Appendix 12.9

Deer Vehicle Collision Study

A9 Dualling Programme

Deer Studies:

Phase I. Preliminary desktop review to assess the scale and distribution of past deer-vehicle collisions and identify priority areas for field survey.

Central Section

Glen Garry to Dalraddy

Prepared by Langbein Wildlife Associates on behalf of

CH2MHill/Fairhurst Joint Venture

for

Transport Scotland

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Executive Summary

Red deer and roe deer are common throughout areas traversed by Central Section. Numerous deer road casualties and related DVCs (deer-vehicle collisions) on the A9 are reported annually to the trunk road operating company and police.

An initial desk-based review was undertaken of baseline information on reported deer and deer vehicle collisions to assess relatively collision frequency along the route corridor and identify any hot spots where closer investigation may be required.

Review of 964 records of DVCs on the A9 between Perth to Inverness for the period January 2000 to June 2015 obtained from the Scottish Natural Heritage Scotland-wide DVC monitoring project included 162 located within the Central Section (Glen Garry to Kincraig).

Heat maps produced to assess the relative distribution of DVCs indicate overall highest past occurrence within Central Section near Dalnaspidal and Drumochter Pass. Other sections of heightened DVC levels occur near Dalwhinnie, Crubenmore. Newtonmore, Inverton and north of Spey Crossing.

Based on review of past DVC occurrence, together with information from previous ecological reports prepared by CH2M on existing structures that may offer potential to act as safer crossings for deer over and under the A9, a number of areas have been identified where selective field survey by the deer project specialist is proposed to ground truth desk-based findings and help inform decisions on site specific needs and design of deer mitigation.

Abbreviations used in text:

DVC – Deer vehicle Collision [Term used as referring to any collisions of road vehicles with deer or accidents occurring through swerving to avoid deer, including reported deer road casualties indicative of a collision with a vehicle having taken place.

SNH – Scottish Natural Heritage

NMU – Non motorised user

TO – Trunk Road Operating Company [Companies responsible for maintenance of trunk roads on behalf of Transport Scotland within the four different trunk road units of the Scottish Trunk road network.

1. Introduction

1.1 Project overview:

Road schemes can present a physical barrier to the free movement of many species of wildlife, restrict habitat connectivity at a landscape level, and lead to animal injuries and road mortality through collision with vehicles. In the case of deer, in view of their large size compared to other wild animals, such deer-vehicle collisions (DVCs)[1] pose a heightened risk of serious traffic accidents that may result in significant damage to vehicles, traffic delays and, in some cases, human injuries or fatalities.

Red deer (*Cervus elaphus*) and roe deer (*Capreolus capreolus*) are widespread throughout the areas traversed by the Central Section (Glen Garry to Dalraddy), and numerous DVCs are reported annually to the relevant trunk road operating company and Police Scotland. Therefore, there is a need to evaluate the risk of DVCs throughout the Central Section so that road safety and animal welfare concerns associated with the A9 Dualling can be addressed through appropriate design.

1.2 Objectives for initial desktop study

Within the 200m-wide online route corridor, comprising 100m either side of the existing A9 (hereafter referred to as the 'study area'), the following objectives have been identified:

a) Complete desk-based review of baseline information on DVCs to identify collision 'hotspots'
b) Undertake review of information arising from Ecological review report on existing A9 structures to identify those with high/ good potential to form part of deer mitigation.

[1] Any collisions of road vehicles with deer or accidents occurring through swerving to avoid deer, including reported deer road casualties indicative of a collision with a vehicle having taken place.

2. Methodology

2.1 DVC data

Data gathered by Scottish Natural Heritage (SNH) as part of their on-going, countrywide DVC monitoring research form the most extensive and consistent source of information for past deer road casualties and related traffic accidents along the A9 dualling corridor.

- The most up-to-date, as yet unpublished data on reported DVCs available from the SNH DVC project for incidents along the A9 from January 2000 to end June 2015 were obtained and reviewed by source type and time period for the present study. The project specialist for the present deer study (LWA) also gather and collate the Scotland-wide DVC data annually on behalf SNH, giving fullest insight to the background and updates of these data.
- All DVC reports relating to the A9 between Perth and Inverness were analysed using a GIS to determine numbers of incidents by year for each of the different project sections falling within the bounds of the three Central Section projects areas between Glen Garry to Kincraig. For context information was also compared to numbers of reported DVCs per km over the other A9 sections to the south and north over the same period.
- Those incidents falling within the Glen Garry to Kincraig area were then further analysed to produce a 'Heat Map' based on the recorded frequency of DVC per 500 metre sub-section along the A9 route corridor.

