September 2, 2009

Re: Wildlife and Natural Environment Bill Consultation

Wildlife and Natural Environment Bill Team
Landscapes and Habitats
The Scottish Government
1A North
Victoria Quay
Edinburgh
EH6 6QQ

To whom it may concern,

Please find attached our joint submission to the Wildlife and Natural Environment Bill Consultation, plus our two respondent information forms for this submission. Kenneth Urquhart will be making a further solo submission.

Yours Sincerely,

[Signature]

Iain McKendrick & Kenneth Urquhart (p.p. Iain McKendrick)

Enclosures (3)
Submission to *Wildlife and Natural Environment Bill Consultation*

*Kenneth A Urquhart, Thistle Veterinary Health Centre, 1 Alcorn Rigg, Edinburgh, EH14 3BF*

*Iain J McKendrick, Biomathematics and Statistics Scotland, JCMB, King’s Buildings, Edinburgh, EH9 3JZ*

The Consultation Document for the Wildlife and Natural Environment Bill states (p79) that “research in 2003 suggested that over 40% of shots could give rise to welfare concerns”, citing research published by ourselves in the Veterinary Record (Urquhart and McKendrick, 2003a).

This interpretation is that of the Deer Commission Scotland, not of the authors of the paper, as has been acknowledged by Professor Milne in his reply to a letter from the first author (both letters appended). Obviously, DCS is free to interpret and reinterpret published data, but we have previously publicly presented arguments as to why it is inappropriate to interpret these data as directly reflecting a lack of welfare during culling (Urquhart and McKendrick, 2003b). We think it is appropriate to restate some of the material from the latter publication in response to the current consultation.

Early in our studies we explored the proposition that analysis of the anatomical distribution of individual entry/exit wounds could be used retrospectively to predict the welfare consequences for the culled animal. We rejected this approach on the basis that focusing on only one parameter (wound site) provided an unacceptably narrow statistical base upon which to predict the outcome of the complex pathological processes that occur when a deer is struck by an expanding high velocity bullet complying with the legal requirements. Whilst recording the anatomical sites of entry/exit wounds is useful in determining the number of permanent wound tracts (PWT’s), we believe that analysis using only the anatomical site of entry/exit wounds will be, at best, a poor predictor of the outcome (in welfare terms) for culled animals. We believe that a more appropriate strategy is to carry out a rigorous statistical analysis of a more limited but better-defined set of data. The number of PWTs in the carcase is an objective measure of the nature of the culling event, and in Urquhart and McKendrick (2003a) we used these data to estimate the ‘terminal probability’, an estimate of the probability of any induced PWT being final. This is probably associated with the successful culling of the animal. We do not believe that it is possible to assess the immediacy or otherwise of death without considering much more detailed information about the nature of the wound.

The need to consider factors other than the distribution of individual entry/exit wounds when assessing welfare appears to have been overlooked by the writers when reviewing our data. The range of factors which should be considered is best elucidated by the E.X.C.F.V.M scoring system used by the International Committee of the Red Cross (ICRC) to assist in the classification of war wounds (Coupland, 1992). Briefly, under this system six criteria are assessed:

\[ E = \text{Entry wound: site and maximum dimension in centimeters} \]
\[ X = \text{Exit wound: site and maximum dimension in centimeters} \]
C = Cavity: presence or absence of a palpable permanent cavity.
F = Fracture: with classifications from no fracture through to significant comminution
V = Vital structure injured: viscera, major blood vessels, central nervous system
M = Metallic bodies: presence of one or more metallic bodies in a wound tract.

In the absence of the ancillary data confirming the maximum dimensions of the entry (E) and exit (X) wounds, only partial information on criteria V in 13% (122/943) of carcases and an absence of data on C, F and M, we do not believe that the data presented in Urquhart and McKendrick (2003a) provide a sound basis to retrospectively assess the welfare of deer during culling, and that therefore the reference in the consultation document to our work should be discounted. The development of methods of retrospective assessment, based on use of a more detailed wound scoring system such as that detailed above, is however, potentially a fruitful area of future scientific research.

