

The Economic Impact of Cervid Farming in Minnesota



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Prepared for the Minnesota Elk Breeders Association
and the Minnesota Deer Breeders Association
by John Keckhaver Government Relations and Analysis, LLC

Resources

The author would like to thank the Minnesota Board of Animal Health in St. Paul, Minnesota for their assistance and for providing data regarding the number of cervid herds in Minnesota and their locations. Also utilized for this report is the 2007 U.S. Census of Agriculture (available at http://www.agcensus.usda.gov/Publications/2007/Full_Report/index.asp). This census is conducted every five years and the 2012 census is currently underway. Another valuable resource on cervid farming has been the 2007 national study conducted by researchers at Texas A&M University, Economic Impact of the United States Cervid Farming Industry (2007)(available at <http://www.nadefa.org/images/stories/cervid-report.pdf>). The economic multiplier determined by researchers for that study is used in our analysis of the economic impact of cervid farming in Minnesota. Also, Cornell University's 2001 study titled Agricultural-Based Economic Development: Trends and Prospects for New York is used for its look into the employment impacts of agricultural industries. All other data contained in this report was gleaned from surveys sent to all cervid farming operators in Minnesota during 2011. 582 surveys were delivered and 166 were returned for a response rate of 29 percent.

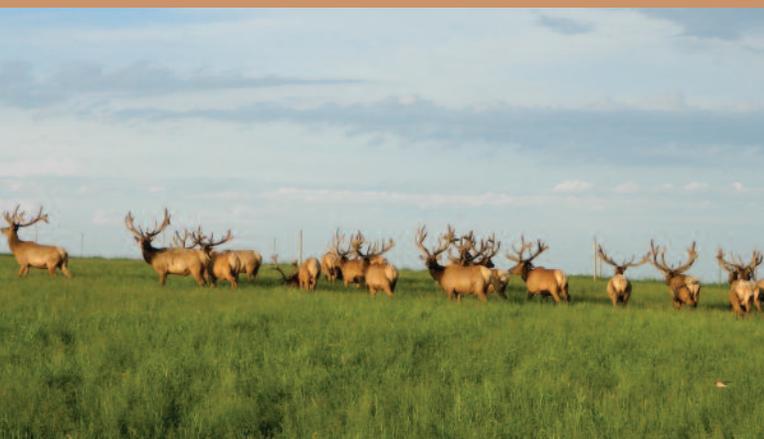
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Executive Summary

Cervids, or cervidae, include Elk, Fallow Deer, Mule Deer, Red Deer, Reindeer, Sika Deer and Whitetail Deer. The following are key facts surrounding cervid farming in Minnesota.

Minnesota's Cervid Industry Background

- Minnesota ranked 1st nationally in the number of elk and 3rd in the number of commercial elk farms according to the 2007 U.S. Census of Agriculture.
- According to the same census, Minnesota ranked 5th in the number of commercial deer farms and 6th in the number of deer at these farms.
- The average cervid farm in Minnesota protects 43 acres of land.
- As of November, 2011 there were 560 registered cervid herds in Minnesota.
- The number of herds has decreased steadily since 2005 when there were 757 herds.
- Despite the decline, cervid farming remains widespread throughout Minnesota. Cervid herds are located in 76 of Minnesota's 87 counties. 70 counties boast a deer farm and 63 counties an elk farm.
- The 2007 U.S. Census of Agriculture (the latest agriculture census completed at this time) found 199 commercial elk farms and 274 commercial deer farms in Minnesota (defined as having at least \$1,000 in sales that year).

Current Economic Impact

- The cervid industry supports an estimated 1,287 jobs in the state (240 full time and 1,047 part time).
- The total estimated annual economic impact of cervid farming in Minnesota is \$17.6 million.