2.2 Deer-train collisions

The Network Rail track of the Highland Mainline runs almost parallel to the existing A9 mostly within just 200 metres to 1 km to either side. In view of the proximity of the railway, information obtained from Network rail on any known deer-train collisions logged by them from January 2008 to June 2014 were also obtained and reviewed in relation to information for the A9 obtained from the SNH DVC database. A further update of more recent data up to end of 2015 has been from Network rail.

2.3 Relevant existing ecological reports

A number of existing ecological reports and plans prepared to date for the A9 dualling scheme were also consulted, to assist further with identifying needs and priority sections for field surveys or site visits to specific locations in direct relation to deer, including in particular, i. Ecological Review of Existing structures, ii. Phase I habitat survey plans, iii. Wild Cat Paper, and discussion with the project team of other NMU (non-motorised user) design requirements and constraints.

3. Results

3.1 Ecological Context

The Central Section is located within an upland area and within the Cairngorms National Park. The single carriageways of the A9 between Glen Garry and Kincraig lie at an altitude of between 450m at the Drumochter Pass to 222m at Kincraig.

Review of NBN gateway data and SNH deer interactive maps show the most prominent deer species present with the Cairngorm National Park to be the two native species, Red deer (*Cervus elaphus*) and the much smaller Roe (*Capreolus capreolus*). Introduced non-native Sika (*Cervus nippon*) may also occur more occasionally towards the southern end of the Central Section. The two native species form an important part of the regional fauna highly valued by the public as well as of importance to the rural economy through, e.g. income from deer stalking. Red and roe are abundant throughout most of Scotland and do not have 'protected species' status, and landowners are permitted to control their numbers provided they adhere to regulations laid down in the Deer (Scotland) Act 1996.

The need to consider deer with respect to the present scheme is therefore foremost to minimise the risks posed to public safety where deer cross over the live carriageways, as well as for animal welfare as over 25% of deer that are hit in collisions with vehicles are not killed outright, and implications for traffic hold-ups where live animals or carcasses present a hazard and need to be removed from the trunk road.

3.2 DVC distribution and frequency

3.2.1 Data sources

A total of 964 records of reported DVCs (for definition see 1.1) relating to incidents on the A9 between Perth and Inverness are currently available from the SNH DVC database for the period January 2000 to June 2015 (14.5 years). This overall total includes reports from a wide range of different contributors, only some of which have contributed data regularly to the national project in all years.

Since 2008 the SNH project has focussed primarily on recording from a sub-set of 'core sources' that provide the most consistently available sample of records to the project every year across the same areas. In case of the A9 within Highland region since 2008 these core DVC records are primarily (>85%) those provided by a) the Trunk Road Operating companies, and supplemented by b) Scottish SPCA call-out records to deal with deer injured in road traffic collisions, c) similar FC ranger reports, and d) records of human injury accidents with known deer involvement (and some damage only accidents where sufficient detail is known) attended by police as collated by The Highland Council. Prior to 2008 DVC data were gathered from a much wider range of sources but provide less consistent input across areas and years. The data from core sources, in particular since 2008, therefore provide the most useful information for comparisons between different sections of the A9 and across years.

3.2.2 DVCs within Central Section in context of other parts of A9 Perth to Inverness

An overview of available DVC data for the 8 years pre and 7.5 year post 2008 for differing sections of the A9 is provided in Tables A , B and C below. In each case numbers of DVCs are shown separately for the 'core' sources and 'others'. Also shown is the rate of recorded DVCs per km, calculated based on the core data alone, for the

7.5 years from January 2008 (or 8yrs for the earlier period). The data for the remainder of 2015 will be available early during 2016 to complete information also for all of the current year.

