

Deer Management in Scotland: Report to the Scottish Government from Scottish Natural Heritage 2016

Response and commentary by the Association of Deer Management Groups (ADMG)

Executive Summary

- ADMG believes that the reappraisal of DMGs shows that a step change in culture and intent is taking place and we reject the conclusion that current activity will not deliver the sustainable deer management that we all seek.
- We are disappointed by the overall thrust of the Report, which we find inconsistent in that its main conclusions are not substantiated by many of the facts in the Report itself.
- We have significant concerns about the accuracy of some of the figures in the Report. There are clear anomalies and inaccuracies in Section 3 in regard to deer numbers and densities. This section should be offered for review by the Deer Science Panel and if necessary revised once the JHI study is completed in 2017.
- The long standing central thrust of DCS/SNH's approach has been that herbivore impacts are the key factor in habitat management. However the Report allows the inference to be drawn that deer numbers alone are a key determinant of progress
- Until SNH's current powers have been used to the full we do not see any need or justification for "additional measures".
- ADMG has been proactive in identifying gaps in DMG coverage and a number of new Groups are forming.
- By ignoring secondary impacts the Report understates the economic and employment contribution of deer.
- The presentation of S7 data fails to give a true picture of targets met and progress made.
- Finally, we want to work with SNH and the Scottish Government to ensure that the positive direction of travel continues and that DMGs deliver the comprehensive Plans that they have produced. The ADMG forward work plan is to be found at the end of this Paper.

Commentary

This report was published on Friday 18th November 2016. We have considered it carefully and attended the subsequent SNH verbal evidence session with the Environment, Climate Change and Land Reform Committee of the Scottish Parliament (ECCLR). We concur with the observation made by Scottish Environment Link that it has value in bringing a broad range of information relating to deer together. We also acknowledge the recognition by SNH of the progress made by the Deer Management Groups and the role of ADMG in supporting that progress.

However, we are dismayed by the apparent conclusion of the Report in the **Chairman's Foreword** – *“we cannot confidently conclude that a step change has occurred”*, and in the last bullet point in the **Main Findings** - *“we are not confident that present approaches to deer management will be effective”*. Particularly surprising is that the picture painted by the discussion chapters of the Report, is one of improvement and a positive direction of travel:

- “significant progress” by the DMGs in creating Plans that address the public interest (point 5 page iv)
- decreasing red deer numbers and, equally importantly, sheep numbers.
- Habitat indicators that are moving in the right direction as indicated by how much green and yellow there is in the 2016 columns of the bar charts in Section 6. Of course there is work to do in continuing to improve habitat status but it is happening and progress is and will continue to be made, particularly where Deer Management Plans are being implemented.
- A dramatic improvement in two years in many of the benchmark criteria set for DMPs (Section 6)

We have received a number of comments from Member DMGs, both in writing and at our recent Regional Meeting, to the effect that the body of the Report and its Conclusions are contradictory. It is hard to disagree.

The challenge over the last two years has been to reconstruct deer management in the uplands to reflect the public interest. The new generation deer management plans (DMP) adopted over the course of 2016, and ongoing for a number of new and potential new DMGs, address the public interest comprehensively and they have been judged on that by SNH in the encouraging 2016 reassessment, as considered in detail in the Report. DMPs are also more structured in how they address the operational aspects of a DMG as set out in the ADMG Benchmark.

The red deer sector is now increasingly fit for purpose, contrary to the Report's negative conclusions, and is moving into the delivery phase of the new DMPs. These include detailed Action Plans, based on the population models agreed with SNH, which are reviewed and updated at each DMG meeting. The first priority for all DMGs in 2016/2017 is to introduce or continue comprehensive habitat monitoring so that deer management decisions can be based on environmental, economic and social impacts rather than just deer numbers, densities and distribution, as in the past. Some DMGs are already well ahead with this.

ADMG's contribution will be to take a lead on the data management system, SWARD, which has been developed and partly tested but requires further trialling; also Wild Deer Best Practice ("WDBP"). Lack of resources has forced SNH to suspend or reduce support for these projects and ADMG is currently raising funds to take them over, working with SNH and other stakeholders. ADMG also wishes to consider with SNH and others the development of a "Standard" for deer management which reflects in simplified form the criteria covered in the SNH Assessment process. Implicit in all of this is that ADMG will continue to work closely with SNH and others and will give a lead in the ongoing process of change.

During the preparation of the Report ADMG had a series of meetings with the SNH Report team. We emphasised the critical importance of acknowledging the progress made and the need for the Report to adopt a realistic but positive tone, while noting the formidable amount of work required in future. While the efforts of all concerned are acknowledged, the negative conclusions drawn, as quoted above, but also in the **Conclusion of Assessment** – *"...does not provide confidence that the implementation of these management plans will deliver the desired level of environmental enhancements, or wider public benefits..."* are discouraging and demotivating for those who must deliver continually improving deer management in the years ahead. The currency on which SNH relies in supporting collaborative deer management is goodwill; also trust. Unfortunately both have been damaged by the tone of this Report, as indicated by the many comments received by ADMG from members at our recent Regional Meeting Inverness.

We also regret having to challenge some of the evidence, analysis and interpretation contained in the Report, as below:

2. The Current Approach to Deer Management in Scotland

We have no comment to make on the summary of the present arrangements for deer management. However, with reference to the statutory powers vested in SNH under legislation, other than S7 which is dealt with elsewhere in this response, few of these powers have been used by SNH. We commend the preference of SNH for working with others by discussion and persuasion to secure necessary action but the powers are there to be used as a last resort and there are situations where ADMG would have supported the use of S8, as SNH is aware. That being the case, we are surprised at the later reference (s7, p97) to the possible need for unspecified "additional measures" while the presently available measures, including the new powers provided in the Land Reform (Scotland) Act 2016, have yet to be used.

Although SNH expresses doubt as to whether Lowland Deer Groups (LDGs) will be effective (p11), they are increasing in number and activity level and working well with the Lowland Deer Network (LDNS) and the Agencies. It is surely therefore reasonable to take a more optimistic view to support and encourage those who are making progress. It is disappointing that no mention has been made of the important LDNS initiative, "Deer on your Doorstep", a new approach to engaging with the public to inform them about deer and deer management. This will also be of use in the upland situation.

3. Deer Populations and Trends

The discussion on deer numbers and densities unnecessarily adds more confusion to a topic which has caused more controversy over the years than any other. Yet going right back to the new 1996 Deer Commission for Scotland, we have been told, and strongly agree, that it is the impacts that are most important. And of course impacts must take into account, not just deer numbers and overall local density, but also their distribution and ranging behaviour, and equally importantly the impacts of sheep, cattle, feral goats, hares and rabbits.

