The impact of hunting with dogs on wildlife and conservation

A review with particular reference to the National Trust

Professor Stephen Harris BSc PhD DSc
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1. Background

1.1. Instructions

1.1.1. On 12 July 2017 Barbara Slaska asked me to review the impacts of hunting with hounds on wildlife and the wider environment, and consider whether there was any evidence that hunting with hounds was beneficial to wildlife, conservation and the wider environment. In particular I was asked to consider the impacts of trail hunting with foxhounds, hound exercise, exempt hunting of red deer, hunting with packs of hounds traditionally used to hunt hares, hunting waterways with packs of dogs, and hunting live quarry with hounds in Northern Ireland.

1.1.2. I was also asked to consider the impacts of illegal hunting with dogs on wildlife, conservation and the wider environment. Illegal activities are most likely to have adverse impacts, but equally any impacts are difficult to quantify because they are illegal. So I have been unable to address this issue directly.

1.1.3. In compiling this review I have of necessity had to refer to publications that have not been peer-reviewed because the scientific literature on many aspects of my remit is limited. Where I quote data from reports produced by interest groups, I have relied on information supported by some form of quantified evidence. I have also relied on accounts of hunting days published in news-stand and subscription magazines devoted to field sports and countryside issues where these are descriptions of hunting activities observed by the journalist.

1.1.4. First, I summarise the aims and objectives of the National Trust that are relevant to my remit. In Section 2 of this report I explain what trail hunting, the use of terriers, hound exercise, exempt hunting of red deer, hunting with packs of hounds traditionally used to hunt hares, hunting waterways with packs of dogs, and hunting live quarry in Northern Ireland involve. In Section 3 I discuss the impacts of these activities on wildlife, conservation and the wider environment. In Section 4 I present my conclusions.

1.2. Aims of the National Trust

1.2.1. The charitable objectives of the National Trust, as registered with the Charity Commissioners on 5 November 1962, are *The preservation for the benefit of the nation of lands and tenements (including buildings) of beauty or historic interest and, as regards lands, for the preservation (as far as practicable) of their natural aspect, features and animal and plant life. Also the preservation of furniture, pictures and chattels of any description having national and historic or artistic interest.*

1.2.2. When announcing a temporary ban on the Meynell and South Staffordshire Hunt in 2012, the National Trust said that it *is very much aware of the importance of countryside traditions. We allow field sports to take place on our property where traditionally practised, providing they are within the law and are compatible with the*

Trusts purposes, which include public access and the protection of rare animals and birds and fragile habitats (http://webcache.googleusercontent.com/search?q=cache:https://www.nationaltrust.org.uk/features/our-position-on-trail-hunting). The National Trust has made similar statements elsewhere (Slaska, 2017).

1.2.3. Until 21 August 2017 the National Trust's position statement on trail hunting said that *The Hunting Act did allow what is known as 'trail hunting' to continue* (http://webcache.googleusercontent.com/search?q=cache:https://www.nationaltrust.org.uk/features/our-position-on-trail-hunting). In 2016 the National Trust issued *79 licences to 67 hunts* (https://www.thecanary.co/2017/08/24/national-trust-accused-playing-fast-loose-truth-protect-violent-elites/; Board of Trustees' response to Members' resolution for a cessation of trail hunting, exempt hunting and hound exercise issued August 2017 – hereafter Board of Trustees' response to members); this is a quarter of all the packs of beagles, foxhounds and harriers listed by Baily's Hunting Directory as currently operating in England and Wales (http://www.bailyshuntingdirectory.com/hunting-directory/).

1.2.4. As this review was being completed, the National Trust revised its position statement on 21 August 2017 (https://www.nationaltrust.org.uk/features/our-position-on-trail-hunting); their revised position statement said that *The law does allow what is known as trail 'hunting' to continue. This activity involves people on foot or horseback following a scent along a pre-determined route with hounds or beagles. It effectively replicates a traditional hunt but without a fox being chased, injured or killed.* While the National Trust's position both before and after 21 August 2017 was that the Hunting Act/law allows trail hunting *to continue*, these position statements are difficult to understand. As I show in paragraph 2.2.4, trail hunting was only invented by hunting organisations for the start of the 2005/2006 hunting season, after the Hunting Act 2004 came into effect.

1.2.5. The National Trust's original and revised position statements both state that they *license trail hunts in some areas and at certain times of the year, where it is compatible with our aims of public access and conservation*. However, the revised position statement issued on 21 August 2017 announced the following changes:-

- *Banning the use of animal-based scents as a trail for hounds or beagles to follow. This will reduce the risk to foxes or other wild animals being accidentally chased*
- *Prohibit the presence of terriermen, who have no practical purpose on a trail 'hunt', and the use of their vehicles*
- *More active management of hunts and how they operate including: mandatory reporting requirements after each meet; the provision of specified maps/areas; and requiring at the time of application details of all proposed hunt days*
- *Probing the track record of each applicant and establishing a consistent charging regime across Trust land*

- *Greater transparency for our members and the public. We will post on our website the agreed days and locations, in advance, for our members and supporters to view. This will include a primary point of contact for each hunt*
- *We are exploring how we can work more closely with the Police's independent National Wildlife Crime Unit, which is the proper authority for handling alleged breaches in wildlife legislation*.

1.2.6. It is unclear whether their revised position statement will lead to changes in the other provisions in the *Licence for trail hunting and exercising of hounds* issued by the National Trust: no other changes were announced when the new position statement was issued. The conditions in the current *Licence for trail hunting and exercising of hounds* that are relevant to this review are:-

- *2 The Trust hereby grants unto the Licensee the right (the Right) to enter onto the Land for the purposes of trail hunting and exercising of hounds together with all such persons on horse attending a meeting of the Association and persons following the Association on foot as are authorised by the Licensee and together with the hounds belonging to the Licensee on the terms and conditions set out below*
- *5 On signing this agreement the Licensee hereby certifies that the Association is a bona fide member of the Masters of Fox Hounds Association or the Council of Hunting Associations and is thereby bound by their rules and regulations*
- *Schedule 2 To exercise the Right in accordance with the provisions of the Hunting Act 2004 and any statutory modification or re-enactment of it for the time being in force*
- *Schedule 5 To exercise the Right in a reasonable manner without interference with or adversely affecting the enjoyment of or any rights over the Land by the Trust or others authorised by it or by the general public and in particular to comply with the National Trust Bylaws, the Code of Conduct as issued from time to time by the Council of Hunting Associations and any guidelines and instructions issued from time to time by the Trust*
- *Schedule 11 Not to drive any vehicle on the Land otherwise than in places as indicated on the attached plan or agreed otherwise in writing with the Trust*
- *Schedule 12 Not to park any vehicles on the Land otherwise than in places as indicated on the attached plan or agreed otherwise in writing by the Trust*
- *Schedule 19 To immediately produce to the Trust a copy of the diary and log referred to in clause 18 if a fox is killed and or chased consequential to the exercise of the Right and to produce a copy of the said diary and log to the Trust within seven days of demand*
- *Schedule 20 To ensure trails are laid and marked using scent which is either to be artificial or legally procured fox urine and not to drag in whole or in part a fox carcass in order to lay a trail and to use best endeavours to ensure hounds follow the trails laid*

- *Schedule 25.1 To ensure that if any hounds in the exercise of these Rights inadvertently chase a fox into an earth hole that the fox is not injured, killed or otherwise disturbed by the Licensee or anyone authorised by the Licensee to exercise the Rights and the Licensee must not permit or allow third parties to do the same*
- *Schedule 25.2 To immediately report to the police and the Nominated Person any person attempting to injure, kill or otherwise disturb the fox chased into the earth hole referred to in clause 25.1*.