Future Prospects for the Industry in Minnesota

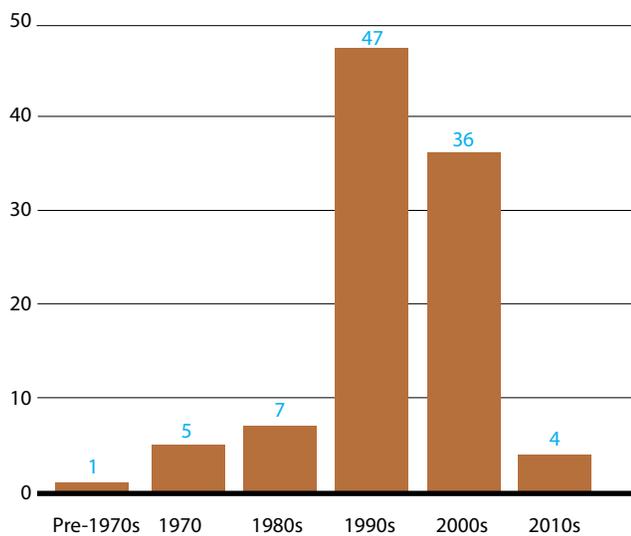
- 41 percent of Minnesota cervid farmers expect to increase the number of cervids stocked on their farms in the near future.
- 30 percent expect to increase the acreage used to support their cervid operations.
- 51 percent of Minnesota's cervid farmers expect to increase their sales in 2011 over 2010.
- 45 percent expect to increase their expenditures in 2011 over 2010.
- 63 percent consider their cervid operations as part of their long term business/retirement plan or carrying on of the family farm.



Cervid Farming in Minnesota

Cervids, or cervidae, include Elk, Fallow Deer, Mule Deer, Red Deer, Reindeer, Sika Deer and Whitetail Deer. Many cervid farms in Minnesota have been around for decades, with many others only recently started. The average length of time in operation for Minnesota cervid farms is 14 years and 10 months. Figure 1 shows the breakdown by decade.

Fig. 1: Percent of MN Cervid Farms Created by Decade



Cervid farming often serves to protect the environment through improved land use. 64 percent of Minnesota cervid farmers surveyed for this analysis have converted highly erodible or marginal cropland into pasture for their cervid operations. Figure 2 shows the average size of cervid operations in Minnesota.

Fig. 2: Acreage Utilized in Average Cervid Operation

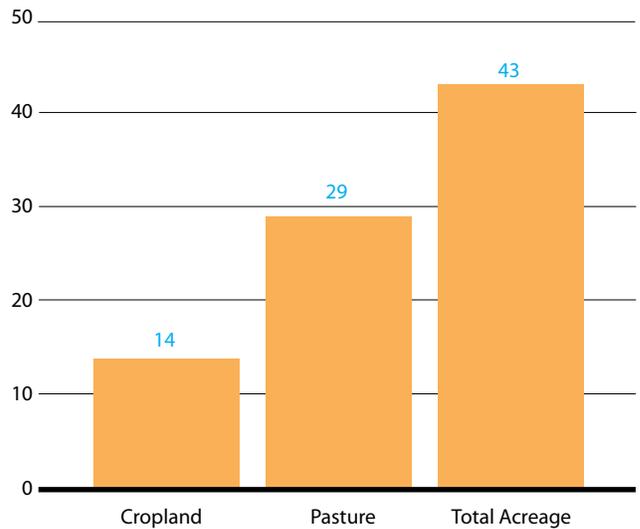


Fig. 3 Year (as of 1/1) Number of Cervid Herds

Year (as of 1/1)	Number of Cervid Herds
2005	757
2006	715
2007	679
2008	664
2009	648
2010	613
2011	593

As of November, 2011, there were 560 registered cervid herds in Minnesota. The number of cervid farms in Minnesota has slowly decreased since 2005 as Figure 3 indicates.

