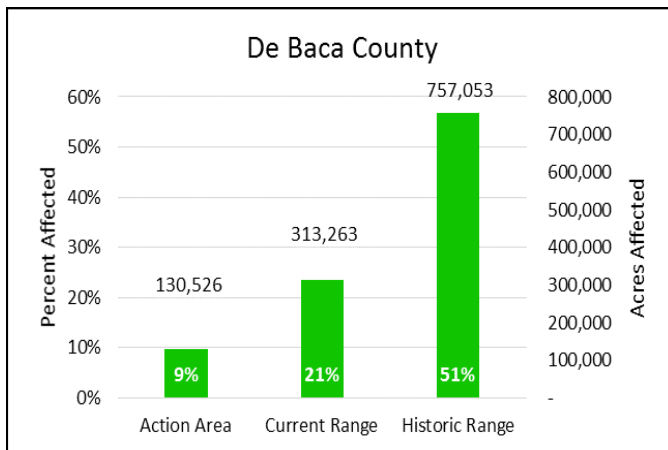


Figure 4- De Baca County Percent Affected Graph

Figure 4 illustrates that 51 percent of De Baca County or 757,053 acres lies within the Historic Range of the LPC, 21% or 313,263 acres in the current range, and 9% or 130,526 in the Action Area. The County could see a devastating decline in its farming industry. This decline not only affects the industry itself, but dozens of other businesses that the farming industry supports statewide. From banking to wholesale establishments, real estate to food services, dozens of small businesses will be negatively impacted (Appendix Table 43: Top Ten Industries affected by the farming industry in De Baca County.)

| Impact Type | Total Effect |
|-------------------|---------------|
| Employment | 558 |
| Labor Income | \$ 38,963,094 |
| Total Value Added | \$ 48,494,309 |
| Output | \$ 74,620,262 |

IMPLAN 2013

Table 19- Eddy County Total Effects

Economic activity of the farming industry also has multiplier effects, generating additional jobs and sales in other sectors of the local economy (Table 19). Indirect effects account for farming industry purchases of inputs, while induced effects account for proprietor and employee spending from their incomes. These multiplier effects provide additional stimulus to the local economy. Accounting for these multiplier effects, the total contribution of the farming industry to the Eddy County economy is \$74.6 million in output, \$48 million in value added, approximately \$38.9 million in labor income, and 558 total jobs

Every 100 Farming industry jobs in Eddy County supports an additional 60 jobs in other industries

The farming industry in the Eddy County supports 558 jobs. 347 of those jobs are directly attributed to the farming industry and the additional 211 jobs are a result of economic activity stimulated by the industry that occurs in other sectors of the New Mexico economy.

Harding County, New Mexico

Multiplier Implications

| Impact Type | Multipliers |
|-------------------|-------------|
| Employment | 0.6 |
| Labor Income | 0.3 |
| Total Value Added | 0.4 |
| Output | 0.5 |

IMPLAN 2013

Table 20- Eddy County Multipliers

- For every loss of 100 jobs in the farming sector, 60 jobs are lost in the economy .
- For every \$100 loss of labor income from the farming sector, \$30 is lost in the economy .
- For every \$100 loss of value added from the farming industry, \$40 is lost in the economy.
- For every \$100 loss of output from the farming sector, \$50 is lost to the economy.

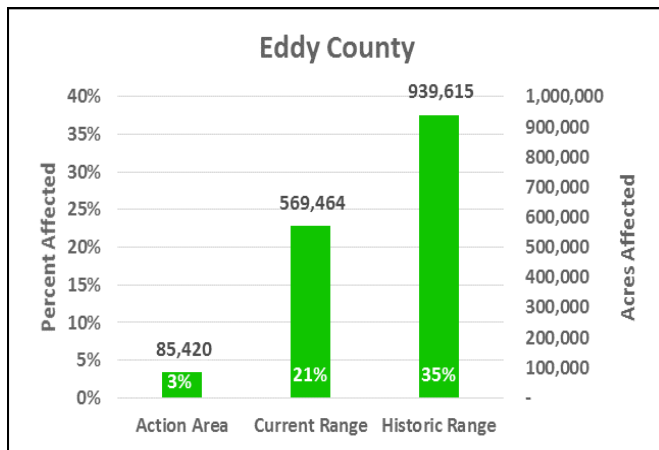


Figure 5- Eddy County Percent Affected Graph

Figure 5 illustrates that 35 percent of Eddy County or 939,615 acres lies within the Historic Range of the LPC, 21% or 569,464 acres in the current range, and 3% or 85,420 acres in the Action Area. The county could see a devastating decline in its farming industry. This decline not only affects the industry itself, but dozens of other businesses that the farming industry supports statewide. From banking to wholesale establishments, real estate to food services, dozens of small businesses will be negatively impacted (Appendix Table 44: Top Ten Industries affected by the farming industry in Eddy County.)

| ImpactType | Direct Effect |
|-------------------|---------------|
| Employment | 5 |
| Labor Income | \$ 235,024 |
| Total Value Added | \$ 118,992 |
| Output | \$ 679,862 |

IMPLAN 2013

Table 21- Harding County Direct Effects

The farming industry in Harding County is comprised of the farming sector with estimated output (sales) of \$679 thousand (Table 21). The direct effects of the farming industry also include more than \$118 thousand in value added (the local equivalent of gross domestic product, GDP), \$235 thousand in labor income (proprietor's income plus employee compensation), and 5 jobs (part- and full-time jobs)

| ImpactType | Total Effect |
|-------------------|--------------|
| Employment | 6 |
| Labor Income | \$ 259,158 |
| Total Value Added | \$ 188,111 |
| Output | \$ 830,023 |

IMPLAN 2013

Table 22- Harding County Total Effects

Economic activity of the farming industry also has multiplier effects, generating additional jobs and sales in other sectors of the local economy. Indirect effects account for Farming industry purchases of inputs, while induced effects account for proprietor and employee spending from their incomes(Table 22). These multiplier effects provide additional stimulus to the local economy. Accounting for these multiplier effects, the total contribution of the farming industry to the Harding county economy is \$830 thousand in output, \$188 thousand in value added, approximately \$259 thousand in labor income, and 6 total jobs.

