



**J.R.J. Naylor BVSc PhD MRCVS**



March 24, 2016

Dear Lord Bonomy

I write to you in respect of your forthcoming review of the Protection of Wild Mammals (Scotland) Act 2002.

I am a veterinarian and former Senior Lecturer at the University of Bristol's School of Veterinary Science. With a background in exercise physiology I have had an academic interest in hunting matters for a number of years. During my time on the faculty at Bristol I was a co-author of the Joint Universities Study on hunted deer that examined the physiological consequences of hunting on red deer (Harris, R.C., T.R. Helliwell, W. Shingleton, N. Stickland and **J.R.J. Naylor**. The physiological response of red deer (*Cervus elaphus*) to prolonged exercise undertaken during hunting. Joint Universities study on deer hunting. Ed. J.F. Wade, R and W Pubs, Newmarket, Suffolk, 1999). I have been called upon to act as an expert witness (for the defence) in the prosecution of members of the Crawley and Horsham Hunt (2012) and have recently completed a study that compared the efficacy of flushing foxes to guns using a pack versus a pair of hounds ('A pack of dogs is more effective at flushing red foxes (*Vulpes vulpes*) to guns than a pair', in review).

With this background in the field I attach two further letters for your consideration in your review of the 2002 Act. If I can be of any further specific help please do not hesitate to contact me.

Yours sincerely

Jeremy RJ Naylor BVSc(Hons) PhD MRCVS



**J.R.J. Naylor BVSc PhD MRCVS**



March 31, 2016

Dear Lord Bonomy

As lead author of the recent study ‘A pack of dogs is more effective at flushing red foxes (*Vulpes vulpes*) to guns than a pair’, I write to offer our comments in order to assist with your review of the Protection of Wild Mammals (Scotland) Act 2002.

Our objective was straightforward, to determine if there was any difference in the outcome of using a pair as opposed to a pack of hounds in flushing foxes from cover to guns. In view of the paucity of scientific evidence on the subject we took into account a wide range of variables that might affect fox behaviour. For your information, we specifically confined our attention to those issues that the study was designed to investigate and not others beyond the scope of the research.

The abstract of our study follows:

*Legislation passed in Scotland in 2002 and England and Wales in 2004 banned the hunting of wild mammals with dogs with specific exemptions that allow red foxes (*Vulpes vulpes*) to be flushed from areas of terrain (“coverts”) to be shot as a means of pest control. In England and Wales there is a limit of two dogs whereas in Scotland there is no limit. It has been suggested that this difference may have important implications for the efficacy of pest control and on potential welfare indices of hunted foxes in the former as compared to the latter. This study addressed these questions by using a pack and a pair of foxhounds to flush foxes to guns from the same 80 coverts (in Scotland) on separate occasions in a balanced randomised crossover design, and comparing the numbers of foxes flushed, the time taken for them to be flushed and the time of active pursuit (time from hounds starting to vocalise (“speaking”) to the fox being flushed). When a pair of hounds was used as compared to a pack, 53% fewer foxes were successfully flushed; when a pack was used as compared to a pair, the time to the first fox being flushed was 2.8 times less and the time from start of speaking to the first fox being flushed was 2.6 times less. These significant effects were robust to analysis using a*

*mixed effects multivariable model including environmental covariates and other potential confounding factors. These findings provide support to the contentions that the use of a pair rather than a pack of hounds a) is less effective in flushing foxes to guns and b) imposes a longer duration of pursuit on foxes that might be associated with welfare compromise.*

Our results illustrate that a pack (versus a pair) of hounds flushes significantly more foxes to guns and more quickly, with a shorter duration of active pursuit. In the Final Report of the Committee of Enquiry into Hunting with Dogs in England and Wales, Lord Burns alluded to the duration of the ‘chase’ as one of the key indices that might reflect compromise of fox welfare during hunting. While we ourselves are clear not to opine on this matter, if an increase in time of pursuit by hounds is considered to cause greater welfare compromise to foxes, then the use of two dogs as compared to a pack may be considered by some to be less desirable in terms of animal welfare.