1.2.7. Since Schedule 5 of the National Trust's *Licence for trail hunting and exercising of hounds* requires that the Licensee *in particular* [will] *comply with the National Trust Bylaws* (https://www.nationaltrust.org.uk/documents/the-national-trust-byelaws-1965.pdf), the following Bylaws are relevant to this review:-

- *2. (a) No unauthorised person shall dig, cut or take turf, sods, gravel, sand, clay or any other substance on or from Trust Property*
- *8. No unauthorised person shall cause or allow any dog or other animal belonging to him or in his charge: (c) To enter or remain on any Trust Property to which entry is allowed unless such dog or other animal is under proper control and is effectually restrained from causing damage to property including plants and from injuring, annoying or disturbing any person, bird or animal*
- *9. (a) No unauthorised person shall on Trust Property knowingly take, molest or wilfully disturb, injure, or destroy any living creature or the eggs of any living creature or spread or use any net or set or use any snare or other engine, instrument, lamp, lure or other means for the taking, injury, or destruction of any such living creature or its eggs whether in on or above Trust Property*
- *11. (a) No unauthorised person shall: (iii) Ride or drive any conveyance over or upon Trust Property otherwise than upon roads, tracks and waterways authorised for the use of such conveyance*
- *12. (a) No unauthorised person shall ride a horse on any part of Trust Property where horse-riding is prohibited by an authorised notice or where horse-riding is likely to result in damage to Trust Property whether prohibited by notice or not.*

2. Hunting in England, Wales and Northern Ireland

2.1. Background

2.1.1. The Hunting Act 2004 came into effect in England and Wales on 18 February 2005. Since then *A person commits an offence if he hunts a wild mammal with a dog, unless his hunting is exempt*. Scotland has its own legislation (Protection of Wild Mammals (Scotland) Act 2002). In 2016 the Right Honourable Lord Bonomy reviewed the operation of the Act on behalf of the Scottish Government (http://www.gov.scot/Publications/2016/11/9965). Hunting wild mammals with dogs is still legal in Northern Ireland (https://www.league.org.uk/news/boxing-day-hunts-ni-2016).

2.2. Trail hunting

2.2.1. Drag hunting is a long-standing sporting activity dating back to the Stuart kings and was originally used to test the speed and ability of hounds over a specified route (http:// www.huntinginquiry.gov.uk/evidence/mdba.htm; the documents for the Committee of Inquiry into Hunting with Dogs in England and Wales are now archived at http://webarchive.nationalarchives.gov.uk/20080726235540/http://www.huntinginquiry.gov.uk/mainsections/huntingframe.htm). Drag hunting currently takes two forms. Draghounds (usually packs of foxhounds) follow artificial scent trails laid on a series of prepared courses, and the hounds are pursued by mounted riders. Thirteen packs of draghounds are currently registered with the Masters of Draghounds and Bloodhounds Association (MDBA). Bloodhounds hunt a scent trail left by a runner, who also follows a predetermined route, and the hunts are generally slower: 13 packs of bloodhounds are currently registered with the MDBA (IFAW, 2015). Drag hunting might best be described as a niche activity and, as far as I am aware, is not currently licensed by the National Trust.

2.2.2. In 2002, in their evidence to Lord Burns' Committee of Inquiry into Hunting with Dogs in England and Wales (hereafter the Burns Inquiry) (https://www.gov.uk/government/publications/report-of-committee-of-inquiry-into-hunting-with-dogs-in-england-wales), the MDBA made two important points about the use of hounds to hunt an artificial scent (http://www.huntinginquiry.gov.uk/evidence/mdba.htm): (i) dedication of the highest level is required to prevent hounds hunting a wild mammal; and (ii) that hunting an artificial scent provides an ideal conduit by which an individual could hunt covertly. In the discussions in the period preceding the Hunting Act 2004, the MDBA were particularly concerned that covert and illegal hunting, under the guise of hunting an artificial scent trail, would have a detrimental effect on the sport of drag hunting. To prevent their sport being brought into disrepute, the MDBA insisted that the term drag hunting remained their exclusive property, and so in 2005 the organisations that had hitherto hunted live quarry invented a new activity which they called *trail hunting*.

2.2.3. In 2005 the Countryside Alliance and the Council of Hunting Associations issued a booklet stating that the Hunting Act 2004 was unworkable (Anon., 2005a). Instead of operating within the Act, the two organisations specified a number of actions to be pursued by their members. These included maintaining hunting's infrastructure (Action 4) and the *Continuation of hunting activities involving foxes, hares, deer and mink* to provide evidence that the ban is unworkable (Action 6) (Anon., 2005a). Thus a key aim of these two organisations, and their members, is to undertake activities designed to demonstrate that the Hunting Act 2004 is unworkable. This booklet also included the statement that *The Alliance will publish a revised edition of the Hunting Handbook which will take account of any legal or practical developments.*

2.2.4. The revised hunting handbook issued by the Countryside Alliance and the Council of Hunting Associations for the 2005/2006 season introduced trail hunting as *the hunting of a scent laid by man in such a way best to simulate traditional hunting activity* (Anon.,

2005b). Thus trail hunting was only invented for the start of the 2005/2006 hunting season. The handbook went on to say that:-

- *Trail hunting has no utilitarian value to farmers, nor does it contribute towards wildlife management or habitat conservation*
- *It is an interim measure forced upon us by the Hunting Act that is necessary to maintain the infrastructure of hunting*
- *It ensures that hound packs can survive in the medium term by keeping them exercised and content*
- *The hounds will continue to hunt the scent of their normal quarry during the temporary ban so that they remain focused on their normal quarry.*

So the hunting organisations made it clear that trail hunting was devised to provide *temporary* activity for hounds and followers until the ban on hunting could be reversed (http://www.council-of-hunting-associations.co.uk/category/Legal_activities).

2.2.5. Trail hunting was invented to avoid potential conflict with the MDBA and there are a number of substantive differences between trail hunting and drag hunting. According to the Masters of Foxhounds Association (MFHA) *draghunting and trail hunting ….are poles apart. …. Draghunting is an equestrian activity where the drag is laid over a pre-determined and generally known route taking in lines of often marked fences. Trail hunting is a hound based activity where the trail is laid along the line a fox might take when moving across the countryside* (http://www.mfha.org.uk/hunting/notes-on-trail-hunting).

2.2.6. Unlike drag hunting, trail hunting has no rules and there is a diversity of interpretations of this activity (IFAW, 2015). In describing the process of laying the trail, the MFHA explains that *The trail is laid across the country taking a route that might be taken by a fox – ie through hedgerows and woods and along ditches in essence simulating the natural movement of a fox across the countryside. It is laid by dragging a scent infected sock/cloth/sack along the ground. This can be done from a horse, a quad-bike or on foot .... The trail is not laid constantly, but is occasionally lifted for a distance of, say, 400 yards and then dropped again thus allowing the hounds to cast (ie to fan out to search (using their noses) for the scent) as they would have done when hunting a live quarry. The less that the Huntsman or the followers know of the route of the trail, the more the hunting will mimic its realistic and challenging form* (http://www.mfha.org.uk/hunting/notes-on-trail-hunting).