The farming industry in the Harding County supports 6 jobs. 5 of those jobs are directly attributed to the farming industry and the additional 1 job are a result of economic activity stimulated by the farming industry that occurs in other sectors of the New Mexico economy.

Multiplier Implications

| ImpactType | Multipliers |
|-------------------|-------------|
| Employment | 0.2 |
| Labor Income | 0.1 |
| Total Value Added | 0.6 |
| Output | 0.2 |

IMPLAN 2013

Table 23- Harding County Multipliers

- For every \$100 loss of labor income from the farming sector, \$10 is lost in the economy.
- For every \$100 loss of value added from the farming industry, \$60 is lost in the economy.
- For every \$100 loss of output from the farming sector, \$20 is lost to the economy.

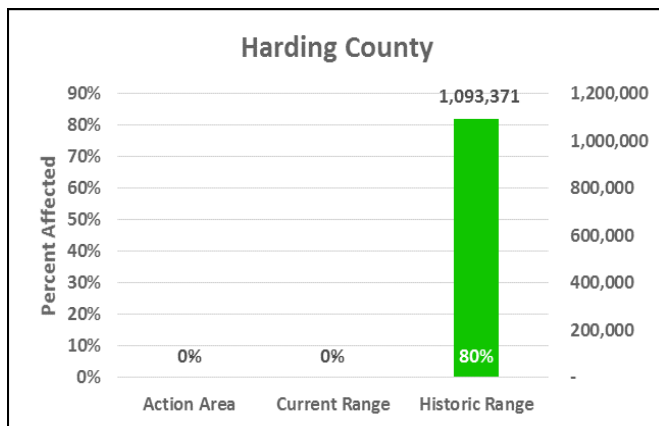


Figure 6-Harding County Percent Affected Graph

Figure 6 illustrates that 80 percent of Harding County or 1,093,371 acres lies within the Historic Range of the LPC, 0% in the current range, and 0% in the Action Area. If the Critical Habitat designation falls within the Historic Range, the County could see a devastating decline in its farming industry because of Critical Habitat designation from Kansas in the northeast and Texas from the east. The Endangered Species Act is a federal law that is not bound by state lines so the possibility that Harding County may be impacted negatively is very real even though there is currently no Action Area, or current range within its boundaries. The decline in the farming industry in Harding County not only affects the industry itself, but dozens of other businesses that the farming industry supports statewide. From banking to wholesale establishments, real estate to food services, dozens of small businesses will be negatively impacted (Appendix Table 45: Top Ten Industries affected by the farming industry in Harding County.)

Lea County, New Mexico

| ImpactType | Direct Effect |
|-------------------|---------------|
| Employment | 196 |
| Labor Income | \$ 20,450,839 |
| Total Value Added | \$ 25,566,981 |
| Output | \$ 44,912,974 |

IMPLAN 2013

Table 24- Lea County Direct Effects

The farming industry in Lea County is comprised of the farming sector with estimated output (sales) of \$44 million (Table 24). The direct effects of the farming industry also include more than \$25.5 million in value added (the local equivalent of gross domestic product, GDP), \$20.4 million in labor income (proprietor's income plus employee compensation), and 196 jobs (part- and full-time jobs).

| ImpactType | Total Effect |
|-------------------|---------------|
| Employment | 317 |
| Labor Income | \$ 25,832,475 |
| Total Value Added | \$ 36,130,368 |
| Output | \$ 64,251,831 |

IMPLAN 2013

Table 25- Lea County Total Effects

Economic activity of the farming industry also has multiplier effects, generating additional jobs and sales in other sectors of the local economy (Table 25). Indirect effects account for Farming industry purchases of inputs, while induced effects account for proprietor and employee spending from their incomes. These multiplier effects provide additional stimulus to the local economy. Accounting for these multiplier effects, the total contribution of the farming industry to the Lea County economy is \$64 million in output, \$36 million in value added, approximately \$25 million in labor income, and 317 total jobs.

Every 100 farming industry jobs in Lea County supports an additional 60 jobs in other industries

The farming industry in the Lea County supports 317 jobs. 196 of those jobs are directly attributed to the farming industry and the additional 121 jobs are a result of economic activity stimulated by the farming industry that occurs in other sectors of the New Mexico economy.

Multiplier Implications

| Impact Type | Multipliers |
|-------------------|-------------|
| Employment | 0.6 |
| Labor Income | 0.3 |
| Total Value Added | 0.4 |
| Output | 0.4 |

IMPLAN 2013

Table 26- Lea County Multipliers

Quay County, New Mexico

| Impact Type | Direct Effect |
|-------------------|---------------|
| Employment | 121 |
| Labor Income | \$ 2,745,033 |
| Total Value Added | \$ 2,153,776 |
| Output | \$ 8,374,825 |

IMPLAN 2013

Table 27- Quay County Direct Effects

- For every loss of 100 jobs in the farming sector, 60 jobs are lost in the economy.
- For every \$100 loss of labor income from the farming sector, \$30 is lost in the economy.
- For every \$100 loss of value added from the farming industry, \$40 is lost in the economy.
- For every \$100 loss of output from the farming sector, \$40 is lost to the economy.

The farming industry in Quay County is comprised of the farming sector with estimated output (sales) of \$8.3 million (Table 27). The direct effects of the farming industry also include more than \$2 million in value added (the local equivalent of gross domestic product, GDP), \$2.7 million in labor income (proprietor's income plus employee compensation), and 121 jobs (part- and full-time jobs).