With relevance to ‘effectiveness’ (within the review’s terms of reference) our results illustrate that, at least under the conditions of the study, a pack of hounds (as compared to a pair) was considerably more effective since more than twice as many foxes were flushed from the same coverts. This demonstrates that if dogs are to be permitted to flush foxes to guns in the context of wildlife management, a pack of hounds, as opposed to a pair, is far more effective both in terms of numbers and timing of foxes flushed.

The study is in the process of being peer reviewed by the Journal of Wildlife Management. To the best of our knowledge, this study is the only available report comparing the use of two dogs with that of a full pack in flushing foxes to guns, hence its importance in your review.

Yours sincerely

Jeremy R.J. Naylor BVSc(Hons) PhD MRCVS



J.R.J. Naylor BVSc PhD MRCVS



March 31, 2016

Dear Lord Bonomy

In the light of the review of the Protection of Wild Mammals (Scotland) Act I would like to address the recent paper by Professor Stephen Harris 'The Utility of Killing Foxes in Scotland'. Professor Harris's contribution to the debate on hunting and his selective use of evidence has been a longstanding concern [Middle Way Group, Appendix 1]. From my understanding of the terms of reference the vast majority of this paper is outside the area that you are considering, which does not include the question of whether or not fox control is necessary in the first place. Indeed, both the Scottish and Westminster Parliaments and the UK and Scottish governments have rejected the view that fox control is unnecessary, a fact recognised by the exemptions in the hunting bans in both jurisdictions. It should be noted that those organisations opposed to hunting conceded, as a matter of principle, the need for these exemptions to allow fox control.

I would draw your attention to the final report of the Scottish Parliament's Rural Development Committee which considered this issue on the basis of the evidence put forward by both sides, including the research of Professor Harris used by those seeking a ban. The report states: "The Committee concluded that there was overwhelming evidence of the need to control both the total fox population and individual animals which are known to be taking stock (paragraph 43)".

The only section of Professor Harris's latest report that may fall within your terms of reference is the final chapter entitled "The welfare issues of using two dogs to flush foxes". However, this chapter is based upon the assumption that fox control is not necessary at all and therefore any method of culling, regardless of whether some cause more suffering than others (comparative welfare – see paragraph 6.58 of the Burns Report), cannot be justified as far as Professor Harris is concerned. At paragraph 58 he sets out his position very clearly:

*"However, whether or not a pack of hounds is more effective in flushing foxes from cover is not an issue, since gun packs are not effective in reducing fox numbers...So there is no "pest control" gain from flushing more foxes from cover. Whether two hounds taking longer to flush a fox from cover has any **welfare compromise** is speculation and not supported by the evidence (original emphasis)".*

If, as those opposed to hunting argue, the chase is in itself a cause of suffering separate from the kill by hounds, then logic alone would suggest that reducing the time between foxes being pursued by hounds and being shot would be beneficial in welfare terms on their own arguments.

In addition I have addressed each paragraph in turn:

#### **Paragraph 49**

It is notable that Professor Harris accepts that following the passing of the Protection of Wild Mammals (Scotland) Act the hunts (traditional mounted hunts) changed their modus operandi and notes that the foxhunts now “say they are operating in the same way as the gunpacks found in Wales and elsewhere”. Professor Harris, for whatever reason, fails to mention that the use of gun packs is widespread in Scotland or to refer to the evidence given by the Scottish gunpacks to the Scottish Parliament’s Rural Development Committee at the time the Protection of Wild Mammals (Scotland) Bill was examined. He then refers to a Ministry of Agriculture, Fisheries and Food (MAFF) 1969 cull to contain a potential rabies outbreak, making a comparison between current flushing to guns and that used by MAFF. This comparison is false because the purpose of that cull was eradication and not control/management and as a result the method deployed was different from that used by the gunpacks in Scotland, Wales and elsewhere. Professor Harris is keen to quote the Federation of Welsh Farmers Packs evidence at great length but deliberately ignores the fact that they state (para 9.04) that guns are placed in “strategic places” and (para 9.08) that “foxes will avoid ‘visible’ guns or those they can ‘wind’ (smell)”.