References


Appendix 1: Letter from Kenneth Urquhart to Prof. John Milne, Deer Commission Scotland
Appendix 2: Letter from Prof. John Milne, Deer Commission Scotland to Kenneth Urquhart
Dear Professor Milne,

In January, DCS provided advice to the Minister for Environment in the form of a review of the deer legislation in Scotland and, subsequently, a briefing document which was recently published on the DCS web site.

In the latter, DCS included a summary of wound distribution in the carcases of shot wild culled red deer which it had compiled from the content of a peer reviewed paper published by Dr Iain McKendrick and myself (Veterinary Record, April 19, 2003).

The accompanying text stated “A study in 2003 by Urquhart & McKendrick examined the wound tracts of 900 carcases. This found that 43% of shots were outwith the recommended area of optimum shot placement and thus potentially of welfare concern.”

The above text is materially misleading. The phrasing strongly implies that we had reached the conclusion given, rather that it being DCS’s interpretation of the data. Furthermore, in the study, we did not collect data on ‘shots’. We recorded ‘wounds’ and attempted to classify these as either exit or entry wounds, from which we derived the number of ‘permanent wound tracts’. ‘Shots’ and ‘wounds’ are not synonymous.

In correspondence which followed the original publication, Thomas and Allen (Veterinary Record, June 28, 2003) sought to draw welfare conclusions from the anatomical distribution of individual entry/exit wounds.

We considered they had over interpreted the data. In response, we explained (Veterinary Record, June 28, 2003) that we had explored, and rejected, the proposition that analysis of the anatomical distribution of individual entry/exit wounds could be used to predict the welfare consequences for a culled deer. We concluded ‘we believe that analysis using only the anatomical site of entry/exit wounds will be, at best, a poor predictor of the outcome (in welfare terms) for culled animals’.

For the benefit of the Minister, I would like to point out that wounds outwith the recommended area of optimal shot placement are commonly encountered and represent...
‘acceptable’ practice, within the limits set out in DCS Best Practice Guidance (Shot Placement [2], 2008).

In subsequent discussion with staff at DCS, it has become apparent that they were aware of our opinions in this respect, but, despite this, they had still published a form of words which associated us with their conclusions, although we strongly disagreed with the underlying premise.

I will reiterate my ‘issues’ with the DCS’s interpretation of our published data in my response to the Wildlife and Natural Environment consultation. However, I believe it crucially important that, as the advisor to government in all matters relating to deer, the DCS treats the scientific literature in a more balanced and accurate way in any future advice.

I look forward to your reply.

Yours sincerely,

Kenneth A Urquhart
Dear Ken,

Thank you for your letter of 21st July 2009 on the subject of the references in a briefing document on the Consultation on possible deer legislation which appears on the DCS web site and in which reference is made to the research paper published by Iain McKendrick and yourself in 2003. As a fellow scientist, I am very conscious of the different interpretations that can be put on a set of data.

I appreciate your concern that the wording of our advice could be misinterpreted to suggest that you had reached the conclusion that "43% of shots were outwith the recommended area of optimal shot placement and thus potentially of welfare concern". This was not the intention of DCS.

The intention of DCS in including the distribution of wounds from your research was to highlight that, under current circumstances, a significant proportion of wounds can occur outwith those areas of the carcase which would usually lead to death within 5 minutes. As you know this is the period of time which representatives of the deer sector have agreed through the Best Practice Partnership to be reasonable.

Whilst DCS understands your concerns about drawing welfare conclusions from the data in your study, the position of the wound tracks that you measured suggest to DCS that a significant number of those wounds could give rise to welfare concerns. It was to illustrate this point that we made reference to your study.

I trust that this letter helps to explain our use and interpretation of your research; and that you will accept my apologies for any concerns that this has raised with you. I would be happy to discuss the welfare issues associated with the shooting of deer with you further.

Yours sincerely,

[Signature]

Professor John Milne
Chairman, DCS

cc Ms Roseanna Cunningham, Minister for Environment
Dr I McKendrick, Biomathematics and Statistics Scotland
Mr Mark Nicolson, Chairman, British Deer Society

Promoting sustainable deer management for Scotland
Agadharchadh seasnhachd righ trìdh na féidh airson na daoine is àrainneachd na h-Alba