Tables A to C show that the overall highest incidence of DVCs along the A9 tends to be recorded in road sections closest to the cities of Perth and Inverness (Perth to Luncarty and Moy to Inverness), and reflect the substantially higher traffic volumes and hence risk to deer being hit when crossing roads close to major conurbations. Within the more rural sections comparatively high rates since 2008 (> 3 per km over 6.5 years) have also been recorded between Luncarty to Pitlochry. Within the Central Section area, for Glen Garry to Kincraig, and also Kincraig to Dalraddy, rates of ~1.5 per km have been recorded, which are slightly lower but close to the average rate recorded among the remaining sections of the A9.

While the above rates per km assessed over the last 7.5 years may not seem very high, it should be noted that being based primarily on records from the Trunk road operating companies (TO), past roadside deer carcass search research by SNH has shown that on average such TO reports alone are unlikely to represent more than 50% of all actual DVCs for a given trunk road. The true rate of DVCs is therefore likely to exceed double those shown based on the 'core data' samples. On that basis we may estimate that actual numbers of DVCs for the Glen Garry to Kincraig section are likely to have exceeded 3.0 per km over the past 7.5 years, or 0.40 per km per year.

A9 DVC Data Overview

Table A

Number of records from:	**Core regular data sources**	Other sporadic data sources	Total	Approx. length km	Core DVC reports / km
Jan2008 to June 2015					
Luncarty to Pitlochry	**110**	26	136	33	3.33
Pitlochry to Glen Garry	**66**	6	72	36	1.83
Glen Garry to Kincraig	**75**	10	85	49	1.53
Kincraig to Dalraddy	**11**		11	7.5	1.47
Dalraddy to Slochd	**54**	2	56	24	2.25
Slochd to Moy	**36**	1	37	13	2.77
Total	**352**	**45**	**397**	162.5	2.17

Table B

Number of records from:	**Core regular data sources**	Other sporadic data sources	Total	Approx. length km	Core DVC reports / km
Jan2000 to Dec2007					
Luncarty to Pitlochry	**43**	174	217	33	1.30
Pitlochry to Glen Garry	**18**	37	55	36	0.50
Glen Garry to Kincraig	**38**	**39**	**77**	49	0.78
Kincraig to Dalraddy	**9**	3	12	7.5	1.20
Dalraddy to Slochd	**19**	4	23	24	0.79
Slochd to Moy	**14**	2	16	13	1.08
Total	**141**	**259**	**400**	162.5	0.87

Table C

Number of records from:	**Core regular data sources**	Other sporadic data sources	Total	Approx. length km	Core DVC reports / km
Existing Dual sections N & S					
(Perth to Luncarty plus Moy to Inverness)					
Jan2008 to June 2015	**94**	9	103	22	4.27
Jan2000 to Dec2007	**30**	34	64	22	1.36
Total	**124**	43	167		

Grand Total	**617**	**347**	**964**	

(For further breakdown of Glen Garry to Kincraig by project sections see Table D)

3.2.3 DVCs by CFJV Central Section Project areas

Data for the A9 Glen Garry to Kincraig from Table A and B above are broken down further in Table D into the P7, P8, and P9 project areas as well as adjoining existing sections of dual carriageway.

The highest total numbers of DVCs and rates per km have consistently been recorded within the P7 section of the A9, and significantly lower rates within P9 although the number here has also increased over recent years. DVCs on the section of existing dual carriageway at Etteridge remain of a similar scale to P8 adjoining to the south.

Table D: **A9 Glen Garry to Kincraig - Deer Vehicle Collision Records**

Number of records from:	**Core regular data sources**	Other sporadic data sources	Total	Approx length km	Core DVC reports / km
A9 Sections:					
Jan2008 to June 2015					
Existing dual S of P7 start	3	4	7	6.2	0.48
Project 7	34	5	39	12.2	2.79
Project 8	15	0	15	7.7	1.95
Existing dual S of P9 start	7	0	7	4.5	1.56
Project 9	16	1	17	18.4	0.87
Total	**75**	**10**	**85**	49	1.53
Jan2000 to Dec2007					
Existing dual S of P7 start	1	7	8	6.2	0.16
Project 7	27	30	57	12.2	2.21
Project 8	4	0	4	7.7	0.52
Existing dual S of P9 start	1	0	1	4.5	0.22
Project 9	5	2	7	18.4	0.27
Total	**38**	**39**	**77**	49	0.78