2.2.7. The MFHA explains that, during a day's trail hunting, hounds *will also come across both fresh and stale scents left by many different mammals. It is highly likely that foxes, deer, hares, rabbits will be seen during the day as well many species of bird associated with the countryside* (http://www.mfha.org.uk/hunting/notes-on-trail-hunting). Since the MFHA state that they expect to flush a diversity of wildlife while trail hunting, it is unsurprising that trail hunting is widely perceived as a means to allow traditional hunting activities to continue undetected (IFAW, 2015).

2.2.8. The lack of rules and very general descriptions of trail hunting that compare it to

traditional hunting make it impossible for all but experts to differentiate this new activity from traditional hunting of live quarry. If the intention is to trail hunt, there are a number of measures that could be taken to avoid live quarry being hunted accidentally. These might include:-

- Not using a fox-based scent
- Since foxes spend most of the day lying up in dense cover, scent trails could be laid that so that they avoid those areas most likely to be used by foxes as harbourage
- With trail hunting, the exact route is known, and so hunt servants and/or hunt supporters can be positioned at key points so that they can: (i) watch the hunt; and (ii) help stop hounds if they change to live quarry, or inform the huntsman if the hounds have changed to live quarry, so that the hunt can be ended promptly
- Training dogs is based on a mixture of reinforcement and punishment. So if hounds start to hunt a fox or other live quarry, they should be whipped off quickly and rated/punished in some way.

2.2.9. Quantified data from hunt monitors substantiate the perception that trail hunting is simply a subterfuge to allow traditional hunting to continue. In his review of the prosecution activity of the RSPCA, Stephen Wooler (a former Chief Inspector of HM Crown Prosecution Service Inspectorate) concluded that *the evidence …. leaves no room for doubt that, despite the 2004 legislation, traditional fox hunting remains "business as usual" in many parts of the country. Extensive flouting of the law risks bringing Parliament, the police and prosecuting authorities into disrepute* (Wooler, 2014).

2.2.10. Stephen Wooler went on to say that *The legislative complexity is inevitably open to exploitation by those determined to continue fox hunting notwithstanding the legislation. Where the prosecution is able to prove that a pursuit occurred involving fox hounds, it is likely to be asserted that the pursuit was accidental and/or the hounds had spontaneously picked up the scent of a fox whilst following an artificial trail laid for the purpose of trail hunting* (Wooler, 2014). This reinforces the concerns expressed by the MDBA in their evidence to the Burns Inquiry (paragraph 2.2.2).

2.2.11. This independent assessment is supported by the data collected by anti-hunting organisations. A study by the International Fund for Animal Welfare (IFAW) found that, in 99% of 443 reports covering 45 registered hunts in England and Wales over a ten-year period, their investigators (who were experts on hunting) did not report anyone laying what was believed to be a genuine scent trail. IFAW concluded that *although there may be exceptions, trail hunting is primarily a false alibi to avoid prosecutions of illegal hunting, rather than a harmless temporary simulation of hunting before the ban, or a slight variation of the cruelty-free sport of drag hunting* (IFAW, 2015).

2.2.12. The League Against Cruel Sports (LACS) supported this analysis. *Having looked over 4,000 hunt monitoring reports of over 30 hunt monitors from different organisations covering the majority of hunts in England and Wales (157), since the Hunting Act 2004*

was enacted these hunt monitors have reported witnessing someone laying a possible trail only in an average of around 3% of the occasions they monitored hunts, but they believed that only an average of around 0.04% of the occasions they may have witnessed a genuine trail hunting event, rather than a fake one (https://www.league.org.uk/hunting-act). Thus monitoring a large number of different hunts by experts representing three animal welfare organisations with considerable expertise of hunting have all come to similar conclusions: trail hunting does not really exist and was simply invented as a ruse to enable packs of dogs to continue hunting live quarry.

2.2.13. Several pieces of evidence reinforce this conclusion. First, hunts that claim to be trail hunting generally take terriermen with them, even though they play no role in trail hunting. Terriermen have one function: to extricate foxes from their underground refuges. IFAW's Wildlife Crime Investigators' hunt monitoring reports, based on data collected during the first ten years after the Hunting Act 2004 came into effect, found that terriermen were seen with fox hunts on at least 78% of hunt monitoring operations (IFAW, 2015).

2.2.14. Stephen Wooler came to a similar conclusion when reviewing the RSPCA's files. He drew attention to *the frequency with which hunts appeared to be accompanied by terrier-men usually mounted on quad bikes specially adapted with cages or containers to carry terrier dogs. Their use was routine in traditional fox hunting because of their suitability for flushing out foxes that had gone to ground. There is however no role for them in a lawful trail hunt. The explanation that may be offered was that they are present solely to flush out any foxes that might accidentally be found and chased by fox hounds (whilst lawfully following a trail) causing them to go to ground. In such circumstances they would be flushed out to be shot in accordance with the exemption provided under the Hunting Act. Perhaps the most apt description of such an explanation came from his Honour Judge Pert at Leicester Crown Court when dismissing appeals by individuals convicted under the Hunting Act and the Protection of Badgers Act in relation to offences associated with the Fernie Hunt.* Stephen Wooler said that *It may be that they* [hunt supporters] *feel the day will come when this* [Hunting] *Act is repealed and they may be correct but the law is the law. Their conduct amounted to cynical subterfuge. They used a trail hunt as a cover* (Wooler, 2014).

2.2.15. The second issue is the type of scent used for trail hunting. The MFHA states that *The scent used by Drag Hunts varies enormously, but for trail hunting it should be a fox based scent* (http://www.mfha.org.uk/hunting/notes-on-trail-hunting). These fox-based scents reportedly include lures used by trappers in North America, which are generally based on fox urine from fur farms (e.g. see http://www.huntsmart.com/Hawbakers-Animal-Gland-Lures-for-Trappers), and boiled up whole or parts of fox carcasses. Hunts try to improve the persistence of scent trails by mixing the odoriferous material with one of a number of oils; this spreads the scent in a thin film on the substrate on which it has been laid and thereby aids its release into the atmosphere.

2.2.16. While hunts and hunting organisations frequently claim to have used fox urine from

America for trail hunting, this would have been illegal. In response to an inquiry from Sergeant Matt Scott of Nottinghamshire Police, Chris Kirkpatrick, an Import Officer for the Animal and Plant Health Agency (APHA), confirmed that *this product cannot be imported without a licence and we do not have one for that currently. Anything that is across here would in this case be an illegal Import* (email to Sergeant Matt Scott, 30 June 2016). So at the end of June 2016 no fox urine had been imported legally from North America; it is unclear whether fox hunts have used this product illegally.