Despite this decline, Minnesota remains a national leader in cervid farming. According to the 2007 U.S. Census of Agriculture, Minnesota ranked 3rd in the nation in

Fig. 4 Top Ten Minnesota Counties by Number of Deer and Elk Farms

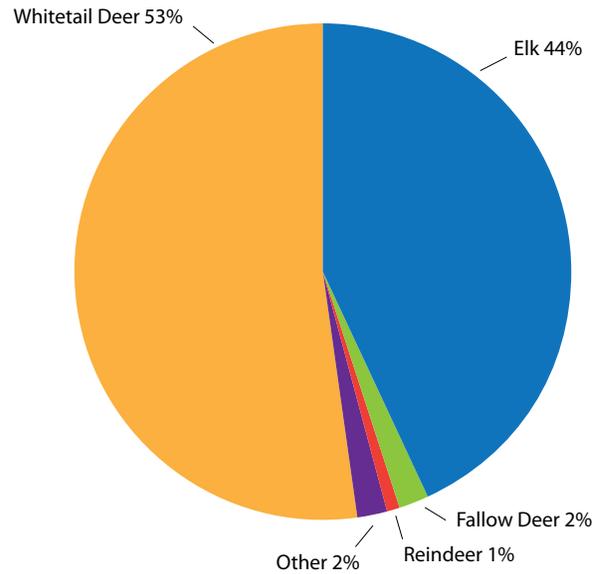
Stearns	41
Morrison	36
Wright	21
Todd	19
Wabasha (Tie)	18
Winona (Tie)	18
Otter Tail	16
Olmsted (Tie)	15
Fillmore (Tie)	15
Isanti (Tie)	15
St. Louis	13

the number of commercial elk farms and 1st in the number of elk at these farms. Minnesota also ranked 5th in the number of commercial deer farms and 6th in the number of deer at these farms (the U.S. Census of Agriculture defines a commercial cervid farm as having at least \$1,000 in sales during that year).

Not surprisingly, cervid farms are primarily located in rural areas, but they are also widely distributed throughout the state's counties. Cervid herds are located in 76 of Minnesota's 87 counties. 70 counties boast a deer farm and 63 counties an elk farm. Figure 4 above lists the ten counties in Minnesota with the most deer and elk farms. The state map to the right shows the total number of cervid farm operations per county in Minnesota.

The vast majority of cervid farms in Minnesota include elk and whitetail deer, with fewer farms including small numbers of red deer, fallow deer, and others. The average deer farm in Minnesota includes 35 whitetail deer, and range from 1 animal to 200 among survey respondents. The average elk farm consists of 38 elk, and farms range from 1 to 320 elk among survey respondents. Figure 5 above shows the breakdown of farmed cervids in Minnesota by species ("Other" includes Red, Sika, Mule, and Muntjac).