This was recognised by Paul Wheelhouse in his response to the RACCE Committee recommendations in 2014:

"Counting is done in certain areas, usually on the open hill, and is extremely useful in informing local deer management decisions. I am aware however of the difficulty in counting deer in forests, mixed woodland/agricultural and urban environments. With regard to the assessment of the National deer population, all the advice I have received points to the difficulty in arriving at a reliable estimate. Bearing that in mind, I welcome the Committee's conclusion that we need to continue to focus on the impacts of deer rather than their absolute numbers. What matters is not so much

absolute numbers, but, more importantly, the monitoring of trends in populations. It is also helpful to understand locally what the sustainable deer density is, in order to achieve land management objectives.”

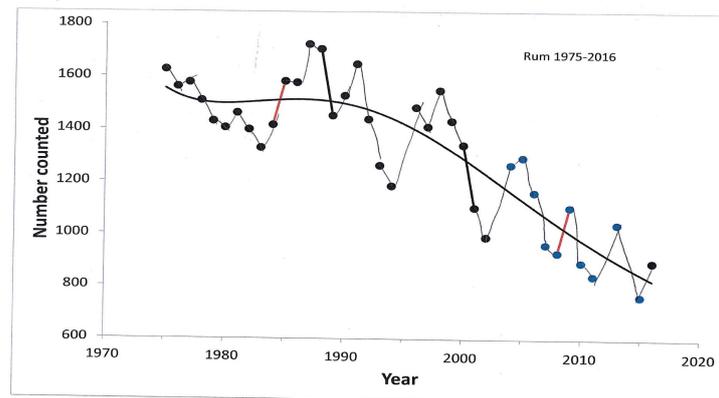
SNH has contracted the James Hutton Institute (JHI) to review all their count data and to regionalise the information. Strathcaulaidh Ltd has been commissioned to estimate the forest living deer population and this is summarised in the Report. The JHI report is not due for completion until 2017 and we are concerned that its premature use in the Report may have led to the unexplained anomalies exemplified below.

- The Report refers to the Inveraray/Tyndrum DMG (ITDMG) (p21, para5) as one of several with densities of between 12.7 and 16 deer per sq. km. This is at odds with the figure of 7.6 per sq. km. shown by the count record in the Group’s Deer Management Plan, in the creation of which SNH has been closely involved and which has been endorsed by the release of the SNH DMP grant.
- Affric and Kintail DMG and Glenmoriston DMG have also expressed concern that an average density for the whole of the South Ross area of >15 deer per sq. km. has been used in the map on p23 despite these DMGs being separate Groups with plans based on 11 and 9 deer per sq. km. respectively. This blanket density is misleading and does not reflect the localised deer populations or the active management on the ground.
- In the case of the Monadhliaths DMG the maps (p22-p26) show the deer density as “inestimable/not estimated” and the relevant line graph (p24) shows the population as increasing. MDMG has been the subject of the most detailed deer management planning exercise of all Groups, carried out, largely at SNH expense, by Strathcaulaidh Ltd over 2013-2014. This contains an exhaustive examination of population, trends and distribution and also indicates a significant downturn in deer numbers, quite at odds with the Report.

Our deep concern is that if DMG counts are seen to be selectively ignored by SNH then deer managers who have worked hard on DMPs to date will not be motivated to commit to the collection of the habitat data and to the ongoing collaboration and effort which will be required to progress the execution of DMPs. The Report has made the job of ADMG in giving a lead considerably more difficult despite our warning to SNH of that risk.

Inveraray/Tyndrum DMG and Monadhliaths DMG and a number of other Groups have submitted separate evidence for consideration by the ECCLR Committee.

Deer counting and density assessments are not an exact science. The diagram below represents the series of now annual aerial counts for the SNH managed Isle of Rum, a closed island population and therefore a comparatively straightforward counting exercise, which shows considerable year to year variances, including 2009 and 1984 (shown red) where the increase in numbers is biologically impossible. This reinforces again the need to treat deer numbers and density data as just one aspect of assessing impacts as a guide to sustainable deer management.



SNH and ADMG have always encouraged collaboration and communication within DMGs but in this instance the clear and unmistakable impression is that neither were forthcoming from SNH itself; figures that had never been explained to or checked with the DMG were put in the public domain without any discussion. In view of the clear differences between some of the deer density figures in the Report and those contained in Group DMPs we would be interested to know whether the intended peer review by the Deer Science Panel took place; also whether the SNH Wildlife Management Officers were given an opportunity to reality check the Report insofar as it relates to areas for which they are responsible.

More generally, we are concerned that SNH has chosen to make comparisons between 1960s deer populations and those of today. Count techniques in the 1960s were rudimentary – by manual observation on foot, as compared with the aerial/infra red imagery count techniques of today, and over a different open hill range, since changed by afforestation and other land use change. It would have been more telling to look at the more recent count history where, as the Report notes, overall deer numbers have been stable or declining for some years despite an increase in potential carrying capacity owing to the steep decline in sheep numbers. This is borne out in the line graph diagram on p20 of the Report but

please note the wide confidence intervals and refer again to the above Rum count line graph.

As has already been noted, the intense discussion on deer numbers and densities is of incidental value as it is the combined impact of grazing animals, wild and domestic, in addition to vegetation, altitude, exposure, climatological and other factors, which determines habitat condition. Land management decisions require to be based on consideration of all relevant factors at local level. We would therefore have expected SNH to focus more on this important point and to recognise the effort that is being made by their own staff and the DMGs in extending training to deer managers to promote and standardise habitat condition monitoring as the primary indicator of impacts and change, and the basis of grazing management. Forest Enterprise now uses impacts to determine their culls and increasingly that is the case in the DMGs as well and the new Plans and population models will help with that. As noted, the priority for the next year and beyond must be for both ADMG and SNH to encourage those DMGs that aren't already doing it to build up their habitat monitoring capacity.