2.2.17. In 2016 a number of fox hunts reportedly used Adrian's Fox Scent when trail laying e.g. the Cambridgeshire Hunt with Enfield Chace (https://web.archive.org/web/20160109170841/http://cambridgeshirehuntwithenfieldchace.co.uk/). This product was marketed by the Animal Scent Company, which was listed as a trade member of the Countryside Alliance on 8 August 2017 (http://webcache.googleusercontent.com/search?q=cache:http://www.countryside-alliance.org/trade-results/) but has since been removed from the list (http://www.countryside-alliance.org/trade-results/). The Animal Scent Company claimed to be *the UK's only direct supplier of heat treated and tested animal urines* (https://web.archive.org/web/20161014092111/http://adriansfoxscent.co.uk/index.html). According to their website, all their fox urine products were *issued with a Certificate of Supply to include Batch no. and UK Lab Test reference. We are the UK's only 'Lepto free' supplier of animal urines.* The company also claimed to be able to *supply heat treated and 'Lepto free' tested Hare, Mink and Buck urine.* Adrian's Fox Scent was sold *for hunters to ensure compliance with the law, whilst maintaining a natural urine based scent for foxhounds to replicate their traditional quarry species for the purpose of trail hunting and training hounds* (Anon., 2015). It is unclear why the scent was being sold to train hounds to continue to hunt *their traditional quarry species* a decade after it had become illegal.

2.2.18. Adrian's Fox Scent was said to be pure red fox urine (Anon., 2015), which was marketed for the first time in the 2014/2015 hunting season *After testing, blending and treating …. followed by trials with local hunts in 2013* (Anon., 2015). The company had a trade stand at the 2015 Festival of Hunting (https://festivalofhunting.com/confirmed-tradestands-for-2015/) and orders were said to be accepted for the 2016/2017 hunting season (https://web.archive.org/web/20161014092111/http://adriansfoxscent.co.uk/index.html) until their website was suddenly closed. Adrian's Fox Scent is currently unavailable and it remains unclear where or how it was obtained and how much was made available to hunts for the period it was said to be available.

2.2.19. The Hunting Act 2004 has now been in effect for over 12 years. None of the foxhounds alive today were even born, let alone trained to hunt live quarry, when the Act came into effect in February 2015. So should the ban on hunting live quarry with dogs be reversed, hunts will need to train all of their dogs to resume hunting wild prey. So the hounds alive today no longer have a *normal quarry*. However, retraining foxhounds is not an issue because they can be trained to follow any scent i.e. hunting foxes is not an innate activity for foxhounds. When hunting live quarry was legal, they were trained to hunt red deer, fallow deer, otters, mink, roe deer and red deer, and, a little longer

ago, badgers at night (Adair, 2008), pine martens and stoats, as well as red foxes. Different packs of foxhounds were trained to follow the scent of one species of quarry and not the others e.g. packs trained to hunt foxes would not routinely hunt deer and *vice versa*. Foxhounds are also routinely used in packs of draghounds. As the MDBA told the Burns' Inquiry, *accidents* i.e. killing wild animals, is almost unheard of by a draghound pack because they are trained to ignore live prey and only hunt artificial scents (http://www.defra.gov.uk/rural/hunting/inquiry/evidence/mbda.htm). This is confirmed in a report by LACS into hunt havoc after the Hunting Act 2004 came into force. LACS said that *Hunt havoc occurs when hunts lose control of their hounds. Once out of control the hounds often attack and even kill livestock and pets*. LACS found that all the cases of hunt havoc were due to trail hunting and that hounds were not out of control with drag hunting (Anon., 2008).

2.2.20. In their evidence to the Burns' Inquiry, the Masters of Mink Hounds Association (MMHA) said that *When otters became protected in 1975, Otterhounds were no longer used for this purpose. Therefore, any Otterhound used by a registered Mink Hunt has not been entered to otter. "Entered to" means only recognising the scent of one quarry species*. When discussing the use of foxhounds for mink hunting, *Horse & Hound* reported that *Most minkhound packs are a motley collection of retired foxhounds* (Anon., 2017a) and, in their evidence to the Burns Inquiry, the MMHA said *Most Hunts breed their own hounds but also may obtain draft hounds from other Association members and other hunting disciplines. In the latter case it is important for a hound which has previously hunted fox to transfer its attention to mink, which it will soon learn from the other pack members* (http://www.huntinginquiry.gov.uk/evidence/mmha.htm). Dogs can be trained to follow or find a wide range of scents (Browne *et al*., 2006) and *It's in the dogs' nature to pick up and follow a scent, and it takes a hound only a day or so to get the idea* (Bloomfield, 2005). So there should be no trouble training foxhounds to resume hunting live quarry, should the Hunting Act 2004 be repealed.

2.2.21. The same applies to harriers and beagles, both of which are also scent hounds originally bred for hunting: harriers were traditionally used to hunt hares and foxes, beagles to hunt hares. However, both can be trained for other purposes. Beagles, for instance, have been used to flush a variety of different species to guns (e.g. bobcats, coyotes, deer, foxes, gamebirds, hares, rabbits and wild boar). Since they have one of the best developed senses of smell of any dog (Scott & Fuller, 1965), beagles are also used to detect food items in luggage entering Australia, Canada, China, Japan, New Zealand and the United States, to detect termites in Australia and to detect drugs and explosives.

2.3. The use of terriers

2.3.1. Since they are not required for trail hunting, hunt terriermen should be a thing of the past. However, fox hunts routinely take terriers with them when trail hunting (Slaska, 2017; paragraphs 2.2.13 and 2.2.14). The Hunting Act 2004 (Schedule 1 *Exempt Hunting*, paragraph 2(2) states that dogs can be used below ground if the *stalking or*

flushing out is undertaken for the purpose of preventing or reducing serious damage to game birds or wild birds (within the meaning of section 27 of the Wildlife and Countryside Act 1981 (c. 69)) which a person is keeping or preserving for the purpose of their being shot. There is no general exemption to allow the use of terriers to hunt foxes below ground. The Hunting Act 2004 does not specify what constitutes *serious damage* to game or wild birds.

2.3.2. Paragraph 2(5)(e) of this exemption requires that *the manner in which the dog is used complies with any code of practice which is issued or approved for the purpose of this paragraph by the Secretary of State*. The lead organisation in compiling the code of practice was the British Association for Shooting and Conservation (BASC). The *BASC Code of Practice for the Use of a Dog Below Ground in England and Wales* (http://www.basc.org.uk/en/codes-of-practice/use-of-a-dog-below-ground-in-england-and-wales.cfm) was approved by the Secretary of State for Environment, Food and Rural Affairs on 17 February 2005.

2.3.3. This use of terriers below ground is widely known as *the gamekeepers' exemption*; it was described as such by Christopher Graffius, Director of Communications for BASC when announcing the publication of the code of practice, and this is the term used by the Rt. Hon. Alun Michael, Minister of State for Rural Affairs and Local Environmental Quality, in his foreword to the code of practice (https://basc.org.uk/cop/use-of-a-dog-below-ground-in-england-and-wales/). BASC said that the *adoption and publication* [of the code of practice] *follows extensive consultation between Defra, shooting organisations and animal welfare groups* (https://basc.org.uk/cop/use-of-a-dog-below-ground-in-england-and-wales/). The hunting organisations were not included in the consultation process because the exemption was designed for gamekeepers: it was not intended to be used by the hunting organisations.

