Economic Impacts of the Mexican Grey Wolf Depredation on Family Cattle Ranching in Catron County, New Mexico
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Final Report on the Results of the Wolf Depredation Study

Submitted to:
New Mexico Game Commission
and
Catron County Commission

Submitted by:
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1. **Background**:

   a. Previously conducted assessment of the Mexican Grey wolf depredation on livestock from 2000 to 2006, using a multiple sources of wolf depredation accounts; see *Assessment of the Economic Impacts from the Non-Essential, Experimental Mexican Wolf Program*, Western New Mexico University, February 2, 2007.
   b. The earlier assessment cited above and the current depredation assessment in this report geographic area was conducted in Catron County within the Blue Range Recovery Area.
   c. Problems with the old methodology in #1, above: Most wolf impacted ranchers have stopped notifying US Fish Wildlife Service, allegedly due to lack of USFWS effective responses. Hence, it required designing a different method to estimate depredation losses.
   d. USFWS faces similar problems with accurate accounting about the number of wolves.
   e. Best approach to get an approximation of depredation from wolves is by determining calf crop and losses.
   f. Ranchers keep accurate accounts for their calf crops, reflected in their sales records.
   g. This assessment canvassed all wolf impacted ranchers in Catron County.

2. **Results of Wolf Depredation Study**:

   a. Refer to concluding # 6. Implications on pages 6 & 7.
   b. 1,172 calves lost annually due to wolf depredation. Note wolf depredation in this report includes actual reported cattle killed by wolves and cattle stress by wolf attacks, resulting in reduction in calf crops for the affected ranchers.
   c. 4,688 calves from 2007 through 2011 due to wolf depredation.
   d. Results in a loss of 15% calf crop per year; unsustainable to pay for ranch operations.
   e. Four ranchers have already gone out of business due to wolf depredation.
   f. Results in over $2.4 mill. in 4 yrs.; $600,000/yr.
   g. Catron County tax base source of income: 48% from ranching operations; base industry.
   h. Results in annual loss to county schools and government: $35,200 - a teacher's salary.
   i. Total estimated direct economic loss from 2000 thru. 2010: $5 mill.
   j. Total economic impacts thru. 2010: $5.6 million.

3. **Importance of Livestock Production to Catron County**:

   Cattle ranching are the economic base of Catron County, supporting:

   a. $4.1 million annually to the local economy.
   b. $10 to $15 million to the state's economy.
   c. $517,000 annual support to schools and county government.
   d. Livestock production support approximately 48% of County tax base.

4. **Methodology**:

   a. Designed questionnaire survey based on calf crop records.
   b. Canvassed 32 ranchers that suffered livestock losses from wolf depredation. Received responses from 21 ranchers.
   c. Estimated percentage of calf crop and percentage of average calf losses before & after wolves on ranch. See table, below.
   d. Peer reviewed responses from New Mexico State University, Nick Ashcroft, Ph.D. and Catron County Wildlife Investigator, Jess Carey; conducted two subsequent surveys for validity and reliability.

5. **Method used to derive Multiplier factor**:

a. Objective: Derive an estimate for probable cattle losses due to Mexican Grey wolf depredation.

b. Background: It is an undisputed fact that wolves prey on cattle. Cattle ranchers in the area have complained about depressed calf crops in the presence of the wolf. However, it is difficult to find and confirm all wolf predation on livestock. Therefore, this paper attempted to estimate cattle losses due to wolf depredation since 2006 and determine approximately how many cattle are killed by Mexican Grey wolves that go unconfirmed by the USFWS.

c. Data: The first piece of information needed was to find out the average calf crop for the area before the absence of wolves. Twenty-nine ranches in the area were surveyed. Twenty five ranches responded. Twenty-one ranches had calf crop data that pre-dated the presence of wolves. These ranches represented 7,817 head of breeding cows, excluding bulls. The results of the survey are as follows;

Ranch	Pre-Wolf Average Calf Crop
AA	93%
B	89%
BB	99%
C	97%
D	96%
E	100%
F	95%
H	90%
I	89%
K	94%
L	80%
M	96%
N	74%
O	94%
P	92%
Q	60%
S	86%
T	95%
V	60%
X	85%
Y	98%
Average	**89%**

Therefore, we used an average calf crop for the area <u>before</u> wolf reintroduction to be approximately 89%.