Fig. 5: Percentage of Farmed Cervids in MN, by Species



**Farmed Cervidae Program
MN Board of Animal Health
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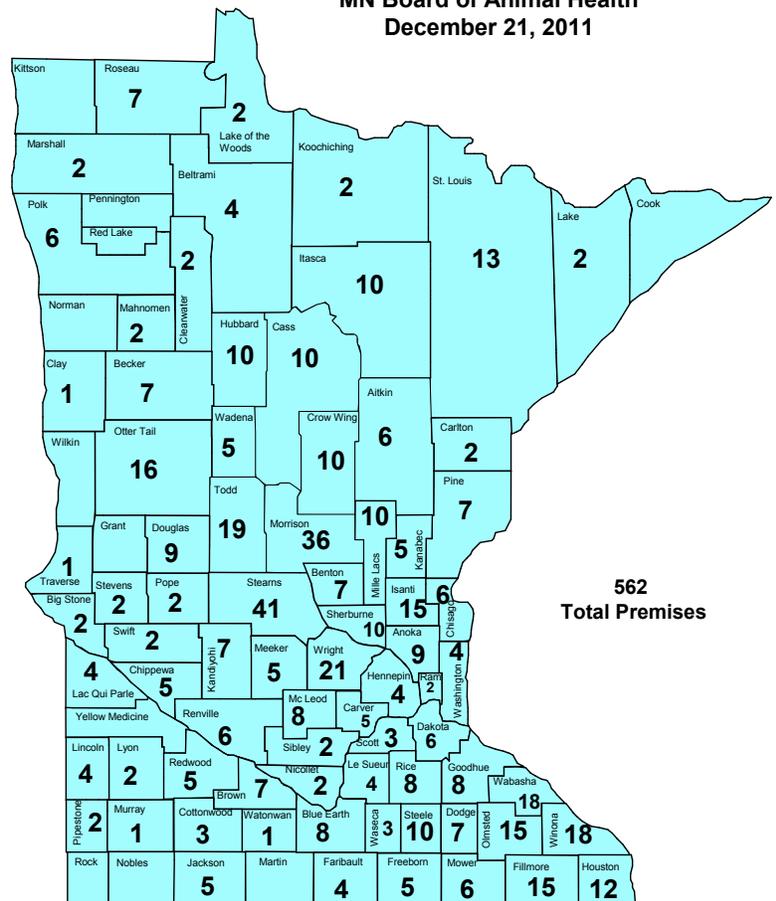
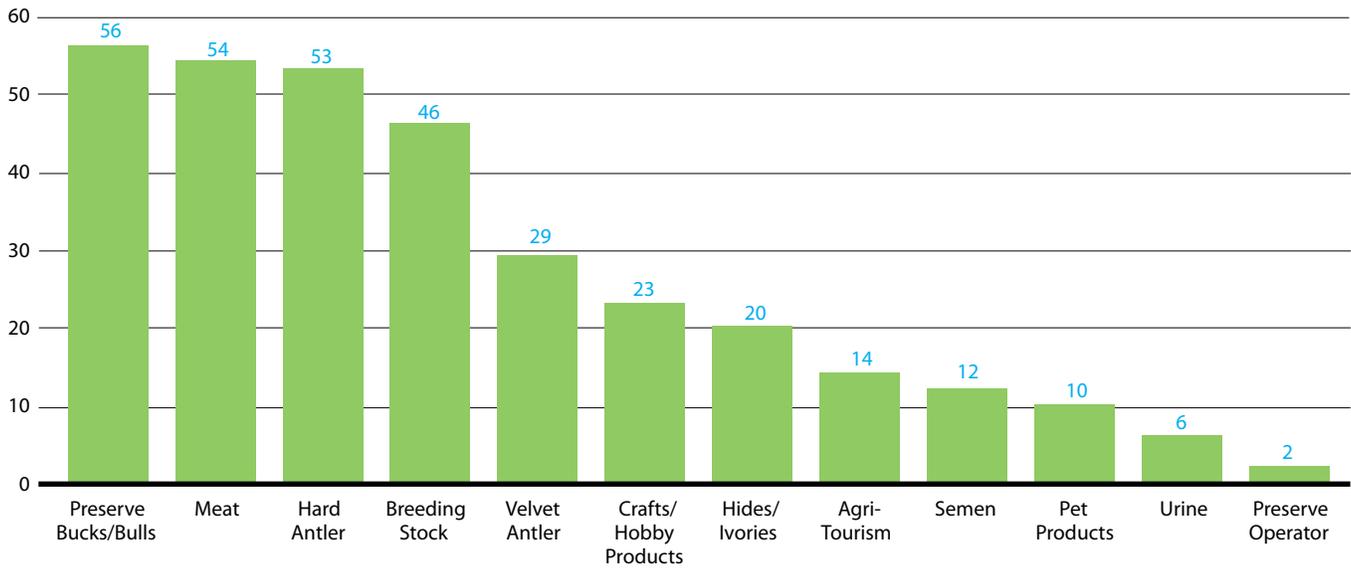


Fig. 6: Percentage of Cervid Operations Which Provide Certain Products/Services



The Economics of Cervid Farming in Minnesota

The impact of cervid farming on local rural communities can be significant. According to a national study conducted in 2007 by researchers at Texas A&M University, cervid farming was at that time one of the fastest growing industries in rural America. Niche agricultural industry contributors such as cervid farming can also help sustain small farming operations during difficult economic times.