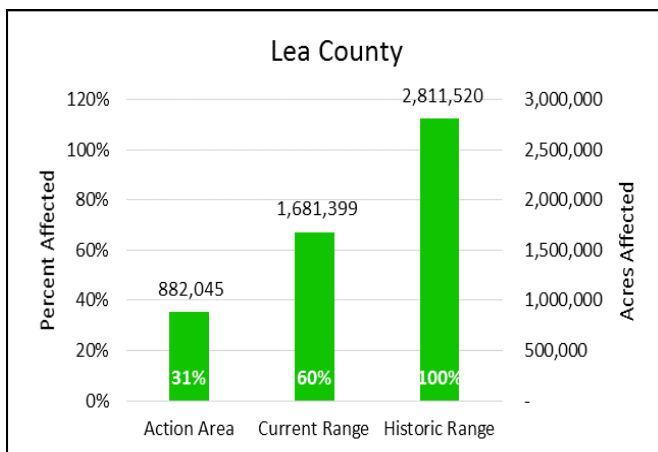


Figure 7-Lea County Percent Affected Graph

| Impact Type | Total Effect |
|-------------------|---------------|
| Employment | 150 |
| Labor Income | \$ 3,600,279 |
| Total Value Added | \$ 3,947,940 |
| Output | \$ 11,729,876 |

IMPLAN 2013

Table 28- Quay County Total Effects

Figure 7 illustrates that 100 percent or 2,811,520 acres of Lea County lies within the Historic Range of the LPC, 60% or 1,681,399 acres in the current range, and 31% or 882,045 acres in the Action Area. If the Critical Habitat designation falls within the Historic Range, the county could see a devastating decline in its farming industry. This decline not only affects the industry itself, but dozens of other businesses that the farming industry supports statewide. From banking to wholesale establishments, real estate to food services, dozens of small businesses will be negatively impacted (Appendix Table 46: Top Ten Industries affected by the farming industry in Lea County.)

Economic activity of the farming industry also has multiplier effects, generating additional jobs and sales in other sectors of the local economy (Table 28). Indirect effects account for Farming industry purchases of inputs, while induced effects account for proprietor and employee spending from their incomes. These multiplier effects provide additional stimulus to the local economy. Accounting for these multiplier effects, the total contribution of the farming industry to the Quay County economy is \$11.7 million in output, \$3.9 million in value added, approximately \$3.6 million in labor income, and 150 total jobs.

Every 100 farming industry jobs in Quay County supports an additional 20 jobs in other industries

The farming industry in the Quay County supports 150 jobs. 121 of those jobs are directly attributed to the farming industry and the additional 29 jobs are a result of economic activity stimulated by the farming industry that occurs in other sectors of the New Mexico economy.

Multiplier Implications

| Impact Type | Multipliers |
|-------------------|-------------|
| Employment | 0.2 |
| Labor Income | 0.3 |
| Total Value Added | 0.8 |
| Output | 0.4 |

Table 29- Quay County Multipliers

- For every loss of 100 jobs in the farming sector, 20 jobs are lost in the economy.
- For every \$100 loss of labor income from the farming sector, \$30 is lost in the economy.
- For every \$100 loss of value added from the farming industry, \$80 is lost in the economy.
- For every \$100 loss of output from the farming sector, \$40 is lost to the economy.

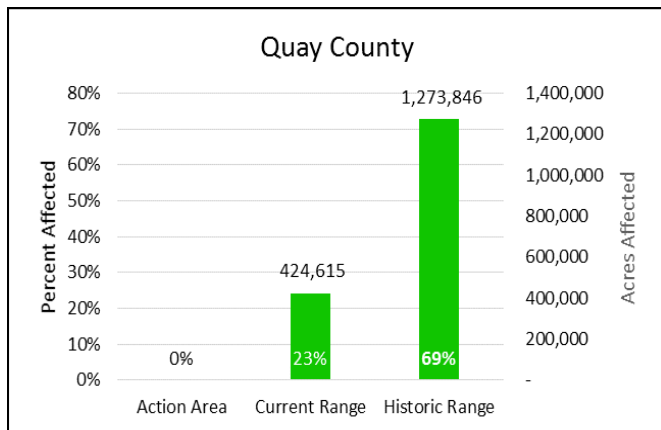


Figure 8- Quay County Percent Affected Graph

Figure 8 illustrates that 69 percent of Quay County or 1,273,846 acres lies within the Historic Range of the LPC, 23% or 424,615 acres in the current range, and 0% in the Action Area. If the Critical Habitat designation falls within the Historic Range, the County could see a devastating decline in its farming industry. This decline not only affects the industry itself, but dozens of other businesses that the farming industry supports statewide. From banking to wholesale establishments, real estate to food services, dozens of small businesses will be negatively impacted (Appendix Table 47: Top Ten Industries affected by the farming industry in Quay County.

Roosevelt County, New Mexico

| Impact Type | Direct Effect |
|-------------------|---------------|
| Employment | 157 |
| Labor Income | \$ 15,982,474 |
| Total Value Added | \$ 15,669,040 |
| Output | \$ 31,180,399 |

IMPLAN 2013

Table 30- Roosevelt County Direct Effects

The farming industry in Roosevelt County is comprised of the farming farming sector with estimated output (sales) of \$31 million (Table 30). The direct effects of the farming industry also include more than \$15.6 million in value added (the local equivalent of gross domestic product, GDP), \$15.9 million in labor income (proprietor's income plus employee compensation), and 157 jobs (part- and full-time jobs).

| Impact Type | Total Effect |
|-------------------|---------------|
| Employment | 248 |
| Labor Income | \$ 18,702,713 |
| Total Value Added | \$ 21,828,772 |
| Output | \$ 42,195,339 |

IMPLAN 2013

Table 31- Roosevelt County Total Effects

Economic activity of the farming industry also has multiplier effects, generating additional jobs and sales in other sectors of the local economy (Table 31). Indirect effects account for Farming industry purchases of inputs, while induced effects account for proprietor and employee spending from their incomes. These multiplier effects provide additional stimulus to the local economy. Accounting for these multiplier effects, the total contribution of the farming industry to the Roosevelt County economy is \$42 million in output, \$21.8 million in value added, approximately \$18.7 million in labor income, and 248 total jobs.

Every 100 Farming industry jobs in Roosevelt County supports an additional 60 jobs in other industries

The farming industry in the Roosevelt County supports 248 jobs. 157 of those jobs are directly attributed to the farming industry and the additional jobs are a result of economic activity stimulated by the farming industry that occurs in other sectors of the New Mexico economy.

Multiplier Implications

| Impact Type | Multipliers |
|-------------------|-------------|
| Employment | 0.6 |
| Labor Income | 0.2 |
| Total Value Added | 0.4 |
| Output | 0.4 |

Table 32- Roosevelt County Multipliers

- For every loss of 100 jobs in the farming sector, 60 jobs are lost in the economy.
- For every \$100 loss of labor income from the farming sector, \$20 is lost in the economy.
- For every \$100 loss of value added from the farming industry, \$40 is lost in the economy.
- For every \$100 loss of output from the farming sector, \$40 is lost to the economy.

