

# National Deer-Vehicle Collisions Project Scotland (2003-2005)



## Conclusions and Recommendations

### Conclusions

During the present study we have collated information on 6062 reported incidents in Scotland. Data gathered during the present study provide far larger samples of Deer-Vehicle Collisions (DVCs) than have been available to any previous studies in Britain. It is clear however, that even the large annual samples of reported incidents represent merely a small proportion of all deer road kills or related incidents. **We calculate that the true toll of DVCs in Scotland is c. 8500 (+/-1500)** out of a total across GB that is likely to lie in the region of 46,000 (+/- 9000).

Our research shows that DVCs have been recorded in most areas of Scotland. The distribution is most continuous through central and north-eastern parts which are also the areas where by far the highest **frequencies** of DVCs have been recorded.

We have identified roads or road sections with particularly high DVC risk by comparing accident frequencies with national averages recorded for given road-types. **In Scotland the roads where we have logged the highest 'reported' rates of DVCs include the A835, B9077, M90, M9, A80, A93, B979, A980, A90, A830, A9, and A82.**

Records of Personal Injury Accidents (PIA) arising through collisions or swerving to avoid deer form an important element of the present study, not merely because of the serious nature and economic cost of these incidents, but also their potential to provide small but very well stratified data with relatively high location accuracy. **We estimate an annual toll in Scotland of 74 PIAs involving deer, likely to include 1 to 2 'fatal', 16 'serious' and 56 'slight' injury road accidents.**

**The economic 'value of prevention' of that level of human injury accidents may be calculated to be round £4.5M for those incidents within Scotland. The minimum costs of material damage in Scotland at c. £ 2.6M.**

**We are convinced that areas of high frequency of DVCs are not simply related in any direct way to deer density.** Higher than average levels of DVCs at the landscape scale are determined in the first instance not by the abundance of deer *per se*, but rather an interaction between high deer numbers in areas which also have high traffic volume. The highest frequencies of DVCs reported to date are indeed mostly located within those regions of the country where traffic flows are greatest; their spread among major and minor roads also appears broadly in line with patterns of traffic volume.

**The most common species involved is roe (69%),** followed by red (24.5%), fallow (4%) and sika (3%); We note however, that while the majority of accidents in both Scotland and England involve roe deer, in practice the species most commonly associated with local 'hotspots' of accident risk throughout the UK as a whole is fallow.

### Seasonal Effects

Although some DVCs occur throughout the year, for both the species most commonly involved in DVCs in Scotland distribution between months shows a seasonal effect.

- for red deer highest numbers of accidents occurs during October to January.
- for roe deer in Scotland the highest numbers of DVCs consistently occur during May, when almost twice as many incidents were reported than in any other month. A secondary peak in DVCs for roe also occurs between October and December when day length shortens.

### **Mitigation measures**

A number of Priority Areas have been established by the Deer Commission for Scotland for sections of the A82, A835 and A87 where there is particular concern about DVCs. Following recent recommendations by local Advisory panels for these sites, novel interactive signage and trials of various other mitigation are being established. Several trials of other new types of mitigation including acoustic wildlife reflectors, rumble strips, and animal activated signage are also now underway in England to evaluate whether any of these devices can be shown to be effective.

Results of the present study demonstrate not only the very large numbers and widespread occurrence of DVCs nationwide, but also provide information on regional and local differences in the distribution and frequency of such collisions. It is clear, that DVCs represent a serious and continuing problem, in terms of human injury, the significant economic costs of damage caused by such collisions and animal welfare.

### **Recommendations**

We would recommend that:

- Monitoring of DVCs should continue.  
*We believe the most cost-effective method of identifying trends would be obtained from a combination of requests for carcass removal from the four trunk road regional areas NW, NE, SW and SE in combination with continued monitoring of deer and other animal related PIA accident records.*
- Awareness raising for vehicle drivers should be focussed to take account of the seasonal variation in DVCs
- Monitoring should take place to assess the effectiveness of any DVC mitigation measures implemented in DCS Priority areas and elsewhere on Scottish roads; SE should keep apprised also of the results of additional on-going trials of other novel deterrents taking place in England with a view to utilising the most effective measures in appropriate areas in Scotland.  
*The Deer Initiative is involved in all the mitigation trials and can provide access to data and progress reports*

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