We must also make the point that there appears to be a presumption underlying the Report, and the SNH evidence session, that reduction culls should be the norm. We contend that if a DMG is operating effectively and is delivering the management objectives of its members as well meeting the public interest in terms of a sustainable environment, the correct objective will be an annual maintenance cull, intended to maintain a stable deer population, subject to small adaptive adjustments to take account of recruitment changes due to birth rates and mortality variances which are often determined by weather factors. In some cases indeed an expansion cull may be justified to deliver new management objectives eg the removal of sheep to allow higher deer numbers to be sustained. Despite our point that impacts are more important than deer numbers and densities, the discussion of which in section 3 of the Report simply serves to muddy the waters, we have made our own rather simpler calculation of the open hill deer population, using SNH data. SNH reported to the RACCE Committee in 2013 in verbal evidence their estimate of the deer population across the DMG areas as approximately 275,000, based on aggregating the most recent SNH counts of each DMG area available at that time. Using the same approach with more recent SNH count results, 33 since 2013, (See Appendix 1) ADMG has calculated the present population as 243,170, a decline of 11.5%, representing an average density of 10.3 per sq. km. over the open hill range of 23,600 sq. kms. Despite being based on SNH records these calculations are at odds with the figure of 12.5 deer per sq. km. used in the Report (p19). We have shared these figures with SNH but have had no explanation of the difference. These differences between information from different SNH sources need to be explained.

As for sheep, SGRPID 2015 statistics indicate 601,000 breeding ewes plus progeny over the same DMGs area. This represents a decline of 44% and a reduction in the number of holdings with sheep of 2000 over the last 25 years (see table below). The reduction in sheep may explain increases in deer numbers at some localities within the carrying capacity of the land.

Breeding ewes and sheep in DMG area, June 1982 - June 2015				
	Breeding Ewes		Total Sheep	
	Holdings	Head	Holdings	Head
1982	5,958	986,943	6,189	2,192,432
1990	6,100	1,072,314	6,299	2,484,921
2000	4,857	960,016	5,111	2,213,283
2005	4,344	811,859	4,659	1,892,496
2010	3,802	638,022	4,281	1,523,583
2015	3,672	601,209	4,205	1,461,258
<i>Source: June Agricultural Census, RESAS</i>				

In regard to the estimates of woodland living deer numbers we have no evidence to contest the numbers and trends given, based on the Strathcaulaidh study, and consider them to be credible. As is stated, it is unrealistic to expect to establish reliable census data for woodland deer and the use of impacts to determine management, eg tree leader loss by FES, points the way for open range deer decision making. The overlap between open hill deer, which can be counted, and woodland deer, which cannot to the same standard, is one of the complicating factors in trying to estimate the Scottish deer population.

In summary on this Section, we do not have confidence in the conclusions, or in the evidence that has led to those conclusions, on deer numbers and densities.

We are concerned that the emphasis on getting accurate numbers, not a realistic objective as the above Isle of Rum example shows, detracts from the main task of managing to deliver favourable impacts.

We were assured by former Environment Minister Aileen McLeod, in announcing the Review, that it would be objective and evidence based. We are now concerned that, perhaps due to shortage of time, some of the evidence has been stretched to suit a very old argument - that there are too many deer. We will continue, hopefully with SNH, to work towards the day when that assertion is replaced with an informed locally orientated discussion on carrying capacity and impacts.

4. Environmental Impacts of Deer

Designated sites

An evidence-based approach to deer management is critical and ADMG values the use of robust information and evidence in helping inform future collaborative deer management.

Using the SNH Site Condition Monitoring Dataset on features potentially impacted by herbivores (1,606 features in total), Appendix 3 provides additional detailed analysis and interpretation of the relative impacts of herbivores on protected features. It also provides more detail on the complexity of understanding the impacts of, and relationship between, a range of herbivores including deer, sheep, hares, rabbits and goats.

The following is a summary of Appendix 2 attached:

- The Chapter heading '*Environmental Impacts of Deer*' is misleading. The Report rightly recognises that "*the impacts of deer cannot always be disentangled from the impacts of other herbivores*" and makes no distinction between herbivores in its key findings and analysis of impacts on protected features. The SNH Report recognises that the impact of herbivores on the environment must include and consider all species of herbivore (including deer, sheep, cattle, feral goats, rabbits and hares).
- ADMG as an organisation, and DMGs through the implementation of 44 upland DMPs, are making and will increasingly make a significant contribution to targets identified in '*Scotland's Biodiversity – a Route Map to 2020*' published in 2015.
- Recognising uncertainty, the provision of financial support to the delivery of DMPs through the Environmental Co-operation Action Fund, Forestry Grant Schemes and Agri-Environmental Climate Schemes will be critical.
- Of 1,606 features potentially affected by herbivores, 19% are in unfavourable condition where Site Condition Monitoring (SCM) Herbivore Targets have not been met.
- Half of all features, and 55% of unfavourable features (where herbivore targets not met), fall within established Deer Management Group areas with an updated plan.
- 87% of unfavourable features (where herbivore targets not met) fall within some form of Deer Management Group area (Established, Lowland, New or Historic).
- There are 63 features (4% of the total number of features) where herbivores are considered to be the only negative pressure contributing to unfavourable condition. A combination of factors, including negative

herbivore pressure, contributes to unfavourable condition of a further 190 features (12% of the total number of features) suggesting additional activities other than herbivore management would be required to bring them into favourable condition.

Native woodlands and designated woodland sites

ADMG has commissioned a review by Victor Clements, native woodland adviser, of the Native Woodland Survey of Scotland in regard to grazing impacts in native woodlands. This is to be found at Appendix 3. In summary:

- There are 324,536 ha of native woodland of which 44% is within the DMGs area.
- 33% of this is impacted by herbivores – 47584 ha.
- 58,803 ha of herbivore impacted woodlands lie outwith the DMG areas.
- 67% of native woodlands in Scotland are in satisfactory condition so far as herbivores are concerned but other factors such as invasive and non native species reduce this proportion to 46%, below the Scottish Government 2020 target of 60%.
- There are 426 SSSI woodland features in Scotland.
- 234 are in favourable condition; 60 recovering due to management, 3 not assessed.
- 129 are unfavourable of which 54 are impacted by herbivores sometimes combined with other negative impacts – non natives, bracken etc.
- Overall, 9.6% of 426 designated features are impacted solely by herbivores and are not being adequately addressed through management plans and agreements. Only some of these are impacted by herbivores alone. It is not possible to distinguish clearly between deer and domestic livestock in many cases.
- 88 SAC woodland features in Scotland of which 41 unfavourable.
- 26 affected by herbivores and other threats, 8 by herbivores alone.