It is also important to note that the use of both rifles and shotguns are legal methods of control but which type of firearm is used, and how many, is dependent on issues such as public safety and terrain. The British Association for Shooting and Conservation document to which Professor Harris refers deals with lamping which involves shooting at night, as opposed to the flushing and shooting of foxes by gun packs which takes place in daylight. The day to day operations of using dogs to flush to guns by private individuals cannot be compared to a Government eradication programme in response to a potential rabies outbreak, nor to the separate and distinct method of shooting foxes at night (lamping).

#### **Paragraphs 50 to 55**

Professor Harris quotes extensively from the submission of the Federation of Welsh Farmers Packs to illustrate the operations of a gun pack and concludes at paragraph 55 that: “This pattern of hunting is contrary to the aims of the Protection of Wild Mammals (Scotland) Act 2002, which was designed to protect wild mammals from being hunted with dogs.”

This conclusion assumes that the Scottish Parliament was unacquainted with the working of a gun pack when considering the legislation. This is entirely untrue as the Scottish gunpacks gave extensive evidence to the Rural Development Committee, in which they described their operations and the various outcomes for the fox, including

that some may be caught and killed before being flushed and there being an opportunity to shoot them. The “pattern of hunting” described by the Welsh farmers and by the Scottish gunpacks far from being “contrary to the aims” of the Scottish legislation is entirely within its aims and was understood by the Rural Development Committee and the Parliament when the Act was being passed. This is reflected in the way in which the exemptions are drafted and a specific defence for situations where a fox is killed by a dog (dogs) where a person is intending to flush to guns (Section 2 (2) of the Act). These exemptions and defences in the Act were supported by those who wanted to see the chase and kill by dogs, as practised by the mounted hunts, banned.

One wonders whether Professor Harris’s reliance on the Welsh evidence and completely ignoring the evidence considered by the Scottish Parliament is accidental or deliberate. Had he considered the evidence before the Parliament in Scotland his conclusion would not be sustainable. One is forced to suggest that his reliance on the Welsh evidence is intended to lead the uninformed reader to the conclusion that the Act fails to give effect to what the Scottish Parliament desired: that the Parliament was unaware of the reality of the operation of the gunpacks, when the contrary is the case. The Scottish Parliament in framing the ban on hunting took the view that effectiveness had to be balanced against humaneness. They concluded that as fox control was necessary for it to be effective a full pack of dogs had to be permitted to flush to guns and that as a result there would be occasions when hounds would pursue and kill a fox before the opportunity to shoot it arose. The Rural Development Committee put it thus:

*“86. The work of the hill packs has to be viewed in two part. On the one hand their primary practice of flushing foxes to waiting guns is not something which the promoters of the Bill intend to prohibit. However, 10% of foxes hunted by hill packs will be chased, caught and killed by a pack of dogs, which is the primary objection of the promoters of the Bill. This is no different, as far as the fox is concerned, to being killed by a mounted hunt, except for the absence of followers on horseback. What is different in the hill packs is the use of guns, backed up where necessary by lurchers and terriers to improve the efficiency of the operation in which 90% of foxes are killed, as opposed to only 10% in mounted hunts.*

*87. The Committee found that what distinguished the hill packs from the mounted hunts is their increased efficiency...Furthermore, an additional use of dogs as a back up to guns...would appear to be a method that consciously avoids unnecessary suffering in the event a fox has not been shot cleanly.”*

[NB This ability to follow up wounded foxes appears to have been retained under the Act at section 5(1)(c). The Act also made provision for terriers and specifically with respect to orphaned cubs, the latter provision introduced as an amendment and supported by the Scottish Society for the Prevention of Cruelty to Animals]

*“88. the Committee concluded that the activities of the Scottish hill Packs are entirely necessary. However, good practice can minimise suffering and we would welcome a means of encouraging the adoption of best practice by the Hill Packs and by gamekeepers.”*

The Committee went on in its Conclusions and Recommendation:

*“99. The Committee has been convinced by evidence which has shown that some activities which may at first seem cruel are in fact carried out to avoid unnecessary suffering. For instance, the use of lurchers to follow and kill a fox that has been shot but only wounded appears to us to be more humane than leaving it in a wood or den to die slowly. The use of a terrier to find and dispatch orphaned cubs in a den is more humane than allowing them to starve to death.*

