Deer Vehicle Collisions in peri-urban areas: A risky Life for Deer

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Langbein Wildlife Associates working with
DI National Deer-Vehicle Collisions Project

Main objectives 2003 to ....continuing:

- Assess nationwide scale of problem
- Build database of DVCs & identify hot-spots
- Monitor local and national trends
- Research effectiveness of DVC prevention methods
- Raise public awareness
Summary GB estimates of annual DVC “Costs”

- **Animal Welfare** –
  Best available estimate = 46,000 (+/- 9,000) deer hit each year, of which c. 15,000 live casualties need dispatch at roadside. (actual toll may well exceed 75,000 incl. as animal type in collisions often not known)

- **Vehicle damage**
  > £ 17 Million in UK

- **Human Losses**
  > 500 human casualties per annum – including c. 10 Fatalities

- **Economic Costs**
  > £ 30 – 40 M p.a.

- **Other costs include**: Injured deer dispatch / rescue / Carcass collection / disposal / Traffic delays .....
Leaflet / reports are accessible via project web-site
www.deercollisions.co.uk/pages/latest

- Deer on our Roads – Counting the Cost (Deer Initiative, 2007)

- DVC England 2003-05 (Langbein, 2007)

- DVC Scotland 2003-05 (Langbein & Putman, 2006)

- ...plus others
What proportion of all DVCs occur near Urban areas?

How common are urban DVCs compared to e.g. urban Fox & Badger collisions?

Which towns & deer species are affected most?

Do recent records indicate a greater rise in urban than rural areas?

What can be done?
Urban and Peri-Urban Deer Vehicle Collisions
Traffic by Country & Region: 2004
( Billion Vehicle Kilometers driven )

Scotland  42.5
Wales  27.3

England  428.8
  of which:
  South East  86.6
  London  32.7
  North West  56.6
  East of England  55.1
  West Midlands  48.6
  South West  47.1
  Yorks&Humbers.  41.6
  East Midlands  40.7
  North East  19.9

Source: National Road Traffic Survey, DfT.

Only 18% of all Deer Collisions reported are in Scotland ...

BUT occur within <10% of all GB traffic; therefore ‘risk’ of being involved in a DVC twice as high per mile driven in Scotland!

Total 16,519 DVC records mapped for 2003-2005 plotted
Relative frequency of Deer-Vehicle Collisions for England & Wales reported to the project between January 2003 to December 2007 (based on 24,312 reports with adequate location details)

Frequencies:
- 1 - 5
- 6 - 10
- 11 - 15
- 16 - 20
- 21 - 25
- 26 - 40
- 41 - 583

www.deercollisions.co.uk
Areas of land in England classified as URBAN

[Based on Natural England /DEFRA - Agricultural and Urban Land Classification]
DVC distribution in relation to major conurbations
DVC distribution in relation to major conurbations
DVC distribution in relation to major conurbations
### DVC distribution in relation to ‘urban’ land class

[England only]

'Urban' Classification in England contributes c. 8% of land area

<table>
<thead>
<tr>
<th>Type</th>
<th>Source</th>
<th>Years</th>
<th>Number mapped</th>
<th>Urban</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deer</td>
<td>All sources</td>
<td>2000-07</td>
<td>30706</td>
<td>6410</td>
<td>21%</td>
</tr>
<tr>
<td></td>
<td>RSPCA</td>
<td>2000-07</td>
<td>14703</td>
<td>4013</td>
<td>27%</td>
</tr>
<tr>
<td></td>
<td>non-RSPCA</td>
<td>2000-07</td>
<td>16003</td>
<td>2644</td>
<td>17%</td>
</tr>
<tr>
<td>Fox</td>
<td>RSPCA</td>
<td>2002+3</td>
<td>3054</td>
<td>2124</td>
<td>70%</td>
</tr>
<tr>
<td>Badger</td>
<td>RSPCA</td>
<td>2002+3</td>
<td>1476</td>
<td>410</td>
<td>28%</td>
</tr>
<tr>
<td>Deer</td>
<td>RSPCA</td>
<td>2002+3</td>
<td>3271</td>
<td>1084</td>
<td>33%</td>
</tr>
</tbody>
</table>
Fox / Badger / Deer RTA call-outs to RSPCA 2002+2003
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Since 2006 collation of DVC records has focused down more on best sources offering consistent coverage [esp. RSPCA / Trunk Road agents / PIAs / Case study Forests / Insurance]
Deer Incidents highest in Peri-urban commuter belt