Fig. 7: Sales Methods Used by MN Cervid Farmers, %

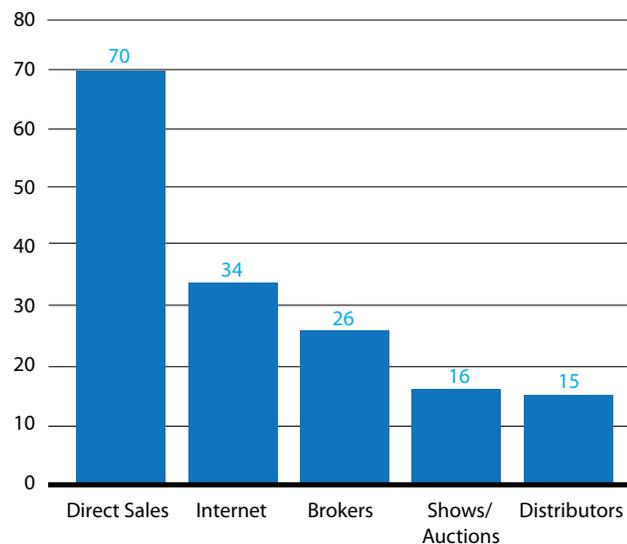
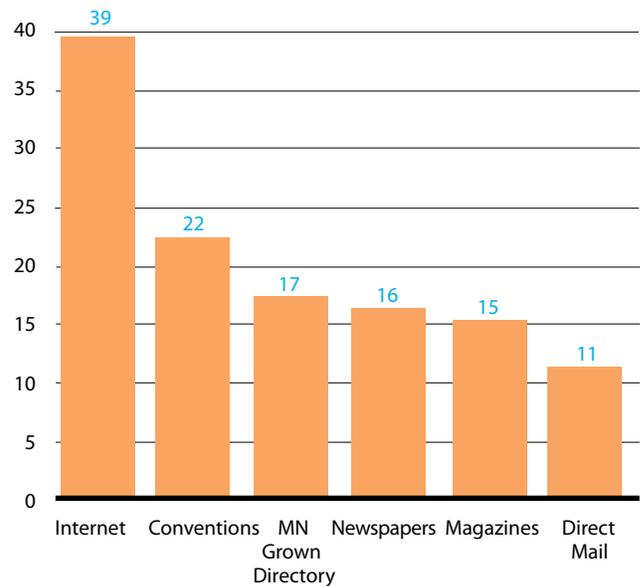


Fig. 8: Marketing Methods Used by MN Cervid Farmers, %



Sales

Cervid farmers provide a wide range of products and services to consumers. Preserve bucks/bulls, meat, hard antler and breeding stock top the list in sales followed by velvet antler. Velvet antler produced in Minnesota is used for medicinal purposes all throughout Asia. A high percentage of cervid farmers also market byproducts such as hides, ivories and urine, which is widely used by hunters to attract deer. Average 2010 per farm sales from those farms reporting sales figures for this analysis was \$11,607.

Figure 6 shows the various products and services available at the state's cervid farms along with the percentage of farms which offer each.

Cervid farmers utilize a number of sales and marketing methods as seen in Figures 7 and 8.

Expenditures

Cervid farmers spend funds—largely in their local communities—on a variety of items, including: feed, livestock, labor, veterinary work, and many other goods and services. Figure 9 shows the average expense level for a number of different expenses reported by survey respondents who incurred that expense in the past year (not all respondents incurred all of the expenses listed).