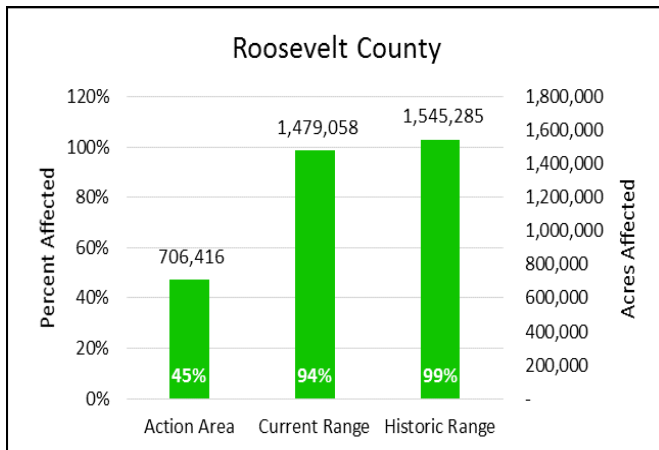


Figure 8- Roosevelt County Percent Affected Graph

Figure 9 illustrates that 99 percent of Roosevelt County or 1,545,285 acres lies within the Historic Range of the LPC, 94% or 1,479,058 acres in the current range, and 45% or 706,416 acres in the Action Area. If the Critical Habitat designation falls within the Historic Range, the county could see a devastating decline in its farming industry. Dozens of other businesses that the farming industry supports statewide could be affected. From banking to wholesale establishments, real estate to food services, dozens of small businesses will be negatively impacted (Appendix Table 48: Top Ten Industries affected by the farming industry in Roosevelt County.)

San Miguel County, New Mexico

| ImpactType | Direct Effect |
|-------------------|---------------|
| Employment | 62 |
| Labor Income | \$ 1,478,264 |
| Total Value Added | \$ 1,060,673 |
| Output | \$ 2,409,630 |

Table 33- San Miguel County Direct Effects

The farming industry in San Miguel County is comprised of the farming sector with estimated output (sales) of \$2.4 million (Table 33). The direct effects of the farming industry also include more than \$1 million in value added (the local equivalent of gross domestic product, GDP), \$1.4 million in labor income (proprietor's income plus employee compensation), and 62 jobs (part- and full-time jobs).

| ImpactType | Total Effect |
|-------------------|--------------|
| Employment | 78 |
| Labor Income | \$ 1,832,496 |
| Total Value Added | \$ 1,742,589 |
| Output | \$ 3,624,057 |

Table 34- San Miguel County Total Effects

Economic activity of the farming industry also has multiplier effects, generating additional jobs and sales in other sectors of the local economy. Indirect effects account for Farming industry purchases of inputs, while induced effects account for proprietor and employee spending from their incomes. These multiplier effects provide additional stimulus to the local economy. Accounting for these multiplier effects, the total contribution of the farming industry to the San Miguel County economy is \$3.6 million in output, \$1.7 million in value added, approximately \$1.8 million in labor income, and 78 total jobs.

Every 100 farming industry jobs in San Miguel County supports an additional 30 jobs in other industries

The farming industry in the San Miguel County supports 78 jobs. 62 of those jobs are directly attributed to the farming industry and the additional jobs are a result of economic activity stimulated by the farming industry that occurs in other sectors of the New Mexico economy.

Multiplier Implications

| ImpactType | Multipliers |
|-------------------|-------------|
| Employment | 0.3 |
| Labor Income | 0.2 |
| Total Value Added | 0.6 |
| Output | 0.5 |

IMPLAN 2013

Table 35- San Miguel County Multipliers

- For every loss of 100 jobs in the farming sector, 30 jobs are lost in the economy.
- For every \$100 loss of labor income from the farming sector, \$20 is lost in the economy.
- For every \$100 loss of value added from the farming industry, \$60 is lost in the economy.
- For every \$100 loss of output from the farming sector, \$50 is lost to the economy.

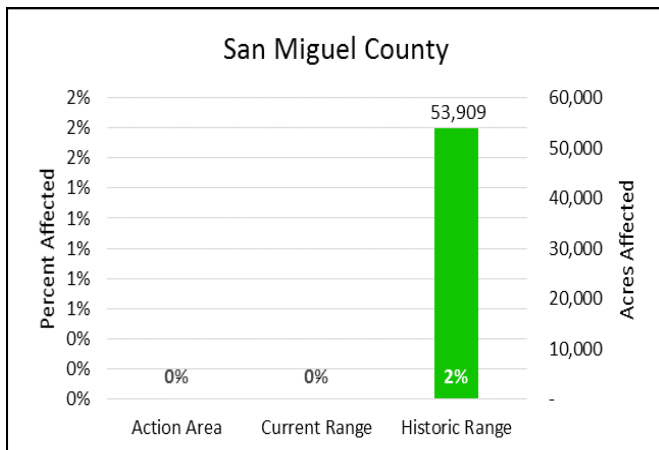


Figure 10- San Miguel County Percent Affected Graph

Figure 10 illustrates that 2 percent of San Miguel County or 53,909 acres lies within the Historic Range of the LPC, 0% in the current range, and 0% in the Action Area. Of all of the 10 Counties, San Miguel County will be affected the least however, the possibility that the Critical Habitat could be extended into San Miguel County is a cause for concern. Dozens of other businesses that the farming industry supports statewide could be affected. From banking to wholesale establishments, real estate to food services, dozens of small businesses will be negatively impacted (Appendix Table 49 : Top Ten Industries affected by the farming industry in San Miguel County.)