The next step was to determine what calf crop averages were for the same ranches <u>after</u> the wolf was present and compare calf crop averages. The results are as follows;

Ranch	Pre-Wolf Average Calf Crop	Calf Crop with Wolf Present
AA	93%	85%
B	89%	70%
BB	99%	95%
C	97%	90%
D	96%	83%
E	100%	88%
F	95%	50%
H	90%	82%
I	89%	47%
K	94%	67%
L	80%	50%
M	96%	91%
N	74%	40%
O	94%	73%
P	92%	86%
Q	60%	60%
S	86%	71%
T	95%	85%
V	60%	60%
X	85%	85%
Y	98%	95%
Average	**89%**	**74%**

In the presence of the wolf the average calf crops on the ranches surveyed fell by 15 percentage points. Some ranches were affected more than others, and a few did not notice any change. But no ranches saw an increased calf crop after the wolf presence.

6. Implications:

Based on the information above, the Mexican Grey wolves have reduced calf crops by 15 percentage points on an annual basis, resulting in:

- 1,172 calves lost annually due to wolf depredation
- 4,688 claves from 2007 through 2011 due to wolf depredation

Note, that the above data results were based on 21 ranch respondents, mostly in the Gila National Forest portion of Catron County. There are over 75 forest grazing allottees and over 200 ranches in Catron County. Many county ranchers are not aware of their calf losses due to wolves because of the terrain and the fact that there is no calf signs at the kill site. Hence, this study's results are conservative estimate of wolf depredation on Catron county ranches.

The next question explored was the determination of how many total head of production cattle are exposed to the wolf range in Catron County, New Mexico. Based on Catron County Extension Agent, Bureau of Land Management, New Mexico State Land Office and U.S. Forest Service data, it is estimated that approximately 27,000 head of production cattle live within the range of the wolf in Catron County exposed to wolves – on an average four year period. If the USFWS increase Mexican Grey wolves to a target population of 200 wolves from their current estimate of 50 wolves, it could result in four times the current cattle losses, resulting in:

- 4,700 calves lost annually due to wolf depredation, and
- 19,000 calves lost in a four year period

The problems for Catron County base industry certainly is the current and potential number of cattle losses. But another related concern is the short and long term sustainability of these ranches, mainly family ranches, given a15% calf crop loss from wolf depredation. The average cattle ranch rate-of-return is approximately at break-even point. For the smaller county family ranches, it's a negative return. Yet, it's been an integral way to sustain their customs and cultures with Anglo and Hispanic ranchers in the county, who derive their household incomes from a variety of business endeavors.

The wolf program is a significant, cumulative adverse impact on the cattle ranchers' investment-backed expectations; the ability to make a living from ranching. This would also significantly impact the ability for the rancher to pay back their ranch-related operational and federal assistance loan contracts.

These significant adverse effects would also have significant adverse affects on the lifestyle and social fabric of the county and will most likely result in ranchers being forced to leave the community. If the ranch base private property is sold to a developer the community would see an influx of new people but it would lose some of the culture and lifestyle tied to ranching. This would transform the values, attitudes and beliefs (known as "customs and cultures") from rural, land- based communities to predominantly urban-oriented newcomers (USDI-BLM, Final Environmental Impact Statement, Healthy Rangeland Standards & Guidelines, 1999).

Finally, the loss of more ranches would affect the private land use, income and cost to Catron County government and schools. There's a high probability that the private ranchland would be converted residential subdivision development. This land conversion would have direct, indirect and cumulative fiscal impact on Catron County tax base. A land use change from agricultural to residential land would have measurable fiscal costs to the County in providing more county services and road maintenance. It could affect the resource conditions and trends if ranches are converted to subdivision (see USDA DOI - BLM Draft EIS: Healthy Rangelands Standards and Guidelines, Urban Impacts section). This land conversion would result in increased costs to the Forest Service in range infrastructure resource protection and law enforcement.

This would be a tragedy, given the fact that there are viable alternatives to the status quo of allowing USFWS wolves to destroy people's livelihoods.

Appendix: Survey Form and Background

Wolf Impacted Rancher Survey Purpose and Need

Purpose of Survey: To find out how many cattle have been lost due to wolf depredation.

The Approach: Ask the ranchers who have lost cattle due to wolf depredation through phone and personal interviews with written up survey questions. The two basic questions are:

1. Since 2006 how many cattle have you lost by size class? What was our average annual calf losses before you had wolves on your area, compared to your average annual calf losses when you had wolves in your area.

