

**IRSO**  
**IN**

Volume 27 Number 27 June 2006

# **ROADS**

THE JOURNAL FOR ROAD SAFETY PROFESSIONALS

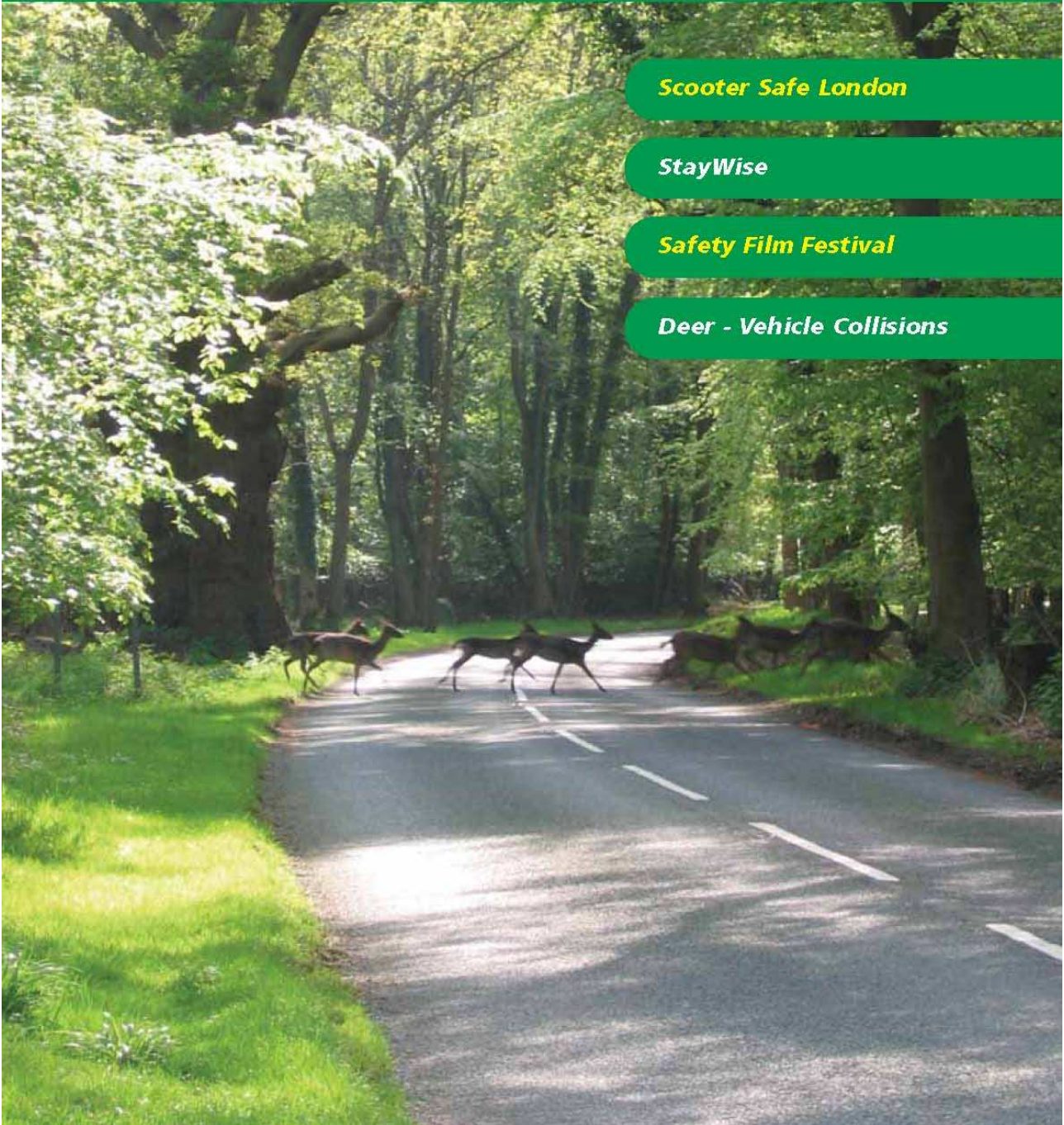
ISSN 1747-6771

*Scooter Safe London*

*StayWise*

*Safety Film Festival*

*Deer - Vehicle Collisions*



## Deer-Vehicle Collisions

**T**raffic collisions involving deer have presented a problem in the UK for many years, and are implicated as a road hazard in around 500 human personal injury accidents and several human fatalities every year. The annual toll of deer killed or injured in such accidents was already thought to have reached 40,000 by the mid-1990s, but the continual rise in road traffic as well as in deer numbers and distribution make further escalation of this problem in Britain almost inevitable. The above figures may come as a surprise to some readers, but are not atypical in a European context, where over 140,000 deer road casualties are reported annually in Germany, 55,000 in Sweden, 35,000 in Austria, and 10,000 even in smaller countries such as Switzerland and Denmark.