2.3.4. Schedule 1 of the Hunting Act 2004 specifies a number of types of *Exempt Hunting*. Paragraph 1(5) states that stalking a wild mammal, or flushing it out of cover (i.e. above ground), is only *Exempt Hunting* if no more than two dogs are used for this purpose, and paragraph 1(7)(a) requires that *reasonable steps are taken for the purpose of ensuring that as soon as possible after being found or flushed out the wild mammal is shot dead by a competent person*. While it has not been tested in a court, the Hunting Act 2004 does not allow packs of dogs to be used to flush a fox out of cover and then drive it underground, where it is subsequently hunted with terriers. Nor does the Hunting Act 2004 permit packs of hounds to be used to locate earths or disused badger setts that are occupied by foxes so that they can subsequently be hunted underground with terriers. Both these activities are regularly observed in hunts purportedly trail hunting (Slaska, 2017).

2.3.5. Pheasants are the major game bird in lowland areas of England and Wales, followed by partridge. Red grouse are shot in some areas of northern and western Britain, but not many hunts operate in these areas. In this review I will focus on pheasants and partridges: the pheasant shooting season is from 1 October to 1 February, the

partridge shooting season from 1 September to 1 February.

2.3.6. According to the Game & Wildlife Conservation Trust (GWCT), *nearly four-fifths of shoot providers rely on released pheasants, with an estimated 35 million pheasants released each year* (https://www.gwct.org.uk/research/species/birds/common-pheasant/), typically in late summer for the start of the coming shooting season. A large surplus of birds is reared: typically only 40% of the birds released are shot. This situation is unique to Britain: *More gamebirds may now be annually reared and released in Britain than the rest of the World combined* and the *overall autumn Pheasant biomass may exceed that of all other birds* [in Britain] *by perhaps 600%* (Robinson, 2002). The ecological impacts of releasing such large numbers of pheasants into the British countryside are unclear, particularly *the potential affects* [sic] *of game bird medications on other wildlife*, …. *the effect of predator control on non-target species*, ….and *the impact of rear and released game birds on other wildlife* (Mustin *et al*., undated). *Pockets of wild pheasants occur in arable areas of East Anglia, Kent, central and southern England, northeastern England and some lowlands of Scotland* (https://www.gwct.org.uk/research/species/birds/common-pheasant/) and they only make a small contribution to the overall harvest. Each year *around 15 million* pheasants are shot in Britain: the *percentage of wild-bred pheasants in the harvest …. may be as low as 10%* i.e. around 1.5 million pheasants (https://www.gwct.org.uk/research/species/birds/common-pheasant/).

2.3.7. Pheasants are an alien species (White & Harris, 2002) and do not thrive in Britain: in one study overall nest survival was only 10%. While predation (from all species) accounted for 43% of nest losses, nests failed for a variety of other reasons (Draycott *et al*., 2008). Any reared birds that survive the shooting season are surplus to requirements and *surplus* [i.e. surviving] *adult pheasants of both sexes and partridges* may be caught up at the end of the shooting season and exported to other parts of the EU *for release into the wild as the foundation for next years shooting stock* (http://www.gamefarmuk.co.uk/import-export).

2.3.8. After the end of the shooting season, released pheasants that are not caught up for export or breeding are not fed, since supplementary feeding does not affect post-breeding pheasant densities (Hoodless *et al*., 1999) and their survival rate is low. What happens to the surplus birds is unclear: many die from disease, adverse weather conditions, wounds received during the shooting season, car traffic accidents and a variety of other factors (Baker *et al*., 2006; http://www.shootinguk.co.uk/shooting/game-shooting/game-birds-released-54127). When hunting in woods used for pheasant-rearing at the end of the shooting season, *the Huntsman's job was not made easier by the amount of carrion, and often wounded birds, to distract hounds* (Vestey, 1994). Since pheasant survival rates are so low, new stock is released for the start of each shooting season.

2.3.9. Most losses of pheasants to foxes occur in summer when the poults are still being held in release pens i.e. during the period of the year when fox hunts do not operate.

However, the extent of losses to foxes is still relatively low: of 20,725 juvenile pheasants put into release pens in Dorset in 1994-1995, gamekeepers estimated that 1971 (9.5%) were killed by predators: 4.3% were killed by buzzards, 3.2% by foxes, 0.7% by owls, 0.6% by sparrowhawks and 0.5% by other mammals (Kenward *et al*., 2001). Thus gamekeepers only attributed a third of losses to predators to foxes: buzzards were the single most important predator. Since only 40% of released pheasants are shot, only one in 20 of the surplus pheasants are lost to foxes.

2.3.10. Several techniques are available to keep predators out of pheasant release pens (http://www.shootinguk.co.uk/uncategorized/keep-predators-pheasant-pen-38935). When describing the relationship between pheasant shooting and fox hunting, Edmund Vestey, who was both a keen pheasant shooter, a MFHA, and the Chairman of the MFHA, said that *With the introduction of the game farm, the incubator, the brooder, and the release pen, almost fool-proof protection is now available and has removed the excuse or need for* …. killing *any kestrel, owl, sparrow hawk, stoat or fox who came anywhere near* the rearing field (Vestey, 1994). Following release, mortality rates of pheasant poults are highest in the first ten days and *reducing densities of birds within pens may increase subsequent survival without resorting to predator control* (Robertson, 1988). This view was reinforced by the Rt. Hon. Alun Michael, Minister of State for Rural Affairs and Local Environmental Quality, when introducing the *BASC Code of Practice for the Use of a Dog Below Ground in England and Wales*. He said *The Government recommends that consideration should be given to the full range of non-lethal and lethal alternatives before a decision is made to use a dog underground* i.e. terriers should only be used as a last resort, not routinely taken with fox hunts.

2.3.11. Grey partridges are native to Britain but prior to the Second World War large numbers were imported from Hungary to boost populations on British shooting estates (https://www.fieldsportsmagazine.com/Shooting-Partridges/a-history-of-the-redleg-partridge.html). The trade ended with the onset of the Second World War and grey partridge numbers declined by 80% over the next 40 years (https://www.gwct.org.uk/game/research/species/grey-partridge/). The Wildlife and Countryside Act 1981 made it illegal to release chukar partridges and chukar/red-leg partridge hybrids, so most shoots now rely on released red-legged partridges: about six million are released each year. They were introduced from France and Spain, originally in the late 1700s. They are an alien species: a breeding population of between 90,000 and 250,000 pairs is now established in Britain (https://www.gwct.org.uk/game/research/species/red-legged-partridge/). As with pheasants, wild-bred partridges only make a small contribution to the national bag, and new stock is released for each shooting season.

2.3.12. There is little information on the impacts of foxes on partridges in release pens. Studies on the impact of fox predation on wild grey partridges found that *predation is most important and causes the largest losses when hens are nesting (*https://www.gwct.org.uk/media/208776/predation_control.pdf). To be effective, predator control only needs to be applied during the nesting season and predators can be allowed to re-establish themselves during late summer and autumn (Tapper *et al*., 1996). In

discussing how to re-establish grey partridges through releases, the GCWT said that *grey partridges suffer the highest losses to predation …. from February to June* (Buner & Aebischer, 2008).

2.3.13. *The majority of released pheasants and partridges are hatched from eggs carried in mechanical incubators and are reared in closed pens (i.e. with a roof), often on grass and with night huts, without the presence of adult birds. This is undertaken on game farms, here or on the continent, or on the shoot itself. After 6-8 weeks, the poults are transferred from the rearing pens to release pens. This usually occurs some time in July but also in late June or early August* (https://www.gwct.org.uk/game/research/species/pheasant/releasing-for-shooting-in-lowland-habitats/). So released pheasants and partridges are held securely in pens during the period of the year when fox predation is most significant.