Use of Study: All ranchers interviewed and their specific information shall be confidential. The draft report will be submitted back to the ranchers interviewed for their review and comment. Specific uses of survey results include:

- To update the estimated number of cattle lost to wolf depredation.

- Estimate the magnitude and impacts of cattle lost to wolf depredation such as the economic losses to ranchers, direct, indirect and induced losses and circulating dollars associated with cattle losses.

- By determining losses, it is possible to estimate what the trends might be, especially if the agencies increase the number of wolves.

- The results of the survey can be used to show the economic damages that have been caused by the introduction of the wolf.

- Because the survey report is the best available account of wolf depredation on cattle, the survey report can be used in the up-and-coming wolf rule change EIS.

- The results of survey can help Catron County Commission estimate the financial effects on the County government delivery of services to its residents because close to 50% of its tax base is supported by livestock production, its base economy.

Benefits of Survey:

- Provides general public and wolf agencies with a written document as t the number of cattle and associated economic losses due to wolf depredation.

- Provides observable data that raises more questions and social costs associate with the wolf program.

- By showing economic damages from wolf depredation, it builds the case for taking of private property.

- By showing economic damages from wolf depredation, it provides a basis for fair compensation to the effected counties.

To: Ranchers that have suffered cattle losses due to Wolf Depredation.

Subject: Phone Survey wolf impacted ranchers

Purpose of Survey: To find out how many cattle have been lost due to wolf depredation.

The Approach: To cattle ranchers who have lost cattle due to wolf depredation through phone and personal interviews two basic questions (outlined below) and more detailed questions about losses to discuss.

The two basic questions are:

1. Since 2006 how many cattle have you lost by size class (calves, yearlings, cows and bulls)?

2. What was our average annual calf losses (in actual numbers and/or percentage) before you had wolves on your area, compared to your average annual calf losses when you had wolves in your area?

To: Ranchers that have suffered cattle losses due to Wolf Depredation.

Subject: Detailed Survey Questions to Ranchers Impacted by Wolf Depredation

We are trying to up-date the number of cattle lost due to wolf depredation. We have estimates from 2000 through the year 2006 as to the number of cattle lost to wolves. The only way to find out how many cattle have been lost is to ask the impacted ranchers via phone interviews/surveys.

Would you consider completing the survey? Your input and guidance shall remain confidential.

Our survey questions include: What is the number of cattle that you estimate were lost (death and injury) due to wolf depredation: this year, last year, each year since 2006, from 2006 back to the year 2000?

It would help if your cattle information is broken down by size class: calves, yearlings, cows and bulls). I would also help if you could break down losses according to cattle killed or cattle injured.

Note, your information shall remain confidential.

A.   **For 2009:**

1. How many cattle (by size class) do you estimate you have lost (killed or injured) thus far this year (2009)?

2. How many of these losses do you estimate were due to wolf depredation do you estimate?

3. How many losses were due to other causes do you estimate for 2009?

4. Would you care to mention how many wolf related losses were reported to WS/USDA?

5. How many losses were recorded by WS as, *confirmed, probable*, or missing?

B. **For last year, 2008:**

1. How many cattle do you estimate you have lost in 2008?

2. How many of these losses do you estimate were due to wolf depredation do you estimate?

3. How many losses were due to other causes do you estimate for 2008?

4. Would you care to mention how many wolf related losses were reported to WS/USDA?

5. How many losses were recorded by WS as, *confirmed, probable*, or missing?

C. **For 2007:**

1. How many cattle do you estimate you have lost thus far in 2007 do you estimate?

2. How many of these losses do you estimate you have were due to wolf depredation do you estimate?

3. How many losses were due to other causes do you estimate for 2007?

4. Would you care to mention how many wolf related losses were reported to WS/USDA?

5. How many losses were recorded by WS as, *confirmed, probable*, or missing?

D. **For 2006 back to 2000:**

1. How many cattle do you estimate you have lost thus far this year (2009) do you estimate?

2. How many of these losses do you estimate were due to wolf depredation do you estimate?

3. How many losses were due to other causes do you estimate for 2009?

4. Would you care to mention how many wolf related losses were reported to WS/USDA?

5. How many losses were recorded by WS as, *confirmed*, *probable*, or missing?

Please provide Your Additional Comments:

Thank you for your help. We will get you a draft of our survey results.