*100. It is not the use of a dog in itself that implies cruelty; but the method and intent with which it is used...The Committee supports the beneficial use of terriers both above ground and, where necessary below ground. We also support the continuation of the present operations of the Scottish hill Packs.*

*101. the Bill is so controversial, and the evidence on cruelty in hunting so inconclusive, that a moral stance has been adopted. The Committee was unable to find consensus on hare coursing and mounted hunts.*

*102. The principle of the Bill is focussed on the use of dogs which, while well intentioned, misses the point that dogs can be used in both a cruel and a humane way, and are not the common factor in determining cruelty...”*

## **Paragraphs 56 and 57**

Professor Harris addresses the research I conducted comparing the efficiency of using two dogs as opposed to a full pack. The research is the only research into this issue and is currently being peer reviewed. The criticisms he makes are not new and I have written to you to address these points. I would however reiterate the following:

- It is argued that our research lacks an assessment of whether speeding up the flushing “leads to improved animal welfare outcomes”. We did not design the study to examine specifically in detail the welfare outcomes of flushing either with two dogs or a pack. Nonetheless, almost the entire justification for a ban on hunting was that pursuit by dogs is considered as welfare negative: as such, one might conclude that anything that minimises pursuit by speeding up the time between find and flush and flush and despatch would be of welfare benefit, at least as far as supporters of the legislation are concerned.
- It is argued that our research lacks information on the fate of foxes flushed. We never intended to make such an assessment, which is wholly outside the purpose of the research. Moreover, the flushing exemptions in Scotland, and in England and Wales, set out when, how and by whom a fox must be despatched once flushed or found. Those conditions apply regardless of how many dogs are used, if the activity is to be lawful.
- It is argued that our research lacks consideration as to whether using a pack as opposed to pairs of dogs will reduce predation of lambs. The purpose for which the flushing exemptions may be used is set out in the two Acts. Activity

which does not meet that ‘purpose’ condition is unlawful. Lamb predation was not the object of the research nor is it relevant in terms of the specific question the research set out to investigate.

- It is argued that there is a lack of evidence behind the “assumption that vocalising is a proven sign that a fox is being pursued”. This argument would apply equally to two dogs used or any other number of dogs being used: it does not change the fact that more foxes are flushed and more quickly using a pack compared to using two dogs. The possibility that on occasion hounds may start to speak for another reason is a variable which applies equally to hounds used as a pair as to a larger number.

### **Paragraphs 58 and 59**

Professor Harris’s assertion that the submission of the Federation of Welsh Farmers Packs to the Committee of Inquiry into Hunting with Dogs in England and Wales “suggests that there are likely to be significant welfare benefits of using two hounds to flush foxes from cover” simply cannot be supported by the submission and deliberately ignores the evidence of the Scottish Hillpacks which states;

“It has been suggested in the Watson Bill that one dog could be trained and used to carry out the work described in the above scenarios...However, the truth is it is not feasible, and in any case the scenario of using one dog to try and achieve the above operations would achieve the very thing the Watson Bill is claiming to prevent i.e. putting a wild mammal under duress.”

The fact that the Bill’s sponsor supported the use of packs is noted by the Rural Development Committee in its report at paragraph 83 which also notes that the Scottish Hillpacks were concerned that restriction to using one dog could “*increase suffering of the fox by extending the chase. Whilst a pack of dogs will find a fox quickly, a single hound could run a fox all day – causing it eventually to die of exhaustion.*” They also note that using a pack “*a fox can be made to run out – with his own pace and will therefore be more susceptible to making a mistake and getting shot*” As Harris’ earlier quotes from the Welsh evidence make clear many of the foxes flushed will never have been hunted and are moved out by the general disturbance.

The Committee recommended an amendment to make clear in the Bill that references to a dog also meant more than one dog(dogs). This amendment was made and is included in section 10 of the Act.

In Professor Harris’s summary he notes that packs of dogs have a number of welfare consequences including:

(1) *Foxes find it harder to evade the hounds.*

This, however, surely is the point of using a pack to ensure foxes are actually flushed and the flushing is effective as a means of controlling fox numbers

(2) *Foxes are often caught and killed by hounds.*



It was entirely understood by the Rural Development Committee, Scottish Parliament and those promoting the Protection of Wild Mammals (Scotland) Act that a percentage of foxes would be killed by dogs before they were flushed and capable of being shot. The Act makes provision accordingly.

