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RURAL TRANSPORTATION SAFETY AND SECURITY CENTER
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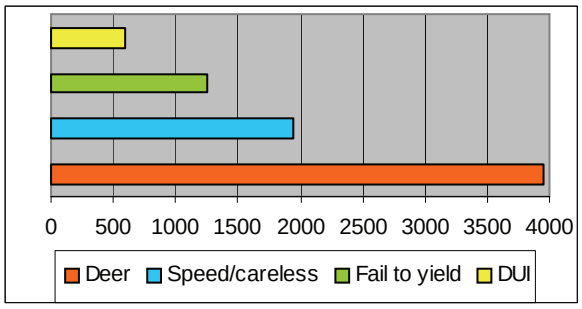
# Deer Vehicle Crashes: Train the Deer or Train the Driver ?

## Deer Crashes in North Dakota

Deer and vehicles collide in the United States more than 1.5 million times per year causing more than $1 billion in damages, killing approximately 150 people and at least 1.5 million deer (Curtis & Hedlund, 2005). The top 10 states for deer crashes in 2007 were West Virginia, Michigan, Wisconsin, Pennsylvania, Iowa, Arkansas, Montana, South Dakota, North Dakota, and Minnesota (State Farm Insurance).

Crash data confirms that deer-vehicle crashes (DVC) are a problem in North Dakota. For 2006, economic costs from ND deer crashes are estimated to be $32.4 million. Of the 151,267 total crashes that occurred from 2001 to 2006, 23,376 (15%) were DVCs. This type of crash remained fairly consistent for the years analyzed (2001-2006) with a slight increase in both deer and overall crashes in 2004. An average of 3,896 DVCs occurred per year from 2001 to 2006. DVCs in North Dakota for 2001 to 2006 comprise between 14.9% and 16.8% of all crashes. Although North Dakota is an ideal spot for deer hunting, the number of licenses issued, the number of licensed, and the number of deer killed doesn't appear to greatly influence DVCs. While the number of hunters and the number of deer killed is increasing, the number of deer crashes is stable.

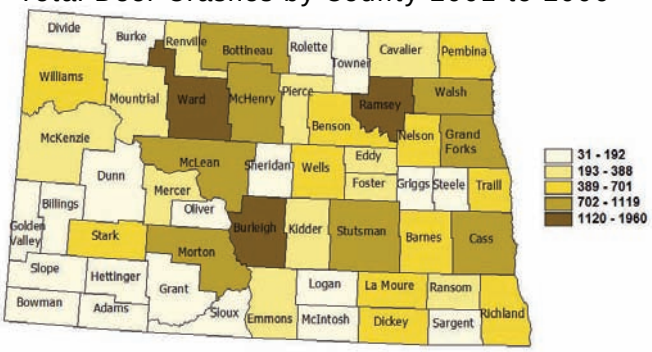
**Number of ND Crashes, Top Reasons ( 2006)**



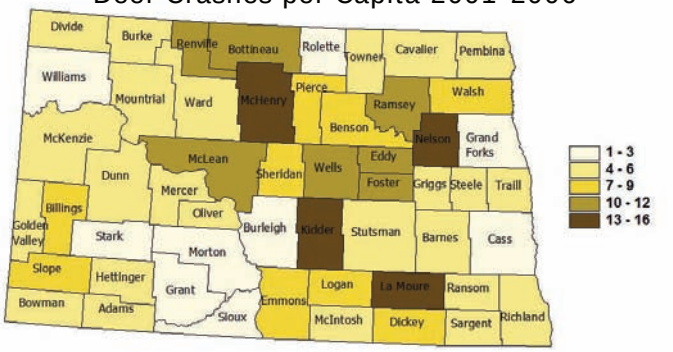

## Deer Crashes by County

Certain counties in the state report higher numbers of DVCs than others. Total deer crashes are greatest in Ward, Ramsey, Burleigh, Grand Forks, and Stutsman counties. Ward County has the highest number in all six years ranging from 310 to 360 annually for a total of 1,960 crashes (12%-16% of Ward County's annual crashes are DVCs). The next four counties with the highest numbers of DVCs for the 2001 to 2006 period are Ramsey with 1,295, Burleigh with 1,276, Grand Forks with 1,119, and Stutsman with 1,104.

Total Deer Crashes by County 2001 to 2006




Deer Crashes per Capita 2001-2006




Factoring in population dramatically changes the list of counties with the most DVCs. When you look at deer crashes per capita in counties, the greatest problems are in Nelson, LaMoure, McHenry, Kidder, and Eddy counties, none of which are included in the top 5 for total DVCs. It is important to look at DVCs per capita in order to make a standardized comparison. While Ward county ranks one on total crashes, this county also has more people (55,270 in 2006), and thus more drivers, then Nelson county (3,289). For example, in the 6-year period, Nelson county had 15 DVCs per 100 people living in the county, while Ward county only had 3 DVCs per 100 residents.