Union County, New Mexico

| Impact Type | Direct Effect |
|-------------------|---------------|
| Employment | 85 |
| Labor Income | \$ 4,623,478 |
| Total Value Added | \$ 3,164,958 |
| Output | \$ 11,887,368 |

IMPLAN 2013

Table 36- Union County Direct Effects

The farming industry in Union County is comprised of the farming sector with estimated output (sales) of \$11.8 million (Table 36). The direct effects of the farming industry also include more than \$3 million in value added (the local equivalent of gross domestic product, GDP), \$4.6 million in labor income (proprietor's income plus employee compensation), and 85 jobs (part- and full-time jobs).

| Impact Type | Total Effect |
|-------------------|---------------|
| Employment | 116 |
| Labor Income | \$ 5,571,641 |
| Total Value Added | \$ 5,142,603 |
| Output | \$ 15,880,827 |

IMPLAN 2013

Table 37- Union County Total Effects

Economic activity of the farming industry also has multiplier effects, generating additional jobs and sales in other sectors of the local economy (Table 37). Indirect effects account for Farming industry purchases of inputs, while induced effects account for proprietor and employee spending from their incomes. These multiplier effects provide additional stimulus to the local economy. Accounting for these multiplier effects, the total contribution of the farming industry to the Union County economy is \$15.8 million in output, \$5.1 million in value added, approximately \$5.5 million in labor income, and 116 total jobs.

Every 100 farming industry jobs in Union County supports an additional 40 jobs in other industries

The farming industry in the Union County supports 116 jobs. 85 of those jobs are directly attributed to the farming industry and the additional jobs are a result of economic activity stimulated by the farming industry that occurs in other sectors of the New Mexico economy.

Multiplier Implications

| Impact Type | Multipliers |
|-------------------|-------------|
| Employment | 0.4 |
| Labor Income | 0.2 |
| Total Value Added | 0.6 |
| Output | 0.3 |

IMPLAN 2013

Table 37- Union County Multipliers

- For every loss of 100 jobs in the farming sector, 40 jobs are lost in the economy.
- For every \$100 loss of labor income from the farming sector, \$20 is lost in the economy.
- For every \$100 loss of value added from the farming industry, \$60 is lost in the economy.
- For every \$100 loss of output from the farming sector, \$30 is lost to the economy.

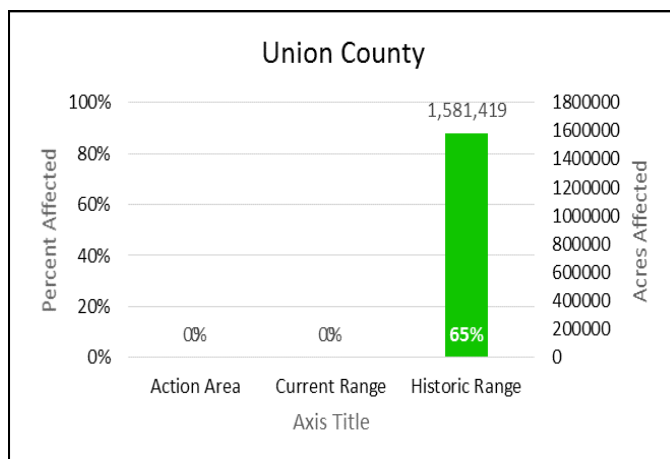


Figure 11- Union County Percent Affected Graph

Figure 11 illustrates that 65 percent of Union County or 1,581,419 acres lies within the Historic Range of the LPC, 0% in the current range, and 0% in the Action Area. If the Critical Habitat designation falls within the Historic Range, the county could see a devastating decline in its farming industry because of Critical Habitat designation in Kansas from the northeast and Texas from the east. The Endangered Species Act is a federal law that is not bound by state lines, so the possibility that Union County may be impacted negatively is very real even though there is currently no Action Area, or Current Range within its boundaries. Not only will the farming industry be affected if Critical Habitat is designated within Union County, dozens of other businesses will feel the affects (Appendix Table 50: Top Ten Industries affected by the farming industry in Union County.)

Discussion

The Endangered Species Act, and more specifically Critical Habitat designation has failed in its purpose because it uses a command approach to the endangered Species issue. In other words, it orders people to act to save endangered species. A command economy is where both supply and price are regulated by the central government rather than market forces. Goods and services are produced and distributed according to the dictates of the government. The former Soviet Union eventually realized that this type of economy is not sustainable.

If the overall goal of the Endangered Species Act is to save endangered species, then the approach must emphasize incentive, rather than command. The best system is the market system in the U.S. that responds quickly to need, learns quickly from failure, and assesses trade-offs and costs fairly to everyone. Arguably, the failure of the Endangered Species Act could be summarized by saying that a public law that has a command economic approach in a demand economy cannot succeed.

Economists view biodiversity and endangered species as a "public good." Public goods are not owned by the public, but goods anyone can use because it is impossible to exclude anyone from benefitting from them. National defense is a popular example. Everyone in the United States is "defended" whether they pay for it or not. Because of the fact that everyone shares the benefits of species protection, endangered species are a public good. Arriving at a definition that endangered species is a public good however, doesn't necessarily solve the problem because, markets handle public goods poorly because they are based on individual transactions. Since no one can be excluded from public goods, it creates ample opportunity for the general public to become "free riders".

The simple solution for this problem is to make the assumption that land owners are the owners of the habitat. If farmer A wants to grow crops on farmer B's property, farmer A must pay farmer B to do so. In like manner the owner of the wildlife must pay farmer A and B for habitat use if they want the species to thrive. The current practice of shifting the burden of protecting habitat to a few landowners does not reduce the cost, it just makes a few farmers pay for something that benefits everyone.

The correct method would be to make society as a

whole pay the costs, not just the few landowners who find themselves in the position of having endangered species on their property. This method is the best way to proceed not only because it is fair, but because it is far superior to the alternative; that of threatening to take people's land without compensation.

The 10 eastern Counties in New Mexico are a prime example. Critical habitat designation that reduces farming by any measure will have an impact not only on the industry itself, but numerous other ancillary businesses, and citizens in the region. It will reduce employment, labor income and total output. The rest of the nation therefore becomes a free rider because they receive the benefit of the endangered species protection at the expense of a few.

There is no clear evidence that the U.S. Fish and Wildlife Services' assessment that the Lesser Prairie Chicken (LPC) is in decline is real. Sources within the New Mexico Fish and Wildlife Service believe that if there is a decline in LPC populations it is purely cyclical and correlated to weather conditions. According to Jim Lane, the LPC has had low numbers over the past fifty years but has recovered each and every time when rainfall increased, and has nothing to do with human encroachment as proponents of the LPC listing suggest.