2.3.14. The evidence to suggest that fox control plays a significant role in the conservation of wild-bred partridges is equally weak. A study in Scotland found that, where fox control was undertaken, *raptor predation compensated for declining mammalian predation rates* (Parish & Sotherton, 2007). A review of the effectiveness of predator control on increasing the abundance of all species of farmland birds showed mixed results, but concluded that predator control was *likely to be beneficial*, with a 60% certainty: the adverse effects of predator control were not assessed (Dicks *et al*., 2017). In reviewing the evidence for the impact of predators, the RSPB concluded that *grey partridge populations are most likely to be limited by predation after being reduced to low densities by habitat deterioration* (Gibbons *et al*., 2007). Following their detailed studies into grey partridge population declines, the GWCT *advised that a combination of in-field management techniques …. could provide the nesting and brood-rearing habitats required to stabilise the grey partridge population, though predator control could help speed its response to habitat management* (Gibbons *et al*., 2007). A study in northern Spain found that fox control did not improve survival rates for adult red-legged partridges and nests, although it did improve chick survival (Mateo-Moriones *et al*., 2012).

2.3.15. There is no evidence to suggest that foxes cause *serious damage* to reared, or wild-bred, pheasants and partridges from late autumn to the end of winter, when fox hunts operate. Furthermore, culling foxes in winter is likely to be counter-productive by leading to higher fox numbers in the spring, when wild pheasants and partridges are breeding, and in the summer, when captive-reared birds are in release pens (paragraphs 3.4.1 to 3.4.3). It is hard therefore to understand the legal basis for hunts to continue to take, and use, terriers when trail hunting when they cannot be *preventing or reducing serious damage* to birds that are being kept or preserved for shooting.

2.3.16. Prior to the Hunting Act 2004, terriers were routinely used to corner a fox underground, and the terriermen would then dig down to the dog, which was located by the sounds of its barking or by using an electronic detector. Digging was considered to be an

essential part of terrier work (e.g. Harcombe, 2006). The Hunting Act 2004 specifies how terriers can now be used underground: paragraph 2(5) of *Exempt Hunting* stipulates that:-

(a) reasonable steps are taken for the purpose of ensuring that as soon as possible after being found the wild mammal is flushed out from below ground,

(b) reasonable steps are taken for the purpose of ensuring that as soon as possible after being flushed out from below ground the wild mammal is shot dead by a competent person,

(c) in particular, the dog is brought under sufficiently close control to ensure that it does not prevent or obstruct achievement of the objective in paragraph (b),

(d) reasonable steps are taken for the purpose of preventing injury to the dog, and

(e) the manner in which the dog is used complies with any code of practice which is issued or approved for the purpose of this paragraph by the Secretary of State.

2.3.17. Paragraph 7 of the *BASC Good Practice Guide* (Annex A of the code of practice) explains that *A rifle should not be used to shoot a running fox. Always use an appropriate shotgun and ammunition*. The safety issues associated with shooting a fox once it has been flushed from below ground, and appropriate ammunition, are discussed in paragraph 9 of the *BASC Good Practice Guide*.

2.3.18. While the Hunting Act 2004 only allows terriers to be used to flush foxes from below ground so that they can be shot, the code of practice specifies that *Once it is determined that a terrier has become trapped assistance must be given to release it*. Paragraph 11 of the *BASC Good Practice Guide* gives further details, explaining that *Depending on the circumstances, in the event of your dog becoming trapped underground you may dig down solely for the purpose of rescuing your terrier*. So digging into the earth is permitted when it has been established that the terrier is stuck and in need of rescue, but digging is *solely for the purpose of rescuing your terrier*. Killing any foxes that may be encountered when digging to rescue a terrier is not permitted.

2.3.19. Evidence from hunt monitors and others indicate that this form of *Exempt Hunting* is widely abused (Slaska, 2017), both in the justification for using terriers and how they are used. For instance, an article published in *Shooting Times & Country Magazine* on 26 July 2017 describes how the author put a terrier to ground and *gave her a little more time to settle and then the digging commenced*. He describes removing the terrier to see *two half-grown fox cubs. They were despatched quickly and effectively with the pistol* …. He then put the terrier back into the earth and 15 minutes later *could hear her attempting to dig on to reach her quarry. Once again,* [he] *broke through into the tube right behind her …. the fox cubs had pushed themselves in to a place where* [the dog] *was unable to reach. Peering into the darkness* [he] *could see the tail of a fox cub about 1.5m further on. …. It didn't take long to reach the location, at which point the cub was despatched, along with another*. These cubs were not orphaned: the gamekeeper shot the vixen a few days later (Bluck, 2017). *The Shooting Times & Country Magazine* is the UK's leading shooting magazine, with a weekly readership of

190,000 (https://www.timeincuk.com/brands/shooting-times/). Publishing an article describing the use of terriers in this manner reinforces the impression that this form of *Exempt Hunting* is widely abused by terriermen.

2.3.20. The impression that the use of terriers is often/generally contrary to the conditions specified in Schedule 1 *Exempt Hunting*, paragraph 2(2) is also reinforced by the National Working Terrier Foundation's (NWTF) *Code of Conduct for Terrier Work* currently available on the NWTF's website (http://www.terrierwork.com/nwtfcode.htm). According to the NWTF, their *Code of Conduct* is intended to …. *Establish a common set of standards, which those engaged in terrier work, must follow*. The NWTF also said that their *Code of Conduct for Terrier Work was the first of its kind, it always has been and continues to be a guide to best practice*. While the NWTF also said that *The Hunting Act (2004) requires adherance* [sic] *to a different code and this is covered under the Hunting Act section elsewhere on this site*, they also claimed that *In England and Wales, terrier work was similarly fortunate, being the only form of hunting with dogs the Hunting Act (2004) does not seek to ban. And despite an apparent unwillingness to consult with a 'hunting type' organisation, even the then Labour Government's Code of Conduct for Terrier Work bears much similarity to that of the N.W.T.F. which was published over a decade earlier* (http://www.terrierwork.com/).

2.3.21. Despite claiming that there was a great deal of similarity between the two codes of conduct, the NWTF's *Code of Conduct for Terrier Work* still promotes the routine use of digging. Paragraph 3, for instance, says that *Particular care should always be taken to minimise any risk of injury to either the quarry or the terrier (see notes a, b and c below).*

a. *The terrier's role is to locate it's* [sic] *quarry underground, to bark at it continuously, to either cause it to leave the earth or alternatively to indicate where in the earth the quarry is located in order that it can be dug to and despatched.*
b. *The greatest risk of injury to either animal is normally at the end of a 'dig'. This can be minimised by either digging to the quarry, removing the terrier and despatching the quarry in the hole, or by bolting the quarry into a net for subsequent removal or dispatch, or by bolting the quarry to standing Guns.*
c. *It is recommended, wherever possible and practical, that only one terrier is entered to ground at a time.*

2.3.22. *Paragraph 6 of the* NWTF's *Code of Conduct for Terrier Work* goes on to discuss the use of terriers for the live capture of foxes. It says that *In some locations it may not be practicable to despatch the quarry immediately. Therefore if any quarry is taken alive, transported elsewhere and subsequently despatched, due regard should always be paid to its general welfare, safety and comfort* (http://www.terrierwork.com/nwtfcode.htm). Prior to the Hunting Act 2004, live capture of foxes was used to train terriers and/or for stocking hunting territories.