P7: Glen Garry to Dalwhinnie; P8: Dalwhinnie to Crubenmore ; P9: Crubenmore to Kincraig

3.2.4 Reported DVCs leading to human injury

The majority of the 162 DVC reports for Central Section summarised in Table D relate to reports of deer road casualties along the A9. The numbers of reported DVC known to have led to human injuries is much lower. Road Accident Records based on human injury accidents attended by police provided to us by Highland Council for the period January 2000 to June 2015 include 13 injury collisions for the A9 within Highland Region, in which deer are believed to have been implicated in some way. Of these only one occurred within Central Section.

3.2.5 DVC Heat Map

The locations of the majority of DVCs are reported to only a quite low level of accuracy, tending to be influenced by reference to landmarks, junctions or other ready reference points used repeatedly in reports. As such multiple incidents may often be mapped closely together, whereas incidents may have been located over several hundred metres to either side. To help nevertheless with initial determination of those smaller subsections in each Central Section project area most regularly affected by DVCs in the past, the route corridor was divided into 500m long grid cells to prepare a 'heat-map' of relative DVC frequency by section. The grid superimposed on the A9 was aligned with the centre line of the road and encompassed a buffer of 250m to either side, to enable systematic allocation within GIS of all relevant incidents along the A9 including any mapped imprecisely some way off the road.

Separate overview Heat maps are shown in Figure 1 (post 2008) and Figure 2 (pre 2008). As discussed previously (see 3.1 above) the more recent data in Figure 1 will be the most reliable in terms of direct comparability of recording between different sub-sections. A larger scale scheme plan showing the post 2008 DVC Heat map overlaid onto detail of the Central Section Project areas and subsections is provided separately as Appendix I with this report.

P7 Glen Garry to Dalwhinnie

Figure 1 shows Project 7 to contain the two overall most prominent DVC hot spots within the Central Section:

- Near Dalnaspidal Lodge just north of where the existing dual carriageway ends, and leads into a 1 km section where woodland abuts close to the east of the road.
- A section of ~2km through the Pass of Drumochter (also including some woodland close to the southbound verge.

Both the above also show up prominently in data for earlier years.

- In addition a less prominent cluster of incidents stretches from Drumochter Lodge to 1 km south.

P8: Dalwhinnie to Crubenmore

Within Project 8 main clusters of DVCs are as follows:

- Foremost around Dalwhinnie A9/A889 Junction but also heading for 4 km north along the A9
- The final 1 km of Project 8 near Crubenmore where it joins with existing dual carriageway.