(3) *Use of terriers.*

This was addressed and accepted by the Rural Development Committee who also noted that properly used terriers were efficient and could have welfare benefits, not least in dealing with orphaned cubs.

(4) *Packs of hounds catch and kill wounded foxes.*

This is surely something that would be welfare positive. Not leaving wounded animals was one of the issues highlighted by the Rural Development Committee and for which the Scottish legislation makes explicit provision.

(5) *Using two hounds is likely to ensure higher levels of welfare, since the hounds are easier to control, and flushing a fox more slowly reduces the risk that it will be wounded rather than killed by waiting guns.*

This is pure speculation on Professor Harris's part, a fact he must accept because in commenting on my research he stated at paragraph 57: "*the authors provide no evidence to suggest that a longer chase has significant welfare implications: it could equally well be argued that moving foxes slowly out of cover with two dogs is less stressful*". At best then the two interpretations of the available evidence are equally balanced. However, the Scottish Rural development Committee and the evidence of the Welsh and Scottish gunpacks would suggest that, assuming the chase is a welfare problem, then a reduction in the length of pursuit as a result of using a pack, as opposed to one or two dogs, can be regarded as a welfare positive. Lastly, there will always be some amount of wounding when firearms are used as the only peer reviewed study found ("Wounding Rates in Shooting Foxes, published by the Universities Federation for Animal Welfare in its journal in May 2005). This fact was recognised by the Rural development Committee who commended the use of dogs to retrieve and kill wounded animals. The Act reflects this need to deal with wounding and makes provision accordingly (section 5(1)(c)).

## **Conclusion**

Professor Harris's contribution to the debate on hunting and his selective use of evidence has been a longstanding concern [Middle Way Group, Appendix 1]. His current treatment of the issue of welfare when using two dogs as opposed to a pack is illustrative of the way in which evidence is treated partially and selectively to support an argument which is clearly desired by the League Against Cruel Sports, who commissioned the paper.

Despite having supported the Protection of Wild Mammals (Scotland) Act, whose provisions, based on public evidence, allow the effective and humane work of flushing to guns using packs of dogs, the League Against Cruel Sports wish to see the Act amended not because any new evidence exists that the Act is not allowing effective fox control or that that control is now less humane than it was judged when the Parliament passed the Act, but because there are still people hunting on horses - what they are now publicly calling 'red coat hunting'. This perhaps reveals what is the real issue here, which is not effective fox control or animal welfare.

Yours sincerely

Jeremy RJ Naylor BVSc(Hons) PhD MRCVS

## Appendix 1

The Middle Way Group's paper prepared in association with the Veterinary Association for Wildlife Management (VAWM) (of which I am a member), entitled "The use, misuse and abuse of science in support of the Hunting Act 2004" (<http://www.vet-wildlifemanagement.org.uk/images/stories/item-images/pdf/mwgabusebooklet7-07.pdf>) draws attention to Professor Harris's long standing involvement in the debate about hunting and the management of foxes

For ease of reference I have copied below those sections relevant to Professor Harris's contribution to the debate:

### 6. Examples of opinion and non-validated data posing as science

6.2.1. Professor Stephen Harris has made no attempt to hide his apparently unshakeable views against hunting with dogs, to the extent that he has made an obviously ridiculous claim in relation to shooting and wounding foxes. He said, "*There simply aren't any wounded foxes from shooting in the countryside as far as I'm concerned*" (Shooting Times 12 June 2003). His position is evident from appearances in the media, on platforms organised by anti-hunting groups and being photographed applauding Michael Foster MP after a successful vote on his anti-hunting Bill. He has also attended a number of events for the League Against Cruel Sports and suggested work to further the anti-hunting cause. Professor Harris' position might be summed up in his paper to the Portcullis House Hearings in September 2002, "*I have already demonstrated in my earlier evidence that hunting makes no contribution to regulating fox numbers, that there is no case for widespread fox control, that there is no evidence that widespread fox control has any significant impact on fox numbers...*"

6.2.2. In making this statement, Professor Harris is apparently rejecting out of hand the very substantial work undertaken by the Game Conservancy Trust (now Game and Wildlife Conservation Trust), which has been peer-reviewed and published in the *Journal of Zoology* (2002).