5. Socio-Economic Costs and Benefits of Deer

The remit to SNH was to give priority to environmental aspects but they have made reference to the economic and social importance of deer management in this Section and conclude that: *“present management approaches appear to lead to high social and economic costs which outweigh the current benefits”*. Inexplicably they have used the 2016 ADMG commissioned PACEC study of the deer sector but have chosen to disregard the secondary impacts on the grounds that the PACEC calculations are *“not specific and therefore cannot be tested”*. The effect is that they use a direct annual income value of £17.6m and 722 FTE jobs in their assessment as compared with the PACEC overall economic impact figures of £140.8m and 2532 jobs. That is hardly an objective assessment and

undermines the assertion that economic costs exceed benefits. The Executive Summary of the financial section of the PACEC economic study of the deer sector is attached, Appendix 4.

We would also observe that some of the costs are highly speculative, eg Lyme disease, £0.5m. Deer are one of a number of tick hosts and can therefore be instrumental in the spread of tick, although deer do not carry Lyme Disease. However the same applies to untreated sheep and hares and probably also wild birds (how else can we account for the increasing appearance of ticks in eg deer proof urban gardens?) Furthermore the spread of bracken, ideal tick habitat, across large areas of the Highlands is also a significant factor. Ascribing an estimated social cost of Lyme's Disease to deer is therefore questionable and at least this is noted in the Table (p46), as is the complexity of the calculation (p49).

6. Planning and Implementation of Deer Management

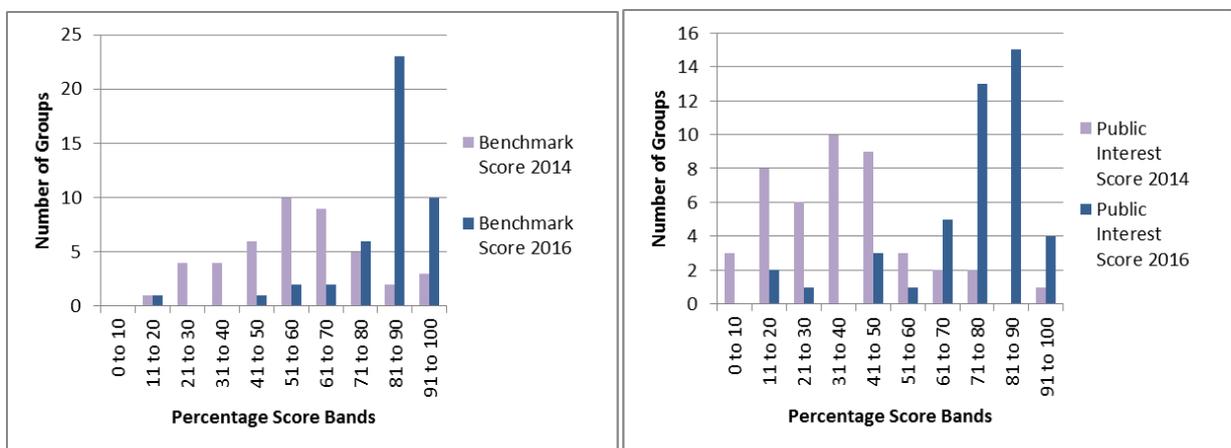
We are pleased to note recognition of the progress made based on the comparative Assessments of November 2014 and June 2016 and to note that progress is statistically significant. Broadly we felt that the structured Assessment process produced realistic results although a number of DMGs expressed concerns at the time and pursued these direct with SNH. Progress continues to be made by individual DMGs and a number of the newer or restructured Groups which did not have adopted DMPs in June 2016 have since achieved that important point and as a result would score considerably better if re-assessed today. A review of the Assessment process by Victor Clements on behalf of ADMG is to be found on <http://www.deer-management.co.uk/a-reflection-on-the-2014-2016-deer-management-group-assessment-process/>

SNH refers to the areas where there are deer present but has as yet no collaborative management through a DMG or otherwise. Although this is true of a relatively small proportion of the open hill red deer range, ADMG has encouraged SNH to initiate meetings in some of these areas and offered to support them. Examples are lower Donside and Cowal. In the former case SNH has yet to set the wheels in motion and in the latter ADMG has itself initiated informal local discussions with a view to developing a collaborative approach. ADMG stands ready to work with SNH on this but it should be pointed out that where there is only a low level of deer impacts, which is the case in some localities, the formation of a DMG may not be an early necessity. This is likely also to be the case in parts of the lowlands.

Some of the discussion in this section is misleading in the opinion of ADMG. As an example there is reference to the scoring of the "best" and "worst" DMPs (p75). The "worst", with no public interest "greens" and 78% "reds" in the June 2016 Assessment, refers to one of the Hebridean DMGs which has existed only

nominally until 2016. With the support of the SNH Officer concerned and ADMG, and as a latecomer to the SNH grant scheme, that DMG has now commissioned the preparation of a DMP and adopted a Constitution. Bearing in mind that the Report makes the point that there are areas with no collaborative mechanisms in place and that this is a weakness of the current situation, it is fair to point out that the activation of this Group is positive, and should be encouraged and supported rather than being used as an example of failure.

The following graphs, produced by ADMG highlights the change that has taken place between the 2014 and 2016 SNH Assessments in terms of individual DMGs. The data has been calculated by apportioning scores to the colours (green – 2; amber – 1; red – 0) awarded by SNH, totalling them up, and turning them into percentage bands:



Referring to the Assessments (p78) the Report makes the correct observation that *“there is considerable variation not only among DMGs, but also across the different categories”*. Certainly there is wide difference in performance between Groups. The best scored very highly in the re-assessment and other late starters or DMGs with limited time and resources available have required and will continue to require more support and encouragement from both SNH and ADMG. That situation will continue to improve.

We would also point out that the *“lack of detailed mechanisms for using and interpreting and monitoring results at a DMG scale”* (p72) refers to SWARD, the data processing system for DMGs, which, while still in development, has been a casualty of SNH funding cuts. As noted, ADMG will now take this forward and has been promised support by SNH staff.

Communication has been one of the areas of most improvement (35 DMGs now have their DMPs online). On the other hand *“there has been less progress in linking planning with implementation”*. However, as is acknowledged in Sections 1 and 7 – *“There has been limited time for these changes to be implemented and*

to lead to measurable changes to the natural environment". The time for the planning stage, now concluding, has been short and it is unrealistic to expect much sign of change due to "implementation" at this stage. That is the challenge for 2017 and beyond and ADMG has prioritised this with its members and is planning a seminar next Spring to emphasise the importance of the task of implementing DMPs and prioritising the roll out of habitat impact assessments.

ADMG also believes that future progress will be greater and more consensual if there is a higher level of communication and cooperation across all the organisations with an interest in deer management. It has therefore made an initial proposal to Scottish Environment Link to jointly set up a Deer Stakeholders Forum with an independent Chair and the intention is to take this further in the coming months.