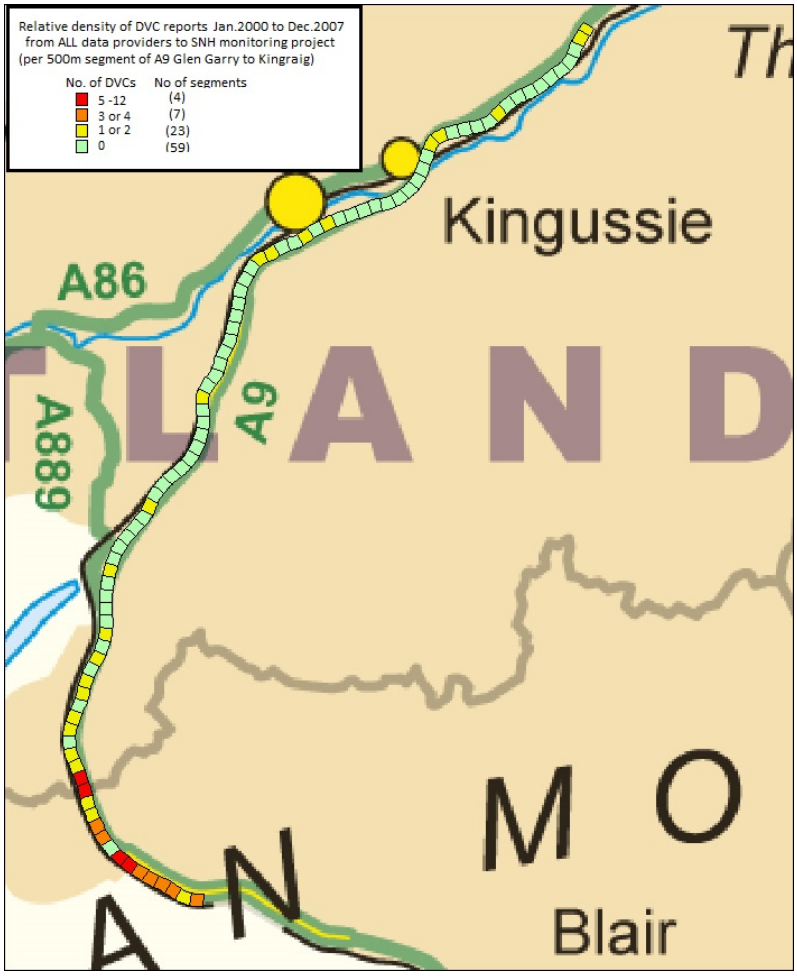
P9: Crubenmore to Kincraig

Within Project 8 main clusters of DVCs are as follows:

- At Junction to Newtonmore (closely abutted by woodland to north)
- For 1.5 km Milton of Nuide to Inverton
- For 1 km north from Spey Crossing at Kingussie

Figure 1 : Heat map of relative DVC density by 500m sections of A9 Glen Garry to Kincraig 2008 to 2015

Figure 2: Heat map of relative DVC density by 500m sections of A9 Glen Garry to Kincraig 2000 to 2007



[Note in case of period 2000 to 2007 only, records from core data sources combined with additional localised records as otherwise insufficient data; but provides less reliable comparison across full route than in case of Figure 1 for more recent years]

3.3 Seasonal pattern of DVCs

To enable assessment of seasonal patterns of DVC within the Central Section and comparison with patterns found in other parts of the A9, all available records from 2000 to 2015 are shown graphed per month in Figure 3. The overall pattern based on all records available for the A9 shows pronounced peaks in DVCs during May and June, and a secondary peak from October to November. These peaks in late spring/early summer and late autumn are typical of patterns found on trunk roads across much of Scotland (see SNH DVC report 2011). The spring peak is associated particularly with deer born the previous year dispersing from their natal ranges in search of new territories, as well as adult females searching for secluded areas to give birth. The late autumn peak is thought to be associated primarily with overall increased movement of deer across roads associated with the autumn mating season of the large deer species (red, sika, fallow), as well as increasing coincidence between peak activity of deer at twilight with peak daily traffic flows.

Although based on much more limited data, Figure 3b shows that the pattern for incidents recorded in the Glen Garry to Kincraig area closely reflects that for the A9 as a whole. The significance of these patterns with regard to the scheme, is that there is likely to be some merit for seasonal measures to form part of deer mitigation proposals.

Figure 3a: Seasonal occurrence of DVCs for A9 Perth to Inverness (2000 to 2015 data)