6.2.3. In direct response to the MWG shooting study, the findings of a study by Professor Stephen Harris were announced at a joint IFAW/RSPCA/LACS fringe meeting at the Labour Party conference in September 2003.

6.2.4. This study, which was funded by IFAW and based on the flawed fox X-ray methodology as mentioned above, found very low wounding levels. The work has never been published, despite numerous claims from both Professor Harris and IFAW that it was about to be peer reviewed. Repeated requests for details of the work have not been successful.

6.2.5. Despite the Harris/IFAW work not being validated, it has been referred to in the national media by IFAW, included in an article in the *New Scientist*, and was used to counter the findings of the MWG study in Parliament. It has been quoted and referenced in the RSPCA/IFAW/LACS document "*Time to Deliver a Ban*", clearly implying that it was a study from Bristol University and that it was validated and published in 2003. (*Welfare Aspects of Shooting Foxes in Britain. Bentley, Baker and Harris. School of Biological Sciences, University of Bristol, 2003*)

6.7.1. In 1997, during the Parliamentary debates on the anti-hunting Bill put forward by Michael Foster MP, two booklets were produced for the International Fund for Animal Welfare (IFAW) written by Professor Harris, Phil Baker and Robbie McDonald . Both booklets, *Is the Fox a Pest?* and *How will a ban on hunting affect the British fox population?* were presented as written by scientists from the School of Biological Sciences, University of Bristol, thereby giving the reports an impression of academic origin. The *Is the Fox a Pest?* booklet states that it summarises “available scientific information”, yet many of the numerous references and literature cited, such as a public opinion poll and quotations from books, are not validated science. No new research was included in either document.

6.7.2. The conclusions in these booklets were reproduced in editions of the LACS’ paper *Wildlife Guardian*. One issue carried a comment from anti-hunting MP Michael Foster, whose Bill was then at its Committee stage in Parliament, stating that “*members of the Committee will be encouraged to accept the hard evidence produced by wildlife academics and campaigners*”.

6.7.3. Placing peer reviewed science alongside what is, in effect, opinion in one publication can only lead to confusion as to what can genuinely be regarded as fact. As Dr Jonathan Reynolds and Dr Matthew Heydon said in reviewing the *Is the Fox a Pest?* report, “...**34 out of the 72 citations are to unrefereed publications, unpublished reports or word of mouth. The authors give equal weight to all sources of information. This may sound objective, but it means that evidence of first-class experimental studies is ranked equal with that of poor studies that lack any experimental design at all.**”

## **7. Examples of research being misinterpreted**

7.2.1. In *How will a ban on hunting affect the British fox population?*, the report written by Professor Stephen Harris and Phil Baker, the Kreeger studies are mentioned, but with two serious alterations. The first was that the two studies appeared to be combined into one piece of work, with the report stating, “*yet studies in North America have shown that hunting (N.B. “chased” has been altered to “hunted” ) a fox for five minutes in a ten acre enclosure causes as much suffering as catching an animal in a leg-hold trap.*” The second was that the work was referenced as ‘C.Waller (1997)’, and an environmental website, without any reference to Dr Kreeger who had undertaken and published the two studies almost ten years earlier. Not to check the original data, easily available to an academic, was surely a dereliction of academic duty.

7.2.2. The result was that two separate pieces of genuine research were combined, with the conclusions of one study being transposed onto the other. This was then included as scientific data in a report, mixed with the opinions and views of organisations and individuals. Finally, the report was made available to MPs, Peers and the media via IFAW. The misuse of the Kreeger work did not end here, as can be seen below. It is hard to believe that the authors remained in ignorance of the true data over subsequent years.