Section 7 Agreements

The Report is critical of S7 agreements and part of the evidence session with SNH focussed on whether they had been an effective mechanism in terms of habitat improvements as the Report suggests otherwise. ADMG does not share this view. Indeed, in his 2014 response to the RACCE Committee, Paul Wheelhouse, taking a more favourable view of S7 at that time, observed:

It is worth highlighting that recent experience of using Section 7 control agreements demonstrates that we can secure environmental gains, while balancing other land use interests in the process. Good examples of recent and very real progress in delivering conservation objectives, deer reductions and landowner's objectives have been achieved at various sites including Inchnadmph, Glenfeshie, Kinveachy, Caenlochan and Breadalbane.

A number of the early S7s have achieved their targets and have not been extended and most of those remaining have resulted in improvements including some in which deer cull targets have been achieved although the required level of habitat response has yet to occur. In some cases new population targets are under consideration. As noted in the Report "*S7 is recognised as an adaptive approach*"(p90). However proper consultation with the DMGs concerned has yet to take place in some cases and this point may be made in correspondence from certain DMGs submitted separately to the Committee as evidence. We note that it is incorrectly stated that the Breadalbane Agreement was extended into 2016. It was concluded in 2015.

As an example of what we consider to be a misleading representation of the improving situation at one of the S7 areas, below is an extract from the summary from the 2014 independent survey of the Breadlabane S7 agreement which is at

odds with the observations on this S7 Agreement in the Report, in recording continuing improvement:

The results of the 2011 survey indicated that grazing impacts had decreased across most of the five sites. This was particularly evident on Ben Heasgarnich and Meall na Samhna, but a general pattern of decreasing impacts was recorded across all the SSSIs. Moderate, High and Increasing impacts were recorded from some locations on Ben Lawers and Carn Gorm/Meall Garbh.

The main findings of the 2014 survey were of fairly minor changes and many of the results were broadly the same as those from the 2011 survey. In general the pattern of changes was still a decreasing one, with most assessment squares either showing the same impact level as 2011 or a slightly lower one.

Finally we wish to correct two factual errors which arose in the SNH evidence session in addition to two in the Report:

- In answer to a question from Claudia Beamish SNH implied that Deer Management Plans were not currently publicly available. This is incorrect. 35 DMPs are available online through the ADMG web portal www.deer-management.co.uk by clicking on the relevant part of the map of DMGs. This has been the case since early in 2016 and the number available has increased steadily.
- It was stated that SNH acts as Secretary to the Scottish Venison Partnership. This is not correct. The SVP Secretary is Dick Playfair. SNH is a sitting member of SVP.
- In the Report (p10) it is stated that ADMG has “supported” the creation of LDNS. LDNS was conceived by ADMG and carried forward jointly with SNH.
- It is stated (p57) that SNH published a report on the first DMG Assessments in 2014. The first Assessments were carried out during 2014 but the Report was not published until 2015, during the passage of the Land Reform (Scotland) Bill, where it led to much misunderstanding as to its purpose.

7. Evaluation and Conclusions

The Report is a considerable disappointment to almost everyone in the deer management sector. It identifies the progress made and gives credit for it but, rather than encouraging further progress it concludes that we are likely to fail in delivering our share of Scottish Government 2020 targets. Unfortunately, many of its conclusions are not based on identifiable science or coherent evidence. Significant errors or inconsistencies – a sample of which we have identified in this paper, lend little credibility to what should be a useful and informative report. Of particular concern to ADMG is that the Report has not been helpful in further encouraging those on whom effective deer management is most dependent. We mean to engage with SNH to clarify some of the observations and conclusions in the Report in the hope that we may once again be in a position to move forward collaboratively.

This is not a sector in crisis which cannot deliver its share of Scottish Government targets as the Report unfortunately appears to conclude. Deer management is on an improving trajectory and with the new Deer Management Plans in place and working with SNH and others the deer sector has the capacity to contribute, its share of environmental improvement. A “step change” has indeed taken place and is continuing. As the Report acknowledges it is unrealistic to expect that transformation yet to have brought all DMGs up to a common standard, or for change to be visible in upland habitats, or for areas which are in need of a collaborative approach to deer management but do not yet have them, to have filled in. Those are all tasks for the immediate future and with the completion of the deer management planning phase, most DMGs are now ready and willing to move on to the delivery stage and later starters are catching up fast.

ADMG takes pride in the commitment of its members to change the way in which they do things, to think about deer management in a more integrated and adaptive way, to accept a more clearly articulated responsibility to act in the public interest and to communicate effectively. Deer management differs widely from area to area and, as SNH points out, does not lend itself to a prescriptive one-size-fits all approach.

The ADMG work plan for 2017 includes:

- Revisit, update and add to Wild Deer Best Practice.
- Complete development of and trial at DMG scale, SWARD, the online deer data management package.
- Support DMGs in introducing comprehensive habitat impact assessments.
- AGM (March) and Birnam training seminar for DMG office bearers (May).
- Consider development of a deer management “standard” based on the Assessment criteria.
- Work with Scottish Environment Link on all the above and in developing new approaches to facilitate and support deer management under the voluntary principle.
- Consider with SNH new areas for collaborative management.