2.4. Hound exercise

2.4.1. The Countryside Alliance and the Council of Hunting Associations' hunting handbook for the 2005/2006 season described *hound exercising* as a legal activity and said that *any number of hounds can be exercised at the same time but landowners must give permission for this to take place. Hunt staff will be carrying hunting equipment such as hunting horns and whips as an aid to enable them to control the hounds* (Anon., 2005b). It went on to explain that *Hounds need to be exercised each day. Exercise will involve walking out (daily), longer exercise with hunt staff on bicycles or horses in the summer months and then the Autumn and Winter hunting seasons. During the temporary ban hound exercise rides across open country are likely to be developed to attract mounted followers* (Anon., 2005b). Many hunts now advertise hound exercise and charge a cap (fee) for attending (e.g. https://www.blankneyhunt.co.uk/events/blankney-hunt-hound-exercise/).

2.4.2. Prior to the Hunting Act 2004, hound exercise was undertaken by hunt staff, and they were not normally accompanied by members of the hunt. Traditionally, when exercising hounds on foot or on bicycles, they wore caps or bowler hats and the clothes they wore when working in the kennels. When mounted to exercise hounds they wore informal riding clothes. In May *many kennel huntsmen like to begin exercising their* [hounds] *on bicycles; not the two or three hour marathons of late summer but a steady early morning meander each day down quiet country roads* (Dangar, 1994). Exercise distance is increased gradually. During summer, *the length and duration of early morning exercise will gradually increase so that by the end of July the pack will be leaving the kennels at 6.30 or 7.00 am and returning two or three hours later before the day becomes unbearably hot …. Most huntsmen like to have the benefit of at least a month's exercising from the back of a horse* (Dangar, 1994).

2.4.3. The process was described by the Duke of Beaufort as follows: *In the summer then the hounds are at first exercised on foot, those that have just been brought in from walk* [puppies are reared by members of the hunt from two to three months of age and returned the following spring; it is called puppy walking] *going out on couples* [two collars joined together with a short section of chain] *with a more experienced hound. A month or so later they are taken on mounted exercise, going about six to eight miles at first, the distance becoming longer and longer as time progresses and they become more fit* (Beaufort, 1980). Traditional hound training was undertaken on roads or on open access land such as moorland because access to farmland was restricted before the crops were harvested.

2.4.4. Prior to the implementation of the Hunting Act 2004, hound exercising was followed by cub hunting (renamed autumn hunting prior to the introduction of the Hunting Act 2004). Traditionally, fox hunts had to train their young hounds to hunt foxes during cub/autumn hunting, which started when the crops had been harvested and finished with the start of the main hunting season. In *The Hunting Code of Conduct*, the MFHA described cub hunting as follows: *Before hunting proper begins, traditionally on the 1*

November, many farmers and landowners wish to see the new season's litters of young foxes dispersed and a due proportion of them killed. This is preferably done in covert to prevent disturbance to stock still out in the fields (White-Spunner, 1994).

2.4.5. In their evidence to the Burns Inquiry the MFHA said that cub/autumn hunting had three main functions (http://www.huntinginquiry.gov.uk/evidence/mfha.htm); these were:-

- *Firstly to cull a proportion of foxes*: prior to the Hunting Act 2004 roughly half the foxes killed each season were killed during cub hunting
- *Secondly to disperse the* [fox] *populations*: if there were too many foxes in one area, the pack may split and hunt different animals. Dispersing the cubs over a wider area reduced this problem, and also helped move cubs away from roads, railways and other places where hunting was problematic in the main hunting season
- *Thirdly to introduce the young hounds to hunting foxes only*: foxhounds can hunt a variety of prey. Also, each year a number of the young entry did not show any interest in hunting foxes or displayed unsuitable traits such as not vocalising or vocalising inappropriately. Young hounds that did not hunt foxes successfully and/or showed other undesirable traits were culled from the pack prior to the onset of, or early in, the main season.

2.4.6. Cub/autumn hunting generally started in August, and was undertaken either early in the morning or in the evening; this avoided the heat of the day, when scenting conditions are worst. The general practice was for mounted and foot followers to surround a small piece of wood or a field where a litter of cubs was believed to be, and the hounds then entered. The mounted and foot followers tried to discourage any foxes from leaving the covert, a process known as *holding-up*, so that they could be hunted by the hounds. *The Hunting Code of Conduct* issued by the MFHA says that this could only be done *by voice, by tapping with a whip or stick or by whip-cracking. No other means are permissible* (White-Spunner, 1994). According to the Duke of Beaufort, hounds should be prevented from leaving the covert through September but, if their training has gone to plan, by October they can *be allowed to pursue their cub for a short burst or two in the open* (Beaufort, 1980).

2.4.7. Cub/autumn hunting is not required for trail hunting and drag hunts do not have an early season to train their hounds to follow an artificial scent trail: their season runs from September/October to March (e.g. https://www.msfd.co.uk/). Drag hunts can start earlier in the year because the hounds take little training to follow an artificial scent (Bloomfield, 2005) and because artificial scent trails can be laid to ensure the hounds avoid sensitive crops and livestock. Fox hunting traditionally started at the beginning of November because hunted foxes can run any direction, and so hunting could only commence once all the crops had been harvested.

2.4.8. Following the implementation of the Hunting Act 2004, cub/autumn hunting was renamed hound training, and redefined in the Countryside Alliance and Council of

Hunting Associations' handbook *Hunting 2006 – 2007* (Anon., undated) as follows:-

- *Autumn Hunting is termed "hound training" and is for the purpose of teaching young hounds to hunt a trail*
- *Hound training will still take place early in the morning and in confined areas. This limits distractions to young hounds, allows for more limited fitness of horses and hounds early in the season*
- *As the season progresses trails will be laid in more open areas and over greater distances*
- *The trail may be laid from a quad, horse or on foot depending on terrain and conditions and several methods may be employed on any one day*
- *More than one trail may be laid at any one time to replicate natural hunting as nearly as possible and to provide a challenge to huntsman and hounds. In addition the trail may be broken and/or lifted to slow the pace and increase the challenge.*

2.4.9. By the end of the summer, traditional hound exercising covered several miles each day, and the distance they cover was increased progressively over several weeks. However, according to the Countryside Alliance and Council for Hunting Associations, in the autumn hound training/exercise has to take place *in confined areas* …. to allow *for* [the] *more limited fitness of …. hounds early in the season*. It is unclear why foxhounds can cover several miles on open roads each day in the summer but are only fit enough to be exercised in confined areas in the autumn. The Heythrop Hunt, for instance, says that hound exercise is *basically lots of people taking a large group of hounds for a walk* (http://heythrophunt.com/etiquette.htm). They say that *Autumn Hunting (September & October) can start from anytime after 6.00am. This normally lasts 3-4 hours but in October can last up to six hours. In this very early part of the season which starts when the harvest allows (normally the beginning of September). Meets are held early in the morning before the temperature rises and evaporates the scent. Meets are held at least four times each week and are part of the process of preparing horses, hounds and the country for the coming season* (http://heythrophunt.com/etiquette.htm).