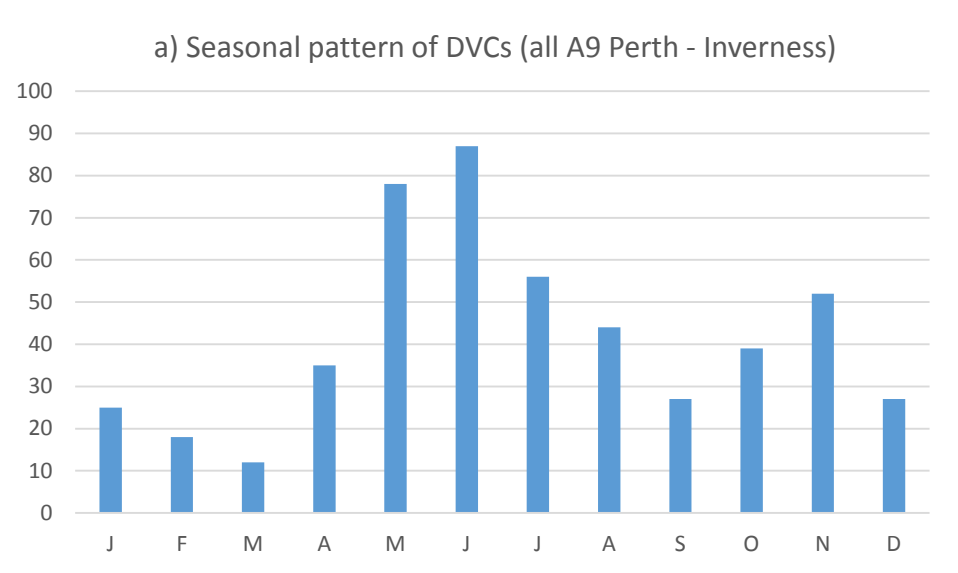
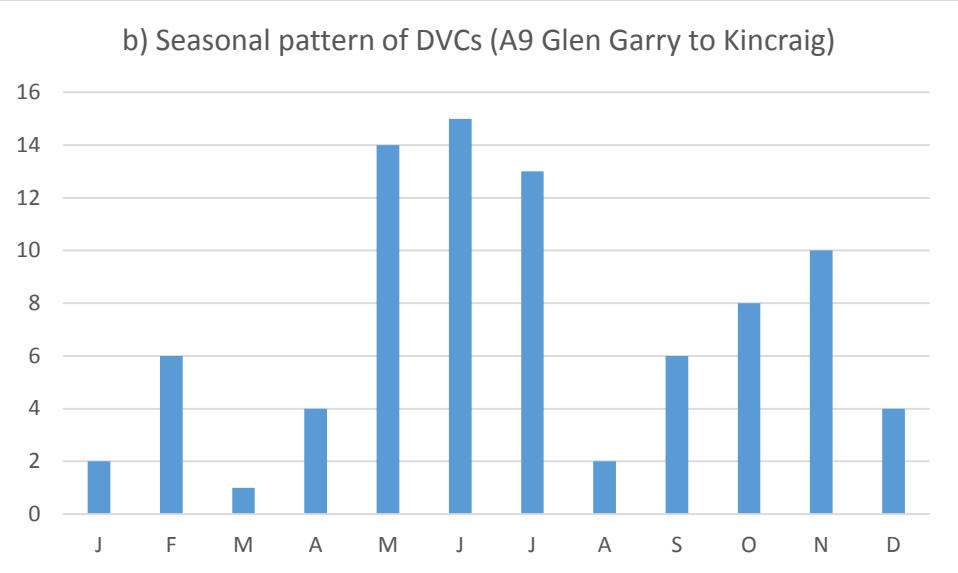


Figure 3b: Seasonal occurrence of DVCs for A9 Glen Garry to Kincraig (2000 to 2015 data)



3.4 Train Collisions

The Network Rail track of the Highland Mainline runs almost parallel to the existing A9 mostly within just 200 metres to 1 km to either side. Although not part of the SNH DVC project, a file of ~500 records of (unmapped) train-deer collisions from across Scotland had previously been obtained by us from Network Rail covering the 5.5 year period from January 2008 to June 2014. In view of the proximity of the Highland Mainline, a preliminary review of these records has been undertaken to extract clearly any that fall within the Central Section region. A total of 20 records of train-deer collisions were identified for the mainline between Glen Garry to Kincraig, which in many cases led to temporary disablement of the trains concerned. Further detail would be required from Network Rail to map the precise locations of these incidents by signal box references and mileage markers. However of the 20 train-deer collisions identified:

- 11 are reported as having occurred near Dalnacardoch
- 6 near Dalwhinnie and
- 3 near Kincraig.

Further information to enable more precise mapping of these past and additional more recent train-deer collisions since June 2014 are being requested from Network Rail.

3.5 Other information reviewed to help prioritise further deer survey needs

3.5.1 Existing structures report

A previous study undertaken within the Central Section during 2014 surveyed the majority of existing structures (from small culverts, to underpasses, aqueducts and bridges) leading under and over the present A9 sections of single carriageway between Glen Garry and Kincraig, in relation to their potential to act as wildlife crossings for small and or large animals (Ecological review of Existing structures, CH2MHill 2014). Information and photographs from this report were reviewed for the present phase of the deer study, to help identify those structures with greatest potential to be used also by deer as safe crossings; that is either in their current state or with just minor adaption, or else if enlarged as part of the dualling programme.