Richard Cooke
Chairman
Association of Deer Management Groups
4 December, 2016

Appendix 1

Estimate of Scotland's open range red deer population 2016

	Estimated deer population	Year	Notes
Affric & Kintail	2741	2015 Helicopter count	
Ardnamurchan	1803	2016 Helicopter count	
Arran	1873	2016 Foot count	Regarded as being very good count.
Balquidder	1589	March 2016 foot count	Probably an under-count by 2-300 animals
Blackmount	7325	2015 Foot count	Adjusted from 8284 which included some form outwith DMG boundary
Breadalbane	9009	Spring 2015 Helicopter count	Regarded as being a good count.
Cairngorm Speyside	4103	2010 DCS count	Prob a reduction in numbers since 2010
East Knoydart	5306	Nov 2014 Helicopter count	Regarded as being a good count.
East Loch Ericht	4849	Feb 2015 count	Good count
East Loch Shiel	3821	March 2016 Count- Helicopter	Regarded as being a good, accurate count
East Ross	1778	2008	Likely to be stable. Closed population.
East Sutherland	12213	Spring 2016 projection from 2015 foot count	Likely to be an under estimate, possibly by 2000 deer or so
EGDMG Sub area 1	5226	2016 Helicopter count	Good count
EGDMG Birse	155	2016 Helicopter count	Good count
EGDMG Sub Area 2	7586	2016 Helicopter count	Good count
EGDMG Sub Area 5	5502	2016 Helicopter count	Partial count only; complicated by addition of Glenavon having moved from CSDMG
Gairloch	278	2016 Torridon only	No recent reliable count data for DMG
Glenartney	3178	2015 Foot count	Good count
Glenelg	4197	January 2016 foot count	Good count. Tied in with broad expectations.
Glenmoriston	3667		Figure quoted in DMP No year or comment.
Harris and Lewis	1297	March 2016 Foot count	Good count, co-ordinated with SNH, local stalking club and neighbours, walking previously agreed lines.
Inverary & Tyndrum	2573	2016 foot count	Likely to be a significant underestimate. 30% of area is trees
Islay	4415	2016 Helicopter count	Islay Estates 2016 foot count suggests count should be 389 animals higher.
Lochalsh	7040	Spring 2016 Helicopter count	Spring count is likely to include animals pulled in from neighbouring DMG areas.
Midwest	11045	2011 Helicopter count	No good group wide count since then
Moidart	1800	2016 Est	Likely to be stable population
Monadhliath	18984	2013 helicopter count	Likely to be under-estimate given area of forestry
Morvern	3890	2012 foot count	No information on likely accuracy.
Mull	7707	2011 Estimate	Not 100% coverage
North Ross	14348	2015 SNH Helicopter count	Good count
Northern	11778	2013 Helicopter count	Good count, although a high proportion of forestry within the group. Numbers likely to be stable, although management changes since 2013.

NW Sutherland	5879	Spring 2016 foot count	Under-estimate as some properties did not count, possibly by 1000 deer or so
South Perthshire	4856	December 2009 Helicopter count	Current deer population likely to be significantly less than 4000 due to local reductions for grouse moor management
S Ross - S'connon	8669	Spring 2016 Helicopter count	Includes 506 enclosed deer.
South West Ross	1631	Foot count, 15/4/16	Partial count only. Awaiting confirmation of August 2016 count results.
Strathfarrar	8223	2016 Modelled population	A significant increase on the modelled population and likely to be incursion from neighbouring areas.
Strathtay	1238	2015 foot count	Good count
W.Sutherland EAST	4517	Feb 2016 Helicopter count	Good count, but DMP suggests a downgraded figure to 4066.
W.Sutherland NORTH	2653	Feb 2016 Helicopter count	Good count, but DMP suggests total should be slightly higher at 2695
W.Sutherland SOUTH	1819	Feb 2016 Helicopter count	Good count, but may be some double counting/ overlaps due to time taken to complete whole West Sutherland area, especially on boundary between East and West groups.
W.S'land W- AP5G	1806	Feb 2016 Helicopter count	Good count, but may be some double counting/ overlaps due to time taken to complete whole West Sutherland area, especially on boundary between East and West groups.
West Grampian	13916	2015 Foot count	Likely to be good count
West Knoydart	1142	2016 foot count	Regarded as being accurate, but may be some deer from East Knoydart included
West Lochaber	4745	2015	Incomplete due to welfare concerns on one property because of deep snow
West Ross	11000	2009	Partial counts since then.
TOTAL:	243170		

Appendix 2.

Paper by Linzi Seivwright, Consultant

The 2020 Challenge for Scotland's Biodiversity

The context for the chapter on the Environmental Impacts of Deer is the Scottish Biodiversity Strategy '*The 2020 Challenge for Scotland's Biodiversity*'. Published in 2015, 'Scotland's Biodiversity – a Route Map to 2020' identifies the 7 most critical pressures in dealing with biodiversity loss, and sets out priority projects and targets to help deliver the 2020 challenge.

In the review, SNH makes the statement *"we are not confident that present approaches to deer management will be effective in sustaining and improving the natural heritage in a reasonable timescale – particularly in time to contribute significantly to the specific challenges outlined in the Scottish Biodiversity Route Map to 2020"* (P iv).

ADMG wishes to challenge this statement with regards to specific actions and targets relating to deer management

In the review, SNH states that:

"The first progress report for the Route Map shows that good progress has been made across many of the targets. However, two targets on native woodland planting and restoration are identified as in need of further work". (P31)

"The reassessment of 44 upland Deer Management Groups shows that between 2014 and 2016 significant progress has been made in developing effective deer management plans" (P iv).

As a partner in the implementation of Scotland's Wild Deer: A National Approach and having worked closely to support the Deer Sector in developing effective deer management plans over the past 18 months, ADMG is already contributing to targets within the, '*Scotland's Biodiversity – a Route Map to 2020*' published in 2015. Furthermore, Table 1 sets out the relevant Biodiversity 2020 Strategy projects and demonstrates the work that has been carried out since 2014 and which will continue to contribute to through the implementation of Deer Management Plans, the proposed programme of work for ADMG and the work of the Lowland Deer Network.

Table 1: Biodiversity 2020 Strategy and Targets for Deer Management

Biodiversity 2020 Priority Projects	Targets	Current Contribution of Deer Management
<i>Big Step 1: Ecosystem Restoration: Restoration of peatlands</i>	<i>Ambitious peatland restoration programme underway, contributing to the EU 15% degraded ecosystem restoration target</i>	Peatland restoration is included where relevant in DMPs. Opportunities for further restoration work will be reliant on the availability/accessibility of Funding.
<i>Big Step 1: Ecosystem Restoration: Restoration of native woodland</i>	<i>Increase the amount of native woodland in good condition (upwards from 46% as identified by the Native Woodland Survey of Scotland)</i> <i>Restore approximately 10,000 ha of native woodland into satisfactory condition in partnership with private woodland owners through Deer Management Plans</i> <i>Creation of 3,000 to 5,000 ha of new native woodland creation per year</i>	The implementation of Scotland's Wild Deer: A National Approach (ADMG are a partner organisation) Delivery of 44 "effective" deer management plans with public interest targets to contribute to the overall aim of native woodland restoration. Again opportunities will be reliant on the availability of funding both through the Environmental Cooperation Action Fund and Forestry Grants Schemes. Lowland Deer Network is involved in establishing further mechanisms for lowland deer management.
<i>Big Step 4 – Conserving wildlife in Scotland</i>	<i>At least 80% of designated 'features' in favourable condition by 2016.</i>	In addition to 1,208 (75%) features potentially affected by herbivores in favourable condition, a further 99 (6%) unfavourable features met Site Condition Monitoring targets for herbivores. Of 1,606 features potentially affected by herbivores, 821 features (51%) are covered by existing Deer Management Groups with updated DMPs , 265 features (16.5%) are covered by Lowland DMG areas, 194 (12%) are covered by historic or DMGs in development, with 326 (20%) not presently covered by a DMG.
<i>Big Step 5 – Sustainable management of land and freshwater</i>	<i>Encouraging best practice and demonstrating how sustainable game and wildlife management can deliver multiple benefits, including wildlife conservation, and wide society and rural community benefits.</i>	ADMG will be investigating opportunities to lead on promoting and updating Wild Deer Best Practice and to developing a data management tool (SWARD) to assist deer managers.