The listing and subsequent Critical Habitat designation of the LPC may be viewed by some as an incidental inconvenience however, to the hundreds of individuals and families whose lives and livelihoods are disrupted; it is a life altering event. While this publication deals primarily with the farming industry in the 10 county region, other sectors that will be addressed in subsequent publications will also see adverse challenges to their businesses. The dairy, ranching and petroleum industries in the region under study will be affected by the listing and Critical Habitat designation of the LPC as well. The four sectors; farming, dairy, ranching and petroleum account for the vast majority of the output for the region.

Conclusion

The farming industry in the 10 counties under study is a vibrant and ongoing concern that support jobs and businesses throughout the region and state. Disruption of this vital industry through Critical Habitat designation under the ESA will be felt throughout the regional and state economy.

There is significant controversy over the listing of the LPC due to reports by reputable organizations that claim the listing criteria were not met and that LPC

populations were not in decline. Millions of dollars of economic activity could be disrupted, and hundreds of jobs lost when Critical Habitat is designated based on science that has not been thoroughly researched or proved.

Because the Lesser Prairie Chicken requires large parcels of intact native grassland and shrub land, often in excess of 20,000 acres to maintain self-sustaining populations, it is likely that farmers will face more challenges to growing crops, allowing only a certain acreage of farming on particular fields, or limiting the length of time they are allowed to cultivate crops. Inevitably this leads to reduced cultivated acres that then equates to reduced output, reduced value added, reduced labor income and reduced employment. This reduction in these critical areas can be measured through the use of multipliers.

Multipliers are numbers which measure the magnitude of the direct, indirect, and induced effects that a given amount of production or expenditure has on a region or community. They are a useful way to predict the change to an economy due to a policy or legislative change. Analyzing the multipliers from IMPLAN, the data clearly shows that in decreases in farming production will negatively impact the county, state and regional economies. Not only will the farming industry be negatively impacted, but local businesses and firms will also feel the affect (See Appendix: top ten affected industries Tables.)

Business enterprises are not standalone entities that can ebb and flow independent of each other. Rural economies are co-dependent; relying on the economic health of all to remain healthy themselves. Top tier economic engines such as the farming industry buy goods and services from smaller local businesses. When those purchases are curtailed the impact is immediate. Ultimately, the lost revenue to small business from the farming industry will negatively affect the average citizen in the county, region, and state as the economic consequences of Critical Habitat designation trickle down to the personal level.

The acreage designated for Critical Habitat for the LPC must be as small as possible in order to protect private property rights. The partial reason that the LPC is in existence at all today, is because of the farming industry in New Mexico, especially in the 10 counties of eastern New Mexico. Perpetuating a sustainable farming business requires careful land management that ultimately benefits the Lesser Prairie Chicken; the farming industry has done so for decades.

Appendix

| Description | Total Employment | Total Labor Income | Total Value Added | Total Output |
|---|------------------|--------------------|-------------------|----------------|
| All other crop farming | 4,011 | \$ 171,600,540 | \$ 177,888,111 | \$ 289,486,554 |
| Tree nut farming | 916 | \$ 79,112,019 | \$ 100,875,129 | \$ 120,734,315 |
| Vegetable and melon farming | 896 | \$ 66,150,792 | \$ 77,573,501 | \$ 92,675,982 |
| Grain farming | 342 | \$ 5,086,485 | \$ (86,850) | \$ 84,069,647 |
| Greenhouse, nursery, and floriculture | 788 | \$ 38,935,583 | \$ 35,536,411 | \$ 50,134,150 |
| Support activities for agriculture and forestry | 1,213 | \$ 30,168,243 | \$ 33,794,939 | \$ 46,680,142 |
| Owner-occupied dwellings | 0 | \$ - | \$ 31,909,544 | \$ 44,793,010 |
| Cotton farming | 195 | \$ 18,490,745 | \$ 22,695,881 | \$ 35,975,174 |
| Real estate | 171 | \$ 1,996,851 | \$ 27,223,560 | \$ 33,921,563 |
| Wholesale trade | 130 | \$ 7,056,868 | \$ 14,491,068 | \$ 24,520,863 |

IMPLAN 2013
Table 39- Statewide Top 10 Affected industries

| Description | Total Employment | Total Labor Income | Total Value Added | Total Output |
|--------------------------------------|------------------|--------------------|-------------------|---------------|
| Grain farming | 123 | \$ 3,082,502 | \$ (50,819) | \$ 49,191,996 |
| Cotton farming | 105 | \$ 12,224,838 | \$ 15,783,302 | \$ 25,018,065 |
| Tree nut farming | 102 | \$ 15,335,454 | \$ 20,341,187 | \$ 24,345,734 |
| Owner-occupied dwellings | 0 | \$ - | \$ 8,395,880 | \$ 11,785,713 |
| Support activities for agriculture a | 241 | \$ 8,180,408 | \$ 8,904,776 | \$ 11,471,187 |
| Petroleum refineries | 1 | \$ 199,516 | \$ 1,498,289 | \$ 11,233,538 |
| Real estate | 52 | \$ 419,342 | \$ 8,121,751 | \$ 10,160,655 |
| Wholesale trade | 35 | \$ 2,048,193 | \$ 4,071,573 | \$ 6,798,374 |
| Vegetable and melon farming | 23 | \$ 5,017,951 | \$ 5,665,919 | \$ 6,768,994 |

IMPLAN 2013
Table 40- 10 County Top 10 Industries Affected

| Description | Total Employment | Total Labor Income | Total Value Added | Total Output |
|---|------------------|--------------------|-------------------|---------------|
| All other crop farming | 130 | \$ 19,866,627 | \$ 20,711,103 | \$ 33,704,257 |
| Tree nut farming | 21 | \$ 5,556,397 | \$ 7,325,900 | \$ 8,768,143 |
| Grain farming | 7 | \$ 358,798 | \$ (6,249) | \$ 6,049,001 |
| Support activities for agriculture and forestry | 56 | \$ 2,597,154 | \$ 2,766,109 | \$ 3,367,638 |
| Owner-occupied dwellings | 0 | \$ - | \$ 2,063,252 | \$ 2,896,289 |
| Real estate | 13 | \$ 65,569 | \$ 1,930,367 | \$ 2,423,465 |
| Cotton farming | 5 | \$ 1,037,118 | \$ 1,193,058 | \$ 1,891,113 |
| Wholesale trade | 9 | \$ 410,850 | \$ 901,847 | \$ 1,565,583 |
| Vegetable and melon farming | 3 | \$ 1,126,735 | \$ 1,300,762 | \$ 1,554,002 |
| Monetary authorities | 7 | \$ 335,310 | \$ 732,820 | \$ 1,315,005 |