Among the 225 structures surveyed and shown with photographs in Appendices to the above report, based on limited desktop review those showing at least some potential for use by deer include the following by Project area :

P7 – Structure Nos. : 439, 452, 474, 477, 521, 522, 529, 530, 556, 557, 562

P8 - Structures Nos. : 578, 580, 593, 598, 620, 621, 625, 639

P9 – Structure Nos: 648*, 653*, 659, 663, 667, 668, 669, 670, 671, 684, 686, 697, 702

These structures may not all necessarily have high potential to serve as part of deer mitigation post dualling, but have been highlighted here merely as those structures that would usefully be included for further assessment when selective site visits and walk over deer surveys are planned in each project area.

Among the above, those marked with * had already been noted by the structures survey to show some evidence of recent use by deer. It is interesting to note that based on desk review of photographs and dimensions of the

structures listed above, those within Project 9 at present are likely to provide rather greater overall level of connectivity for large mammals via existing safe passages under the road than in either P7 or P8.

3.5.2 NMU (non-motorised user) strategy

Proposals currently under preparation by CFJV for the Central Section to provide access for non-motorised users (pedestrians, horse riders, cyclist, and agricultural accommodation) were discussed during a meeting of the deer consultant with the project team, in order to obtain insights where there may be best opportunities for provision or enhancement of joint use structures for NMU purposes as well as deer and other wildlife.

It appears likely that some NMU provision that may have potential for joint use may be required in several of the areas that are also highlighted in 3.2.4 above as areas of high DVC occurrence. This includes in particular:

Within P7 :

- Near Dalnaspidal Lodge and Drumochter Pass; two areas that coincide with sections of the A9 subject to highest levels of DVC reports.
- At Dumochter Lodge; and near Wade bridge near A889 junction.

Within P8 :

- SSE Access to Cuaich – with possible widening opportunity north side of Aquaduct for also 4 x 4 access
- Further possible crossings being considered just north of Cuaich, one just north of present deer fence line, and a possible over-bridge 1 km further north
- A possible NMU crossing at Allt Garbh

Within P9

- Potential needs for estate access at southern end of Project 9, plus a proposed new crossing 1km north of Raliabeg
- Four potential NMU crossings between Milton of Nuide and Inverton
- A crossing near Kingussie on southern side of Spey, and possible new crossing(s) just north of Kingussie.
- Three potential locations for further NMU crossings with 1 km north of Lynchat
- Likely NMU crossing near the Wildlife Park at northern end of the project area.

Although in the ideal scenario it is generally thought desirable to keep crossings intended for wildlife passages separated from NMU use, in case of deer it has increasingly been shown that deer will readily adopt joint use passages, not least for movement at night (e.g. see Langbein, 2010). With regard to the above crossings, many may offer good opportunities to mitigate risk of DVC where they can be made accessible to deer and possibly be enhanced by guide fencing for some distance to either side. While in the ideal scenario wildlife passages aimed at maximising use by deer will tend to have greater dimensions than required for human NMU purposes (see e.g. Iuell *et al*. 2003; Natural England 2015), in general most underpasses suitable for NMU will have high potential for some uptake also by deer and in turn to reduce deer crossings over the live trunk dual carriageways.

The extent of use by deer of joint use underpasses has to date not been widely documented in the UK, but a number of recent published and unpublished projects have highlighted that small as well as large species of deer are increasingly making use of a wide variety of structures beneath trunk roads (Langbein, 2010; Muttock 2013, Langbein 2015). Two examples among many structures that are now known to be used by deer as safe passages

on trunk roads in England are shown in Photograph 1 and 2 below; including even a culvert with a diameter of less than 2.5 m that extends for more than 100 m beneath a six lane wide section of the M25.

Photo 1 – Fallow deer at slip road underpass beneath dual A38 trunk, Devon.