Herbivore Impacts

The review makes no distinction between herbivores in its key findings and recognises that the impact of herbivores on the environment must include and consider all species of herbivore (including deer, sheep, rabbits and hares). The Chapter heading '*Environmental Impacts of Deer*' is therefore misleading.

In the main findings of the review, it is stated that "*Grazing by deer and other herbivores is a major cause of unfavourable condition of natural features in protected areas*" (P iv) and Site Condition Monitoring results "*do not differentiate between impacts from different herbivores, e.g. sheep, deer, hares etc*". (P32). Yet, the Review goes on to make the following statements:

- "*The impacts of deer cannot always be disentangled from the impacts of other herbivores, but the evidence supports the view that deer are a major factor in limiting the recovery of woodland condition*" (P39).
- "*In recent debates, the impact deer are having on the natural heritage has been prominent and the extent to which they are hindering progress in achieving targets and outcomes in the '2020 Challenge for Scotland's Biodiversity'*".(P14/15)

Site Condition Monitoring and Protected Features

Summary:

- From a total of 1,606 features potentially affected by herbivores, 19% are in unfavourable condition where Site Condition Monitoring Herbivore Targets have not been met.
- Half of all features, and 55% of unfavourable features (with herbivore targets not met), fall within established Deer Management Group areas with an updated plan.
- 87% of unfavourable features (with herbivore targets not met) fall within some form of Deer Management Group area (Established, Lowland, New or Historic).
- There are 63 features (4% of the total number of features) where herbivores are considered to be the only negative pressure contributing to unfavourable condition. A combination of factors, including negative herbivore pressure contributes to unfavourable condition of a further 190 features (12% of the total number of features).

An evidence-based approach to deer management is critical and ADMG values the use of robust information and evidence in helping inform future collaborative deer management. The following analyses using a subset of Site Condition Monitoring data of protected features potentially affected by herbivores, demonstrates the complexity behind determining and therefore resolving unfavourable condition of protected features. Using the SNH SCM Data set, the following information provides additional detailed analyses and interpretation of the relative impacts of herbivores on protected features.

Table 2 Summary of Unfavourable Features, Herbivore Pressures and Deer Management Provisions

	Analysis of Features Potentially Affected by Herbivores	Total Number of Features	Favourable	Unfavourable (Herbivore Targets Met)	Unfavourable (Herbivore Targets NOT met)
1	Features potentially affected by herbivores	1606 (100%)	1208 (75%)	99 (6%)	299 (19%)
2	Features within Established DMG with updated DMP Area	821 (51%)	612 (51%)	46 (47%)	163 (55%)
3	Features within Lowland DMG Area	265 (17%)	189 (16%)	22 (22%)	54 (18%)
4	Features within historic or new DMG with no plan	194 (12%)	136 (11%)	15 (15%)	43 (14%)
5	No DMG	326 (20%)	271 (22%)	16 (16%)	39 (13%)
6	Total	1,606 (100%)	1,208 (100%)	99 (100%)	299 (100%)
7	Total within DMG	1280 (80%)	937 (78%)	83 (84%)	260 (87%)
8	Total Outwith DMG	326 (20%)	271 (22%)	16 (16%)	39 (13%)

1. ***“Of 5,271 natural features assessed across Scotland’s protected areas, 81% are in favourable or unfavourable recovering condition. For those features potentially affected by herbivores (a subset of 1,606 features), the figure drops to 75%” (P31).***

In addition to the 1,208 (75%) features in favourable condition, a further 99 (6%) unfavourable features met Site Condition Monitoring targets for herbivores (Table 2, Row 1).

2. ***“The proportion of features in favourable and unfavourable recovering condition is 10 – 12 % lower in areas covered by deer groups compared with the rest of Scotland” (P31).***

There are 3 categories of Deer Group used in these analyses which range from established DMGs with an updated DMP, Lowland Groups and either new or historical DMGs without a plan. Of 1,606 features, 80% fall within the area of one of these categories (Table 2, Row 7)

For the 299 unfavourable features (where SCM herbivore targets are not met):

- 55% sit within established DMG areas with an updated plan (Table 2, Row 2)
- 18% sit within Lowland Group areas (Table 2, Row 3)
- 14% sit within an historic or new DMG where no plan currently exists or is in development (Table 2, Row 4).

Table 3: Analyses of Unfavourable Features where SCM Targets for Herbivores Not Met

	Analysis of Unfavourable Features where Herbivore Targets NOT Met	Unfavourable (Herbivore Targets NOT met)	Herbivores only Negative Pressure	Herbivores and Other Negative Pressure	Other negative pressure only or no negative pressure
1	Features potentially affected by herbivores	299 (100%)	63 (21%)	190 (64%)	46 (15%)
2	Features within Established DMG with updated DMP Area	163 (55%)	55 (87%)	102 (54%)	6 (13%)
3	Features within Lowland DMG Area	54 (18%)	7 (11%)	32 (17%)	15 (33%)
4	Features within historic or new DMG with no plan	43 (14%)	1 (2%)	37 (19%)	5 (11%)
5	No DMG	39 (13%)	0	19 (10%)	20 (43%)
6	Total	299 (100%)	63 (100%)	190 (100%)	46 (100%)
7	As Percentage of Total Number of Features (1,606)	299 (19%)	63 (4%)	190 (12%)	46 (3%)

3. “...This shows that, with the exception of bird features, the majority of unfavourable features require reductions in grazing pressures (P34).

For 299 unfavourable features (where SCM herbivore targets are not met):

- 15% (46 features) are not impacted negatively by herbivores (Table 3, Row 1).
- 21% (63 features) are considered to have negative herbivore impacts only (Table 3, Row 1).
- 48% (190 features) are considered to have a combination of negative factors including herbivores (Table 3, Row 1) suggesting that 48% of features would require additional management other than herbivore management to bring them into favourable condition.