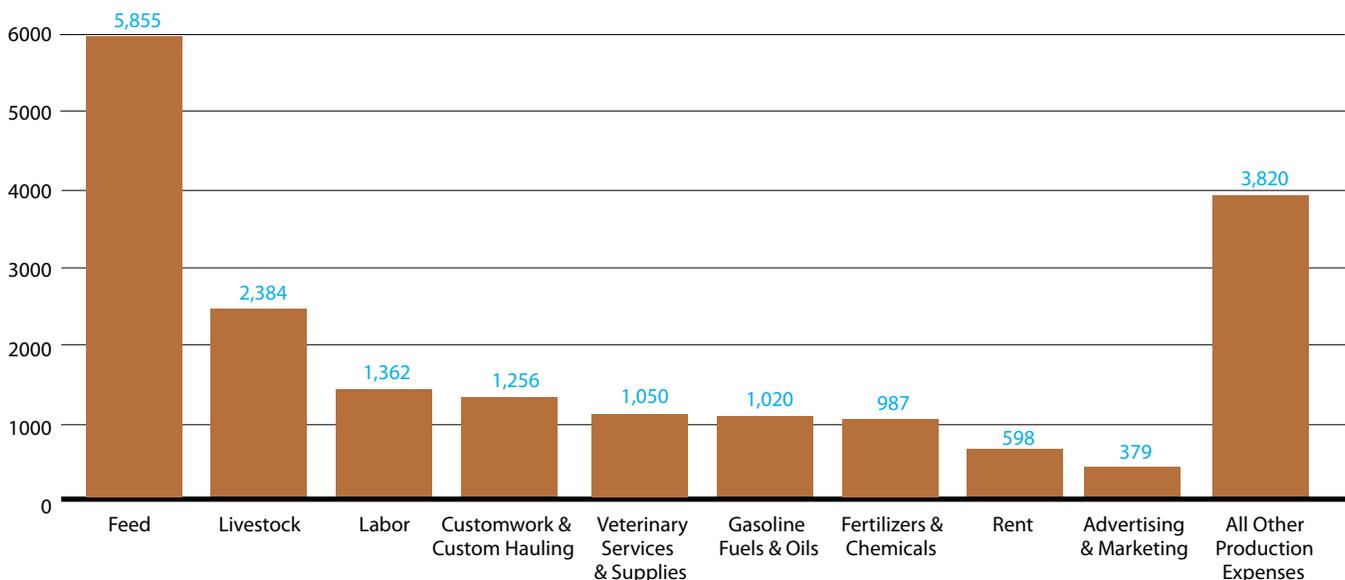
Jobs and Overall Economic Impact

The economic and employment impacts of any business spreads beyond those actually engaged in that industry. A portion of a farm's revenue is used to support and supply that business and those expenditures in turn support other businesses and jobs at other businesses. The economic and employment impacts are therefore described and computed as direct and indirect.

As noted above, average sales reported by survey respondents totalled \$11,607. This results in a state-wide estimate of \$6.9 million in direct economic impact in 2010 from all cervid farming operations in Minnesota.

Using the cervid farming economic multiplier of 2.55 determined by researchers at Texas A&M produces an estimated total economic impact of \$17.6 million statewide. Cervid farming provides jobs around the state. Based on survey responses, 894 jobs are directly supported by cervid farming in Minnesota. Using the established employment multiplier for cervid operations of 1.44 results in an estimated total jobs supported by cervid farming of 1,287 (1,047 part time and 240 full time).

Fig. 9: Average Annual Expenditures (\$) per Farm by Type



Conclusion

Minnesota is clearly a national leader in the cervid industry, one which can reap big rewards for rural economies and farmers alike. Although there has been a decade long decline in the number of registered herds in the state, public demand for meat and antlers are steadily increasing. Over 40 percent of Minnesota cervid farmers expect to increase the number of animals they raise. Over 50 percent expect 2011 sales to top 2010 sales and 30 percent look to expand their acreage. This industry is clearly poised to reverse this downward trend into a future of growth. Most cervid farms are small agricultural businesses which are very important to Minnesota's rural economy. As survey respondents clearly pointed out, for many of them cervid farming is a way to further protect their family farm and they look forward to continuing that tradition in the years to come. ■

Estimated total annual economic impact from cervid farming in Minnesota is \$17 million. And the total estimated number of jobs supported by the industry are 1,287.