In the UK there is no legal requirement to report collisions with non-domestic animals unless human injury results, and hence until recently good information on the extent and distribution of this problem in Britain had been lacking. To address this the National Deer Collisions Project (NDCP) was launched in 2003 with aims to

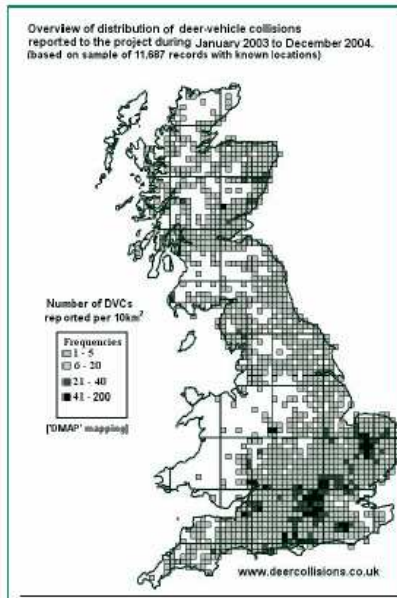
- assess the true scale
- identify local deer accident black spots
- investigate key risk factors
- assess the effectiveness of different measures currently employed to reduce collisions
- increase public awareness

Numerous different sources were approached to submit information to the project, including county / regional Road Safety departments, Motor Insurance companies, Trunk-Road Maintenance Agents and local Council Road Cleansing Departments, RSPCA/SSPCA and other animal welfare and rescue organisations, vets, and deer-stalkers; and finally members of the public are also encouraged to report any dead deer seen at roadside or incidents they have been involved in on-line via a dedicated project website ([www.deercollisions.co.uk](http://www.deercollisions.co.uk)). Although the



majority of deer road casualties still go unreported, a database of over 30,000 Deer Vehicle Collisions (DVC's) has now been built up by the study. Final entry of 2005 data and detailed analysis remains to be completed, with a full report on all findings in preparation for publication later this year. However, preliminary results already illustrate just how widespread an issue DVC's are throughout England and Scotland, with the emergence also of clear regional patterns. In Scotland the greatest concentration of records comes from the northeast and central areas. However, while over half of all deer in Britain occur within Scotland, the highest concentrations of DVC's in fact occur in South-East England, where vastly higher volumes of traffic overlap with high and increasing deer population levels, especially so within the well wooded commuter-belt areas around Greater London, the Home Counties and Hampshire; and also in East Anglia.

Hitting a deer poses a heightened risk compared to collisions with smaller animals such as badgers, foxes or rabbits, which also commonly fall victim to road traffic. This was borne out when we reviewed accident descriptions for all



available 'animal hazard' related personal injury accidents over the last few years across a sample of 14 English counties, where among a sample of 1450 such incidents 603 were found to be due to wild mammals (mainly deer, fox, badger, and lagomorphs), 558 due to domesticated animals and birds (cows, sheep, ponies, and incl. pheasants), while 290 were reported merely as an 'animal' on the road. For those with 'wild' mammals, close to 50%

rather fewer associated with rabbits and hares (21%), foxes (20%) and badgers (9%). Human injury accidents are however, merely the (mostly costly) 'tip of the ice-berg'. Most vehicles involved in accidents with deer suffer some damage ranging from minor dents to total write-offs. Extrapolation of insurance claims data suggests that annual car repair costs (excluding commercial vehicles) resulting from DVC's alone exceeds £11M in England and 2.5M in Scotland. DVC of course also present a huge animal welfare issue as a very high proportion of deer hit by vehicles are not killed outright but may suffer for prolonged periods until suitably qualified persons can be called to attend or run off to die of their injured elsewhere.