IMPLAN 2013
Table 41- Chaves County Top 10 Industries Affected

| Description | Total Employment | Total Labor Income | Total Value Added | Total Output |
|--|------------------|--------------------|-------------------|---------------|
| All other crop farming | 82 | \$ 15,131,914 | \$ 15,479,299 | \$ 25,190,268 |
| Grain farming | 17 | \$ 1,072,289 | \$ (18,420) | \$ 17,830,658 |
| Support activities for agriculture and f | 61 | \$ 1,914,320 | \$ 2,096,471 | \$ 2,741,220 |
| Petroleum refineries | 0 | \$ 28,876 | \$ 319,167 | \$ 2,495,776 |
| Real estate | 12 | \$ 98,097 | \$ 1,863,289 | \$ 2,330,582 |
| Owner-occupied dwellings | 0 | \$ - | \$ 1,127,295 | \$ 1,582,439 |
| Vegetable and melon farming | 2 | \$ 823,933 | \$ 939,406 | \$ 1,122,295 |
| Wholesale trade | 5 | \$ 207,425 | \$ 497,258 | \$ 889,893 |
| Monetary authorities and depository | 5 | \$ 238,517 | \$ 499,007 | \$ 880,566 |
| Hospitals | 5 | \$ 397,483 | \$ 442,465 | \$ 743,197 |

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Table 42- Curry County Top 10 Affected Industries

| Description | Total Employment | Total Labor Income | Total Value Added | Total Output |
|---------------------------------------|------------------|--------------------|-------------------|--------------|
| All other crop farming | 77 | \$ 4,305,252 | \$ 3,505,669 | \$ 5,704,958 |
| Owner-occupied dwellings | 0 | \$ - | \$ 266,610 | \$ 374,254 |
| Greenhouse, nursery, and floriculture | 2 | \$ 189,318 | \$ 132,505 | \$ 186,935 |
| Wholesale trade | 1 | \$ 15,216 | \$ 86,303 | \$ 183,452 |
| Vegetable and melon farming | 1 | \$ 117,179 | \$ 114,255 | \$ 136,498 |
| Beef cattle ranching and farming, | 0 | \$ 31,310 | \$ 40,410 | \$ 95,191 |
| Other local government enterprises | 0 | \$ 23,369 | \$ 29,153 | \$ 93,543 |
| Electric power transmission | 0 | \$ 5,538 | \$ 14,948 | \$ 92,477 |
| Extraction of natural gas and crude | 0 | \$ 980 | \$ 30,518 | \$ 71,913 |
| Truck transportation | 1 | \$ 2,623 | \$ 4,059 | \$ 66,420 |

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Table 43- De Baca County Top 10 Affected industries

| Description | Total Employment | Total Labor Income | Total Value Added | Total Output |
|---|------------------|--------------------|-------------------|---------------|
| All other crop farming | 197 | \$ 13,949,650 | \$ 14,590,572 | \$ 23,743,997 |
| Tree nut farming | 72 | \$ 8,711,280 | \$ 11,523,265 | \$ 13,791,838 |
| Cotton farming | 30 | \$ 2,713,594 | \$ 3,137,153 | \$ 4,972,691 |
| Support activities for agriculture and forestry | 74 | \$ 2,760,354 | \$ 2,981,665 | \$ 3,766,869 |
| Greenhouse, nursery, and floriculture | 19 | \$ 2,443,801 | \$ 2,202,907 | \$ 3,107,822 |
| Owner-occupied dwellings | 0 | \$ - | \$ 1,837,069 | \$ 2,578,785 |
| Fruit farming | 26 | \$ 2,060,902 | \$ 2,082,909 | \$ 2,566,222 |
| Petroleum refineries | 0 | \$ 31,746 | \$ 246,238 | \$ 1,854,057 |
| Hospitals | 9 | \$ 698,858 | \$ 785,078 | \$ 1,360,353 |
| Real estate | 7 | \$ 56,504 | \$ 1,051,278 | \$ 1,314,639 |

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Table 44- Eddy County Top 10 Affected Industries

| Description | Total Employment | Total Labor Income | Total Value Added | Total Output |
|--|------------------|--------------------|-------------------|--------------|
| Grain farming | 3 | \$ 40,981 | \$ (523) | \$ 506,156 |
| Greenhouse, nursery, and floriculture production | 2 | \$ 154,022 | \$ 91,683 | \$ 129,345 |
| Wholesale trade | 0 | \$ 2,714 | \$ 21,814 | \$ 47,949 |
| All other crop farming | 1 | \$ 40,647 | \$ 28,188 | \$ 45,872 |
| Beef cattle ranching and farming | 0 | \$ 10,207 | \$ 12,781 | \$ 30,108 |
| Owner-occupied dwellings | 0 | \$ - | \$ 11,374 | \$ 15,966 |
| Maintenance and repair | 0 | \$ 713 | \$ 1,655 | \$ 10,056 |
| Extraction of natural gas and crude petroleum | 0 | \$ 101 | \$ 6,435 | \$ 9,352 |
| Monetary authorities | 0 | \$ 2,000 | \$ 3,394 | \$ 5,438 |
| Electric power transmission and distribution | 0.0 | \$ 890 | \$ 1,106 | \$ 5,301 |