Photo 2 Fallow deer crossing box culvert underpass beneath 6-lane M25 Essex

4. Requirements and Proposed Priority sections for selective deer survey fieldwork

Desktop review undertaken to date of reported DVCs highlights the main sections of the route where relatively high incidence of deer incursion is most likely also post dualling. The locations for the majority of DVC reports have however tended to be recorded to only a quite low level of precision, often based on textual records restricted to e.g. "*A9 near Junction with …*" or "*dead deer near Drumochter Lodge*", while true location may be some way to either side of the point indicated; with some potential for overrepresentation of incidence close to junctions or creation of other false hotspots near ready reference points. It is therefore proposed that within those sections identified so far, some selective walk over surveys are undertaken, focussed at:

- Familiarisation by the project specialist with those scheme sections where need for provision of some form of deer mitigation is most likely.
- Identification and mapping of any major regularly used deer movement paths leading onto the A9 verges within the main sections known affected by high DVC incidence over past years.
- Survey of the most promising existing structures identified and locations where new NMU or other new structures being considered for other reasons are likely to lead over or under the road.

On basis of assessment of the DVC heat map (Figure 1), identification of existing structures with high potential for use by deer, and main locations where new joint use structures are likely to be required for NMU access, it is proposed that the following road sections are considered (in order of priority) for inclusion in deer survey field work.

Priority sections for selective walk-over survey and/or spot site visits to survey locations of existing / proposed crossings:

<u>Project 7 :</u>

- Dalnaspidal Lodge to Drumochter Pass (OS 264686,773266 to OS 262858,776838) ~4 km
- One kilometre south and north from Drumochter Lodge (OS262653,778595 to 263288,780485) ~2km

(to include as possible inspection of existing structures 439, 452, 474, 477, 521, 522, 529, 530 occurring within the above sections)

Total walk over distance ca. 6 km x two sides of existing A9 totalling approximately 12 km.

Project 8 :

- From south of Wade Bridge (in P7) north to Glen Truim (OS 263977,782187 to OS 264010,782185) ~4km
- The final 1 km at northern end P8 near Crubenmore (OS 267732,790052 to OS 267792,791102) ~1km (to include where possible inspection of existing structures 556, 557, 562, 578, 580; 639 falling within the above sections.
- Plus – lower priority spot inspection of structures 593, 598, 620, 621, 625, 639 outside of the above.

Total likely walk over distance ca. 5 km x two sides of existing A9 totalling approximately 10 km; plus time for spot checks of additional existing structures identified as of interest.

Project 9 :

- From south of Raliabeag to Ralia Lodge (OS 269782,796597 to 271562,797547) ~2km
- Milton of Nuide to Knappach (OS 273227,798442 to OS 275647,799312) ~2km
- From Kerrow to Souterrain (OS 276702,801292 to 277702,801827) ~1km
  (to include as possible inspection of those existing structures 648, 653, 659, 663, 667, 668 within or close to the above sections)
- Plus as possible spot inspection visits to further existing structures (Nos 669, 670, 671, 684, 686, 697, 702) in norther sections of Project 9.

Total likely walk over distance ca. 5 km x two sides of existing A9 totalling approximately 10 km; plus time for spot checks of additional existing structures identified as of interest.

Field deer survey within the study area by the project specialist was not possible to schedule within 2015. The most suitable period to undertake the necessary survey work on site is proposed as any time between early March to mid-May, when a high proportion of deer activity may be expected to occur within lower lying areas near to and crossing the A9, and whilst ground vegetation remains relatively low.

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Addendum 15 January 2016

Deer-vehicle collision records available for collation and mapping at the time of submission of the above report covered the 15.5 year period (January 2000 to June 2015). While records for the complete 2015 calendar year to 31 December were not possible to include at the time of the above study, further records of deer road casualties logged over the last six month by the Trunk Operating Company (BEAR Scotland) within Central Section have now been received by LWA. For completeness these additional records now been added to the DVC data file for Central Section accompanying this report.

In brief, nine additional deer casualty reports were logged within Central Section by the trunk operating company from June to December 2015, in addition to 15 others reported in the first half of 2015. The higher number of reports during the first half of 2015 is in line with seasonal variation in based on data for previous years (see Figure 3b – main report).

<u>The nine additional DVC reports received (July to December 2015) included:</u>

1 – near Dalnaspidal

3 – near Drumochter Lodge

2 – near Crubenmore Bridge (existing dualled section)

2 – near Ralia Junction

1 – near Kincraig

In each case (with exception of the single extra report at Kincraig) these further recent incidents fall within localised sections of heightened deer risk also already identified in Figure 1 (main report) based on earlier data, and further support the relative distribution of past incidents as discussed in the report.