### **7.3. The Sunday Times on Kreeger.**

7.3.1. On 14 November 1999, within a week of the Government announcing that the Burns Inquiry would take place, the *Sunday Times* published an article with the headline, “*Foxes may die of stress after escaping hunt*”. It stated, “*New research claims for the first time that hunted foxes suffer potentially fatal stress levels even if they escape the hounds.*” The story repeated the false results of combining the two

Kreeger studies and further claimed that the work was new. It said, “*Researchers in America carried out post-mortems on foxes that had been pursued by dogs for five minutes which showed that they suffered from capture myopathy, a muscle-wasting condition that can be followed by brain damage, paralysis and death.*”

7.3.2. The League Against Cruel Sports, who were quoted in the piece, said, “*It is the strongest evidence we can give the inquiry.*” This drew a letter from Dr Kreeger to the *Sunday Times* stating, “*Although a chased fox is physiologically stressed there was no evidence of any heart, lung or liver damage that would lead to mortality.*” Dr Kreeger’s letter was not published, although a short retraction appeared in the newspaper two weeks later.

7.7.1. Despite the misuse of his studies being exposed by Dr Kreeger himself (see section 7.8 below) and the extended length of time during which he could have checked the published data, Professor Harris continued to cite the false conclusions. During the Portcullis House Hearings, when challenged on his misuse of Dr Kreeger’s work, Professor Harris said the following, “*I have simply quoted to you exactly the data he published.*” He went on to say, “*I have not drawn any comparison beyond that..... I have been quite honest.*”

7.7.2. However, this is not what Professor Harris said in his submission to the hearings. There he wrote, “*the limited data available on this issue show that being pursued by a dog for 5 minutes (roughly half the average hunt time) led to considerably higher heart rates and body temperatures than recorded during any other activity (Kreeger et al., 1989). In fact the parameters they recorded were considerably higher than those recorded in foxes caught in leg-hold traps (Kreeger et al., 1990).*”

7.7.3. Harris then makes the assumption that an increase in heart rate and temperature equates to suffering and that this suffering is equivalent to that caused by a gin trap, “*Since gin (leg-hold ) traps were made illegal in England and Wales in 1958 on welfare grounds, we must assume that the level of suffering experienced during the pursuit phase of foxhunting has already been deemed unacceptable and that to continue to allow this level of suffering would be incompatible with welfare standards for foxes that were set 45 years ago.*”

## **7.8. Kreeger on Kreeger.**

7.8.1. With regard to his work, Dr Kreeger said in 2000, “*There has been a continuing problem with misinterpretation of my data that apparently began with an anti-hunting group in the U.S. That group’s web page attributed changes recorded in trapped foxes to changes in foxes chased by dogs. This is blatantly incorrect and, I suspect, wilfully done.*”

7.8.2. In correspondence with the Middle Way Group on 6th December 2005, Dr Kreeger wrote, “*At no time did we infer that trapped or chased foxes would suffer any morbidity or mortality as a result of being chased. On the contrary, it was our ‘feeling’ that the stress of being trapped or chased was probably inconsequential regarding the ultimate survival of the fox.*”

## **8. Fox population control – misinterpretations of research**

8.2.1. Following the foot-and-mouth epidemic in 2001, Professor Harris produced a report for IFAW and the RSPCA, entitled *British Hunting Ban had no effect on Fox Numbers*. It was published under the name of The Mammal Society.

8.2.2. The report was also published in the science journal *Nature* in 2002 and stated that during the time this disease was prevalent in the countryside (approx. one year), and while hunting with dogs was suspended, there was no change in the fox population level when compared to a previous period. The conclusion of his report was that as there was no difference in fox numbers, hunting with hounds was ineffective and insignificant in terms of population control. *“We conclude that there was no significant change in fox numbers during the one year hunting ban,”* Harris said.

8.2.3. The report also made the claim, without providing any evidence, that other methods of fox control could not have increased. It stated: *“Furthermore, due to FMD restrictions on a variety of rural activities, other forms of fox control could not be increased to compensate for the reduction in hunting pressure. Restrictions on access to farmland during FMD also meant that all forms of fox control were curtailed to varying extents, and certainly there was no opportunity to increase other forms of fox control to compensate for the ban on hunting with hounds. Thus these data also suggest that there is no need to increase other forms of fox culling in the event of a longer-term ban on hunting.”*