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Table 45- Harding County Top 10 affected Industries

| Description | Total Employment | Total Labor Income | Total Value Added | Total Output |
|-------------------------------------|------------------|--------------------|-------------------|---------------|
| All other crop farming | 125 | \$ 12,306,584 | \$ 14,529,913 | \$ 23,645,284 |
| Cotton farming | 61 | \$ 7,213,001 | \$ 10,074,738 | \$ 15,969,438 |
| Grain farming | 7 | \$ 232,281 | \$ (4,421) | \$ 4,279,211 |
| Petroleum refineries | 0 | \$ 40,193 | \$ 236,024 | \$ 1,703,495 |
| Owner-occupied dwellings | 0 | \$ - | \$ 1,189,012 | \$ 1,669,076 |
| Real estate | 7 | \$ 95,192 | \$ 1,123,329 | \$ 1,396,067 |
| Tree nut farming | 4 | \$ 726,799 | \$ 1,084,834 | \$ 1,298,404 |
| Wholesale trade | 5 | \$ 386,987 | \$ 688,216 | \$ 1,092,217 |
| Maintenance and repair construction | 5 | \$ 352,623 | \$ 409,763 | \$ 922,539 |
| Extraction of natural gas and crude | 1 | \$ 180,648 | \$ 629,119 | \$ 846,719 |

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Table 46- Lea County Top 10 Affected Industries

| Description | Total Employment | Total Labor Income | Total Value | Total Output |
|---|------------------|--------------------|--------------|--------------|
| Grain farming | 40 | \$ 329,293 | \$ (5,225) | \$ 5,058,015 |
| All other crop farming | 67 | \$ 1,718,849 | \$ 1,579,417 | \$ 2,570,267 |
| Greenhouse, nursery, and floriculture | 14 | \$ 671,004 | \$ 530,606 | \$ 748,570 |
| Real estate | 2 | \$ 9,568 | \$ 251,277 | \$ 315,207 |
| Owner-occupied dwellings | 0 | \$ - | \$ 215,951 | \$ 303,141 |
| Monetary authorities | 1 | \$ 53,647 | \$ 126,692 | \$ 233,651 |
| Beef cattle ranching and farming | 1 | \$ 61,999 | \$ 81,661 | \$ 192,363 |
| Support activities for agriculture and forestry | 5 | \$ 109,657 | \$ 125,271 | \$ 180,307 |
| Other local government enterprises | 1 | \$ 32,768 | \$ 43,969 | \$ 168,492 |
| Wholesale trade | 1 | \$ 24,179 | \$ 79,015 | \$ 153,659 |

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Table 47- Quay County Top 10 Affected Industries

| Description | Total Employment | Total Labor Income | Total Value Added | Total Output |
|---|---------------------|-----------------------|----------------------|---------------|
| All other crop farming | 130 | \$ 12,864,712 | \$ 12,729,293 | \$ 20,715,041 |
| Grain farming | 12 | \$ 410,231 | \$ (6,877) | \$ 6,657,331 |
| Vegetable and melon farming | 8 | \$ 1,656,554 | \$ 1,847,411 | \$ 2,207,077 |
| Real estate | 8 | \$ 38,964 | \$ 1,154,729 | \$ 1,449,761 |
| Owner-occupied dwellings | 0 | \$ - | \$ 1,018,946 | \$ 1,430,345 |
| Cotton farming | 6 | \$ 833,735 | \$ 887,393 | \$ 1,406,604 |
| Support activities for agriculture and forestry | 13 | \$ 323,894 | \$ 364,440 | \$ 507,523 |
| Other local government enterprises | 2 | \$ 140,433 | \$ 170,263 | \$ 502,629 |
| Dairy cattle and milk production | 4 | \$ 206,744 | \$ 232,359 | \$ 488,876 |
| Monetary authorities | 2 | \$ 107,602 | \$ 248,330 | \$ 454,407 |
| IMPLAN 2013 | | | | |

Table 48- Roosevelt County Top 10 Affected Industries

| Description | Total Employment | Total Labor Income | Total Value Added | Total Output |
|---------------------------------------|---------------------|--------------------------|-------------------------|-----------------|
| Grain farming | 9 | \$ 61,662 | \$ (877) | \$ 849,288 |
| All other crop farming | 26 | \$ 553,433 | \$ 440,792 | \$ 717,324 |
| Greenhouse, nursery, and floriculture | 17 | \$ 665,882 | \$ 455,769 | \$ 642,991 |
| Fruit farming | 9 | \$ 198,987 | \$ 165,182 | \$ 203,511 |
| Support activities for agriculture | 8 | \$ 97,169 | \$ 120,310 | \$ 201,603 |
| Owner-occupied dwellings | 0 | \$ - | \$ 106,592 | \$ 149,629 |
| Real estate | 1 | \$ 2,311 | \$ 89,439 | \$ 112,466 |
| Hospitals | 1 | \$ 28,922 | \$ 33,764 | \$ 65,878 |
| Beef cattle ranching and farming | 0 | \$ 17,963 | \$ 23,093 | \$ 54,398 |
| Monetary authorities | 0 | \$ 12,530 | \$ 29,159 | \$ 53,510 |
| IMPLAN 2013 | | | | |

Table 49- San Miguel County Top 10 Affected Industries

| Description | Total Employment | Total Labor Income | Total Value Added | Total Output |
|---------------------------------------|---------------------|-----------------------|----------------------|-----------------|
| Grain farming | 26 | \$ 514,255 | \$ (7,146) | \$6,916,852 |
| All other crop farming | 55 | \$3,532,226 | \$ 2,728,808 | \$4,440,731 |
| Owner-occupied dwellings | 0 | \$ - | \$ 318,415 | \$ 446,975 |
| Greenhouse, nursery, and floriculture | 3 | \$ 409,534 | \$ 271,816 | \$ 383,473 |
| Wholesale trade | 2 | \$ 19,190 | \$ 137,615 | \$ 299,600 |
| Vegetable and melon farming | 2 | \$ 240,243 | \$ 225,598 | \$ 269,519 |
| Monetary authorities | 1 | \$ 65,955 | \$ 146,009 | \$ 263,251 |
| Other local government enterprises | 1 | \$ 63,485 | \$ 79,683 | \$ 259,986 |
| Beef cattle ranching and farming | 1 | \$ 85,416 | \$ 109,202 | \$ 257,238 |
| Hospitals | 2 | \$ 118,897 | \$ 134,541 | \$ 238,774 |
| IMPLAN 2013 | | | | |

Table 50- Union County Top 10 Affected Industries