### What can and is being done to reduce deer collisions?

Numerous differing devices have been proposed over the years to minimise DVC's, ranging from roadside fencing, to various optical, auditory and chemical deterrents, management of verge vegetation, control of deer numbers, and raising driver awareness. For most approaches evidence

of their individual effectiveness remains limited and inconclusive. The only well proven method of reducing DVC's at high risk sites remains provision of roadside deer fencing (usually to heights from 1.8 – 2.4 m), which ideally needs to be combined with provision of some alternate safer passages over or under the road. However, the high capital and maintenance cost associated with such fences as well as their visual intrusiveness is likely to be justifiable in only some of the highest risk areas on motorways and other major roads; as is the creation of purpose built underpasses or 'green' bridges suitable for deer.

The search for better ways of deterring deer from crossing into traffic therefore continues. At present one of the most commonly used deer deterrents on UK roads are optical wildlife warning reflectors (which rely on startling deer though reflecting vehicle headlights at 90 degrees into the verge), but actual evidence of their effectiveness under high traffic flow conditions as found in the UK remains at best equivocal and usually short-lived. Similarly, most objective studies of car-mounted, air-activated ultra-sound 'deer whistles' have failed to confirm any real effects on deer behaviour or reductions of deer / vehicle collisions.

However, a number of more sophisticated wildlife reflectors have come on the market recently that incorporate acoustic signals in addition to optical flashes from reflected headlights. Over the last six months trials with two such novel roadside devices (an Acoustic wildlife reflector produced by Wegu-gft in Germany; and Ecopillars produced by Eurocontor in Slovenia) have been established in several parts of England. These devices can both be triggered by headlights (and/or vibration) of on-coming traffic, and are have integral solar-cells for recharging during the day. When activated by vehicles the Acoustic reflectors emits a high pitched whistle audible also to the human ear as well as reflection of lights into the verge; whereas

the Ecopillar emits a range of both low frequency and ultrasound signals in expectation that deer may habituate less readily to this mixture of signals. Trial sections with these devices were established at the end of last year on the B4506 at Ashridge Forest in the Chilterns supported by the Three Counties Traffic partnership (Hertfordshire, Buckinghamshire, Bedfordshire), and also on the A39 near the Quantock Hills by Somerset County Council; and two further trials with the Ecopillars are about to commence also on two Trunk roads (A38 in Devon and A49 in Herefordshire) this Spring on behalf of the Highways Agency. To study their effectiveness, rather than merely waiting for reports in changes in accident statistics over future years, we will be monitoring all these trials using periods of video surveillance to determine whether deer do actually tend to delay crossings after road after traffic has passed where such devices are present; and also whether reactions elicited differs between our different common species of deer.

Another innovative measure - interactive signage triggered by deer as well as by driver speed - has also just been installed during May of this year at Ashridge Forest funded by Hertfordshire Highways; and is the first of its kind deployed in Britain. Two laser beams set parallel to the road along a particular DVC black spot trigger the digital signs to either side when a deer (or other large animal) moves onto the verge, and flashes up the image of a deer and 'slow down' message to forewarn drivers. As many DVC's result from excessive driver speed, the signs are also triggered when approaching traffic exceeds the 50 mph speed limit and then displays instead the speed limit, slow-down message and flashing lights. Installation of similar signage, to be activated either by speed and/or animals is also being planned in a number of Priority areas in Scotland identified by the Deer Commission for Scotland, including on sections of the A835 and A82, as well as use of variable digital message

signs to advice of high deer-collision risks at certain times of the day or year.

Research on these and other novel measures remains at too early a stage to reach firm conclusions as to their individual effectiveness; and in most situations the best results are likely to be achieved by integration of several complementary approaches, rather than reliance on any one measure. This is well demonstrated by a quite dramatic reduction of DVC's that has occurred at the National Trust's Ashridge Forest: over 110 deer were killed on local roads each year between 2000 to 2004, yet this toll fell to 68 during 2005. Here aside from installation of the deterrents discussed above, public awareness of the issue of deer accidents has been actively raised with help of the local media, traffic calming measures are being installed, whilst having also improved co-ordination of deer management among National Trust and their neighbours to help gain control over the expanding deer populations. For more information about the project log on to [www.deercollisions.co.uk](http://www.deercollisions.co.uk) or email [info@deercollisions.co.uk](mailto:info@deercollisions.co.uk)

#### Jochen Langbein

##### *Editor's note:*

Jochen Langbein is an independent wildlife consultant, and oversees the NDCCP on behalf of the Deer Initiative in England, .....together with his colleague Rory Putman responsible for data in Scotland.