8.2.4. There are several reasons to doubt the outcome of this report:

- There was a fundamental shortcoming in the technique used for estimating fox numbers (faecal counts) and the study was strongly criticised by distinguished naturalists from the Game Conservancy Trust and Oxford University for lacking statistical rigour and a failure to take account of regional variation (Aebischer and others 2003).
- The study took no account of the inevitable increase in culling by shooting that maybe assumed to have taken place at the time in the absence of hunting; especially by gamekeepers who wished to protect their birds.
- Since hunting is not spatially continuous throughout a hunt country considerable doubt must also be levelled at what proportion of the 160 km<sup>2</sup> sampled were actually hunted, before and after Foot and Mouth disease. Simply consulting a map of hunt boundaries is no guarantee that hunting actually took place at a given location within those boundaries.

8.2.5. Quite apart from the considerable doubts over the methodology employed by Professor Harris, this study has nothing to do with animal welfare and the debate about whether or not hunting with dogs is cruel.

8.2.6. In 2004, a further report on fox numbers by Professor Stephen Harris and others was published in the *Journal of Applied Ecology*. Once again, the work was funded by IFAW. The report, using the same faecal counting method, claimed to provide the most accurate number of foxes in Britain.

8.2.7. The main points of the study appear to be the comparison of the total number of foxes that exists at the end of each winter (258,000) with the number killed by hunting with dogs (20-25,000); thereby showing that control by hunting is irrelevant.

8.2.8. The report also makes the claim that the hunting world argued that the fox population would explode after a hunting ban. IFAW official states: *“This research demolishes arguments by the hunting lobby that foxes need to be killed to prevent a*

*population explosion.*” News of the report was carried in the national press and the BBC.

8.2.9. The report ignores the fact that hunting with dogs is a wildlife management tool, in which selectivity rather than numbers killed is important. It is also the case that the hunting world, along with many others, did not claim that the fox population would explode, but the exact opposite, with other less humane methods being used that are capable of killing many more animals, though not necessarily without wounding.

8.2.10. In January 2006, Professor Harris and Philip Baker produced a paper in the *European Journal of Wildlife Research*, which suggested that there was no evidence to show that culling foxes in forestry areas reduced numbers and that “*restrictions on the use of dogs to control foxes are unlikely to result in an increase in fox numbers in commercial forests.*” The report was produced at a time when there were calls for the Welsh Assembly to call for gun-packs to be exempt from the Hunting Act and allowed IFAW, in its press release and literature, to state that the study “*puts pay to the recent pro-hunt lobby for the Welsh Assembly to decriminalise gun-packs.*” An MP added that: “*This study confirms once and for all that gun-packs deserve no special exemption and should not be legalised.*”

8.2.11. The problem with this study is again in the methodology. In autumn, foxes are more likely to be found in areas surrounding commercial forestry, where they can forage widely. They move to the denser forestry when cover diminishes as winter progresses. Fox numbers and fox culling in adjacent farmland were not assessed in this study. There is also concern about the method of fox counting (faecal counts), especially in terrain such as the Welsh hillside farms. One study, based on disputed methodology, surely cannot “*confirm once and for all*” that the use of gun packs is futile. The argument that gun packs are useless was not one that convinced the Scottish Parliament, which permits their use, despite voting to ban hunting with dogs.

8.2.12. In June 2006, IFAW published a report entitled *After the Hunt – The Future for Foxes in Britain* written by Professor Stephen Harris, Piran White and Philip Baker, which purports to be a summary of “*new scientific findings*”. On its release, an IFAW official said, “*As this new report shows, the scientific evidence suggests that fox numbers in Britain are self-regulating and stable and the ban on hunting reinforces this view.*”

8.2.13. The report states, “*There is some indication that effort expended on shooting may increase immediately following the ban on hunting, at least in the short-term...There is no evidence to suggest that this will cause any decline in fox welfare standards.*” The report, once again, dismisses the peer-reviewed MWG shooting study and relies instead on the Harris work on X-rayed foxes taken to wildlife hospitals, which has not been peer-reviewed or even published.

8.2.14. In relation to hunting, but not wounding, the report refers to three instances where it was thought that hunted foxes, which had escaped and found refuge underground, nevertheless still perished. The instances came from books were published over forty five years ago.