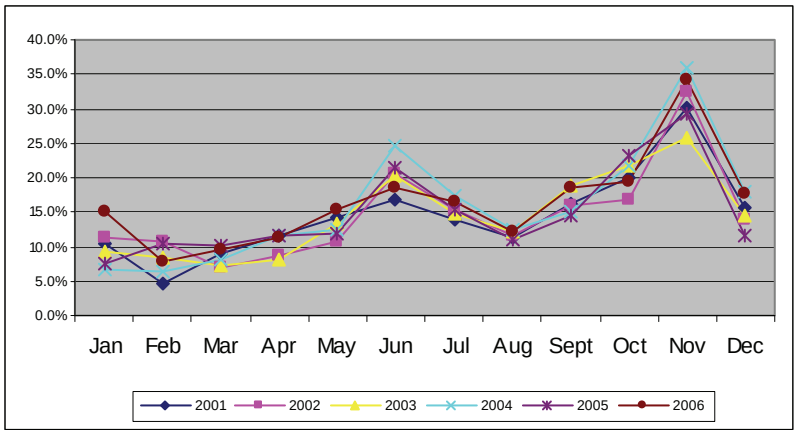
**Comparison of DVCs for ND Counties 2001-2006**

| County | 2006 population | Total DVC | DVC per 100 Capita | Rank Total | Rank per Capita |
|---|---|---|---|---|---|
| Nelson | 3289 | 513 | 15.6 | 16 | 1 |
| LaMoure | 4262 | 615 | 14.4 | 14 | 2 |
| McHenry | 5429 | 782 | 14.4 | 10 | 3 |
| Ward | 55,270 | 1960 | 3.5 | 1 | 43 |
| Ramsey | 11,267 | 1295 | 11.5 | 2 | 6 |
| Burleigh | 75,384 | 1276 | 1.7 | 3 | 50 |

## Time of Year for Deer Vehicle Crashes

Watching for deer is important whenever you are behind the wheel, but it is essential during times of the year when the most crashes occur. The following graph shows DVC percentages compared to total monthly crashes from 2001 to 2006. DVCs increase in June, drop through the summer, and peak in November consistently throughout the six years analyzed. About 2 in 3 DVCs occur during the seven hours from 5 to 7 a.m. and 6 to 11 p.m.

**Monthly Deer Crash Percentages Compared to Total Monthly Crashes**




## Summary

The unpredictability and complexity of the DVC problem makes it very unlikely that just one solution could be applied effectively to all roadways. Driver alertness and watchfulness are always necessary to achieve a reduction in DVCs. A combination of education, engineering, and herd size reduction are generally agreed upon as key components to a comprehensive program addressing the DVC issue. While no DVC countermeasure would be completely effective, public information campaigns will always be important.

### For more information, check out these additional resources:

http://www.deercrash.com/
http://www.abcmoney.co.uk/news/272007110146.htm
http://www.deercrash.com/papers/agenda.pdf
http://www.kxmb.com/t/south-dakota/198816.asp
http://www.kfyrtv.com/News_Stories.asp?news=15036

### References


DeerCrash.(2003). Countermeasures tool-box. Deer-Vehicle Crash Information Clearinghouse, University of Wisconsin, Madison, WI. Retrieved Feb. 15, 2008 from www.DeerCrash.com,

U.S. Department of Transportation, Federal Highway Administration. (2000, March). Critter Crossings: Linking Habitats and Reducing Roadkill. Retrieved Feb. 15, 2008 from http://www.fhwa.dot.gov/environment/wildlifecrossings/bear.htm.

Curtis, P. D., & Hedlund, J. H.(2005).Reducing Deer-Vehicle Crashes, Wildlife Damage Management Fact Sheet Series. Cornell Cooperative Extension: Ithaca, NY. Retrieved Feb. 15, 2008 from http://wildlifecontrol.info/ccewdmp/Publications/Deer-Vehicle_factsheet1.pdf

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(2007)W.Va. leads nation in car-deer crashes. *NewsDaily.com*. Retrieved Feb. 15, 2008 from http://www.newsdaily.com/TopNews/UPI-1-20071026-21404300-bc-us-cardeer.xml

Smart Motorist. http://www.smartmotorist.com/traffic-and-safety-guideline/crashes-with-


## Strategies to Reduce Deer Vehicle Crashes

Many factors appear to impact the number of DVCs on particular roadways. These factors are generally related to characteristics of the roadway and traffic flow, the deer population, and the adjacent land use and cover (Knapp, et al., 2004). A variety of strategies and devices to reduce the incidence of DVCs exist, but success has been limited. Studies of deer whistles and roadside reflectors show conflicting results. Exclusionary fencing and wildlife crossings have been used with generally positive study results. Other reduction techniques such as speed limit reduction, deer crossing signs and technologies, hunting or herd management, and roadside vegetation management have been used but are rarely studied. A number of other DVC reduction techniques also require further research, including in-vehicle technologies, deicing salt alternatives, public information and education, roadway lighting, and repellents.

***Animal crossing underpass with channeling fences. U.S. DOT***

### Defensive Driving Tips for Deer Avoidance

- Be vigilant in early morning and evening hours (before & after sunset)
- Use high beam headlights to see deer better
- Slow down & blow horn with 1 long blast to scare deer away
- Brake firmly when a deer is spotted. Do not swerve.
- Be alert in deer crossing zones
- Be alert in natural cover areas: streams, sloughs, rivers, and shelterbelts that are near roadways
- Always wear your seatbelt.
- Look for other deer if one crosses the road, they seldom run alone. (Source: Smart Motorist)

The Rural Transportation Safety and Security Center is a program of the Upper Great Plains Transportation Institute at NDSU.


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