Table 3: Pressures on Protected Features

Pressures	Assessed Features potentially affected by herbivores (%)
Herbivores only negative pressure	277 (17%)
Herbivores and other negative pressure	615 (38%)
Other negative pressure only	482 (30%)
No negative pressure	232 (14%)
Total Number of Assessed Features	1,606

4. Of the 1606 features examined, 56% of features have a negative overgrazing pressure identified, compared with only 9% having negative undergrazing pressures (P33).

From Table 3 it can be seen that 17% of features have been identified with a negative herbivore pressure only, with a combination of negative factors, including herbivores having a negative pressure on a further 38%.

Appendix 3

Review of NWSS Survey for ADMG by Victor Clements

(A full account of this is given in the December 2016 edition of Scottish Forestry)

Of the 324,536 ha of native woodland covered in the NWSS report, 143,323 ha or 44% lies within the Deer Management Groups (DMG) area.

33% of this area is impacted by herbivores, which is co-incidentally the same level as for the area of Scotland lying outwith the DMG area. The greater area of native woodland impacted by herbivores therefore lies outwith the DMG areas (58,803 ha vs 47,584 ha).

67% of native woodlands across the country are therefore in satisfactory condition with regards to browsing pressures. However, when other causes of unsatisfactory condition are included (non native tree species and invasive species) which are more common outwith the DMG area, then just 50% of woods within the DMG area are in overall satisfactory condition, but only 40% of woods outwith this area, the difference being because of these non herbivore other factors.

10% of woods within the DMG area therefore require to be restored, by reducing grazing and browsing, or by removal of non natives tree and plant species, to reach the 60% target for 2020, or 11,168 ha.

Outwith the DMG area, 20% of woods require to be restored, or 32,544 ha.

To achieve the 2020 target of 60% of native woods being in satisfactory condition, 75% of the effort by area is therefore outwith the DMG area, and requires work to target non native and invasive species as well as deer and domestic livestock accessing woodlands in the lowlands.

Designated Woodland Sites

This account has been produced by analysis of available information and consultant knowledge of many of the sites involved.

Sites of Special Scientific Interest (SSSI)

There are 426 designated SSSI woodland features in Scotland. (Please note SNH analysis uses 406 features)

Of these, 234 are in Favourable Condition, and a further 60 are Recovering due to being in active management which should bring about an improvement in condition. It can take several years for this process to occur, and progress can sometimes be slow.

Three sites have never been assessed for condition.

The remaining 129 features are deemed to be in Unfavourable Condition, and there can be a range of different reasons for this. The data shows that only 54 of these sites are impacted by herbivores and listed as being under significant pressure, although it is not always possible to determine whether domestic livestock or deer are responsible.

Of these 54 features:

- 25 features have significant pressures in addition to herbivore impacts. These will very often and increasingly involve invasive species or bracken encroachment, non native tree species, unsympathetic agricultural activity, tree diseases, development or water management issues. While grazing pressures can be transitory and readily be fixed if it is necessary to do so, these other pressures can be more entrenched, and more difficult and expensive to rectify. When trying to bring sites into Favourable Condition, it is important to look at all the pressures involved.
- 13 X features have management plans or SRDP applications in place or imminent.

- There are 16 sites where herbivore pressure is the main problem, but whether it is livestock or deer is impossible to say in many cases from the data available.

If you include the 25 + 16 = 41 features this represents 9.6 % of the 426 designated SSSI features in Scotland being in unfavourable condition due to herbivores, although the animal responsible is not always apparent from the data, and in the majority of these significant additional pressures also exist.

Special Areas of Conservation (SACs)

There are 88 SAC designated woodland features in Scotland, of which 41, 47%, are in Unfavourable Condition. (Please note, SNH analysis uses only 73 features)

Of these 41 features, the available background information suggests that for 15 of these, herbivore pressure is not a concern.

Of the remaining 26 features, 30% of the total:

- 9 sites have significant pressures in addition to grazing, including, as above, invasive species, bracken, non native tree species, burning, tree diseases, water management and abstraction issues, inappropriate agricultural activity and the dumping of rubbish. Many of these problems can be longstanding and difficult to address. Several of these sites are also classified as oak woodlands, which are notoriously difficult to regenerate in Scotland. Some of these oakwood SACs are large sites covering many properties. The Lomond Woods SAC, for example, covers 1454 ha, with 20-30 different owners. Much of it will be in good condition, but because parts of it are not, the site as a whole will fail. This is a problem with the assessment process, and it is difficult to persuade people to do work when it does not result in an upgrade of the overall site. It is a problem which we need to address so that we can zero in on the priority areas within these large sites.
- 9 of the sites are willow scrub, usually of montane species at high altitude. If these sites are inaccessible to sheep and deer, then they tend to be in Favourable Condition. Some sites comprise only a small number of bushes, and any level of grazing can be a problem. Fencing is usually impractical.
- Finally, there are 8 sites where herbivores are the main issue, although it is not clear from the data whether sheep or deer or both are responsible. Goats are present at several sites as well.

The Contribution of Deer Management to the Scottish Economy **Summary of report prepared by PACEC on behalf of The Association of Deer Management Groups - March 2016**

PACEC Public and Corporate Economic consultants www.pacec.co.uk

Summary of economic impacts:

- We have used results from PACEC's research on the economic impact of shooting in the UK and the volume and value of country sports tourism to Scotland to estimate the total economic impact of deer management in Scotland, including supply chain effects and expenditure by stalking participants on other attractions while visiting Scotland.

From respondents to survey

- The total expenditure on deer management in Scotland in 2013/14, according to the survey respondents, was £43.1m: £7.7m capital expenditure, £15.2m on staff, and £20.2m other operational expenditure (rounded to nearest £100k). This was partially offset by £12.5m in income from deer management.
- There were a total of 2,532 jobs in deer management in Scotland, of which 1,372 were known to be paid and 966 unpaid. As many of these jobs are part-time and/or seasonal, the full-time equivalent of this employment is 845 FTEs (722 paid, 124 unpaid).

From wider research

- From wider research PACEC's other research on shooting sports and Scottish country sports tourism suggests that the total impact of deer management on the Scottish economy, including associated hospitality, and the supply chain within Scotland, is £140.8m of total expenditure, supporting 2,520 FTE paid jobs in Scotland. These figures are consistent with the results of this deer sector research.

The bottom line:

- £140.8m of expenditure in Scotland is reliant upon Deer Management · Of which, £43.1m is directly due to Deer Management activities as reported by the new survey · £97.7m results from associated expenditure, largely by participants away from the stalking site (£55.6m)

This summary is available to download from the ADMG website: <http://www.deermanagement.co.uk>