DI DVC database (all sources)
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DI DVC database (all sources)
1 mile ‘peri-urban buffers created around all urban areas
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### DVC distribution in relation to ‘urban’ land class
[ based on 30,706 mapped reports - England only ]

<table>
<thead>
<tr>
<th>Source</th>
<th>Region</th>
<th>Records mapped</th>
</tr>
</thead>
<tbody>
<tr>
<td>All England</td>
<td>Urban</td>
<td>6410</td>
</tr>
<tr>
<td></td>
<td>Urban+1 mile buffer</td>
<td>13451</td>
</tr>
<tr>
<td></td>
<td>= Urban fringe</td>
<td>7041</td>
</tr>
<tr>
<td>Gt. London</td>
<td>within 15 miles of centre</td>
<td>574</td>
</tr>
<tr>
<td></td>
<td>within 30 miles of centre</td>
<td>6546</td>
</tr>
<tr>
<td></td>
<td>within 50 miles of centre</td>
<td>11054</td>
</tr>
</tbody>
</table>

Based on estimated 50,000 DVCs per annum
c. 22,000 likely to occur in urban or peri-urban areas
Highways Agency Area 5 - M25 Sphere trunk road
Deer Carcass up-lifts 2003 - 2007
N = 335  (c. 65 per year)
Highways Agency Area 5 - M25 Sphere trunk road
Partic. high nos. deer casualties noted at slip roads / roundabouts
Research video footage filmed by JL of deer crossing roads (all examples shown filmed within 30 miles of London)
[to view footage go to:  
www.deercollisions.co.uk/pages/avoid.html  ]
What can / should be done ?
Individual measures rarely effective on their own

- Fencing
- ‘Green’ bridge
- Dynamic, animal activated Signage
- Acoustic/optical wildlife deterrents(?)
Examples of joint use accommodation structures across M25

M25 Bridge & tunnel used by fallow and muntjac

Effectiveness: Promising / HIGH
Raising Driver / Public Awareness

Deer on our Roads
Counting the Cost

May is a danger month!
Collisions = 22 per year
4th highest road in the UK

For 2¼ miles

JAN – JUNE 2008
122 Deer Collisions

03:23:33
22 NOV 2008
## Individual measures rarely effective on their own

<table>
<thead>
<tr>
<th>Measures</th>
<th>Effectiveness</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fencing</td>
<td>Well proven</td>
<td>Maintenance cost; Barrier effect</td>
</tr>
<tr>
<td>Brigdes / Underpass</td>
<td>Good</td>
<td>High cost; Feasibility</td>
</tr>
<tr>
<td>Deer Control</td>
<td>Good / Variable</td>
<td>can move problem / destabilise</td>
</tr>
<tr>
<td>Speed Restriction</td>
<td>Good</td>
<td>Less feasible for trunk roads</td>
</tr>
<tr>
<td>Interactive Signage</td>
<td>Promising</td>
<td>Driver habituation?</td>
</tr>
<tr>
<td>Verge Clearance</td>
<td>Promising / unproven</td>
<td>Attractiveness</td>
</tr>
<tr>
<td>Public Awareness</td>
<td>Promising</td>
<td>Effect unclear</td>
</tr>
<tr>
<td>Deterrents</td>
<td>NONE well proven in UK situation</td>
<td>Inadequate signals; habituation</td>
</tr>
</tbody>
</table>
Integration of several measures required matched to local situation:

- Driver awareness e.g. Interactive signs
- Public awareness / posters / media
- Enforced speed limits, traffic calming
- Co-ordinated deer control
- Dog walker / visitor control
- Verge management
- Fencing – leading to safer crossing points
- Wildlife Deterrents (??)
- Driver Education (via Instructors & Road Safety teams)
For Peri-urban areas in particular:

- Raise awareness among Local Authorities
  - re DVCs
  - need for population management
  - Plus other mitigation

- Roadside (incl. roundabout) vegetation management

- Ring roads - enhance existing / create under/overpasses

- Improve / coordinate call-out systems to attend to injured deer
Thank you!
Slow Down For Deer

Further information on DVCs see:
National Deer-Vehicle Collisions Project
www.deercollisions.co.uk

&
www.thedeerinitiative.co.uk