2.4.10. Prior to the Hunting Act 2004, cub/autumn hunting was advertised by fox hunts and additional fees were charged for participating in this activity. Some hunts e.g. the Cottesmore Hunt, still charge these additional fees for autumn hunting (http://www.cottesmore-hunt.co.uk/chsubs.html). Hound training in the autumn as described by the Countryside Alliance and Council of Hunting Associations is indistinguishable from traditional cub/autumn hunting and is widely viewed as an excuse to carry on cub/autumn hunting, an essential part of hound training when it was still legal to hunt foxes. Foxes are found and hunted during hound exercise (e.g. https://gottalovefoxhunting.word press.com/2013/03/24/hound-exercise-with-wexford-harriers/). On 22 October 2011 the Meynell and South Staffordshire Hunt were filmed cub/autumn hunting; hunt members had surrounded a small piece of woodland and were preventing the foxes from escaping so that they could be killed by the hounds. In court

the hunt master claimed that the hunt were hound exercising (http://www.huntingact.org/news/national-trust-bans-fox-hunt/).

2.5. Exempt hunting of red deer

2.5.1. Currently three packs of staghounds operate in England; there are none in Wales. There are also believed to be two packs of hounds that hunt roe deer in south-west England; they are unregistered and I will not consider them further.

2.5.2. Following the Hunting Act 2004, the three packs of staghounds still observe their traditional hunting seasons: autumn stags from August to October, hinds from November to February, and spring stags from March to April. Thus they operate for nine months of the year. While stag hunts are not licensed to hunt on National Trust land, there is evidence that they frequently do so (Slaska, 2017; https://www.league.org.uk/news/hunting-on-national-trust-land-league-statement). The three packs of staghounds either trail hunt e.g. by dragging a deerskin (Jackson, 2013) or operate under sections 1, 8 and/or 9 of Schedule 1 *Exempt Hunting* of the Hunting Act 2004 (e.g. Jackson, 2016). *Only the Devon & Somerset Staghounds use two hounds in relay and the research & observation exemption. The Tiverton use 15 or so hounds and say they are trail hunting. The Quantocks sometimes use two hounds, but sometimes more up to a full pack* (Paul Tillsley, personal communication, 8 August 2017). I outline the conditions for these three forms of *Exempt Hunting* below.

2.5.3. Section 1 *Stalking and flushing out* specifies the following conditions:-

(1) Stalking a wild mammal, or flushing it out of cover, is exempt hunting if the conditions in this paragraph are satisfied

(2) The first condition is that the stalking or flushing out is undertaken for the purpose of -

- *(a) preventing or reducing serious damage which the wild mammal would otherwise cause -*
  - *(i) to livestock,*
  - *(ii) to game birds or wild birds (within the meaning of section 27 of the Wildlife and Countryside Act 1981 (c. 69)),*
  - *(iii) to food for livestock,*
  - *(iv) to crops (including vegetables and fruit),*
  - *(v) to growing timber,*
  - *(vi) to fisheries,*
  - *(vii) to other property, or*
  - *(viii) to the biological diversity of an area (within the meaning of the United Nations Environmental Programme Convention on Biological Diversity of 1992),*
- *(b) obtaining meat to be used for human or animal consumption, or*
- *(c) participation in a field trial*

(3) In subparagraph (2)(c) "field trial" means a competition (other than a hare coursing event within the meaning of section 5) in which dogs -

(a) *flush animals out of cover or retrieve animals that have been shot (or both), and*

(b) *are assessed as to their likely usefulness in connection with shooting*

(4) The second condition is that the stalking or flushing out takes place on land -

(a) *which belongs to the person doing the stalking or flushing out, or*

(b) *which he has been given permission to use for the purpose by the occupier or, in the case of unoccupied land, by a person to whom it belongs*

(5) The third condition is that the stalking or flushing out does not involve the use of more than two dogs

(6) The fourth condition is that the stalking or flushing out does not involve the use of a dog below ground otherwise than in accordance with paragraph 2 below

(7) The fifth condition is that -

(a) *reasonable steps are taken for the purpose of ensuring that as soon as possible after being found or flushed out the wild mammal is shot dead by a competent person, and*

(b) *in particular, each dog used in the stalking or flushing out is kept under sufficiently close control to ensure that it does not prevent or obstruct achievement of the objective in paragraph (a).*

2.5.4. A key issue for this review is paragraph 1(7)(a), which requires *that as soon as possible after being found or flushed out the wild mammal is shot dead*. The staghounds use shotguns to kill hunted red deer. The Quantocks Staghounds, for instance, *use a 12-bore with a barrel shortened to 23in and a heavy cartridge containing nine pellets* (Jackson, 2016), whereas the Tiverton Staghounds use *a folding shotgun carried on the saddle with SSG or solid ball* (Jackson, 2013). These are short-range weapons; to be used effectively, the operator has to get close to the deer, and this is generally only achieved once the deer has become exhausted and stands at bay, as used to occur with traditional stag hunting (Bateson, 1997). It is unclear how chasing a deer to the point where it can be killed by a short-range weapon is consistent with the requirement to shoot it dead *as soon as possible after being found or flushed*.

2.5.5. Section 8 *Rescue of a wild mammal* specifies the following conditions:-

(1) The hunting of a wild mammal is exempt if the conditions in this paragraph are satisfied

(2) The first condition is that the hunter reasonably believes that the wild mammal is or may be injured

(3) The second condition is that the hunting is undertaken for the purpose of relieving the wild mammal's suffering

(4) The third condition is that the hunting does not involve the use of more than two dogs

(5) The fourth condition is that the hunting does not involve the use of a dog below ground

(6) The fifth condition is that the hunting takes place –

(a) on land which belongs to the hunter

(b) on land which he has been given permission to use for the purpose by the occupier or, in the case of unoccupied land, by a person to whom it belongs, or

(c) with the authority of a constable

(7) The sixth condition is that –

(a) reasonable steps are taken for the purpose of ensuring that as soon as possible after the wild mammal is found appropriate action (if any) is taken to relieve its suffering, and

(b) in particular, each dog used in the hunt is kept under sufficiently close control to ensure that it does not prevent or obstruct achievement of the objective in paragraph (a)

(8) The seventh condition is that the wild mammal was not harmed for the purpose of enabling it to be hunted in reliance upon this paragraph.

2.5.6. The key principle underpinning this form of *Exempt Hunting* is that it is undertaken for *the purpose of relieving the wild mammal's suffering* (paragraph 8(3)) and that *as soon as possible after the wild mammal is found appropriate action (if any) is taken to relieve its suffering* (paragraph 8(7)(a)). Many red deer are routinely injured during their normal activities e.g. on Rhum, *Adult hinds not infrequently show the marks of kicks or bites on their flanks and ears, and a significant proportion of hinds shot in the annual cull had broken ribs* (Clutton-Brock *et al.*, 1982). About 23% of stags over the age of five years showed some sign of injury during the rut each year and up to 6% were permanently injured (Clutton-Brock *et al.*, 1979). Over their lifetime, *virtually all stags may be slightly injured at some stage and as many as 20% may sustain permanent injuries* (Clutton-Brock *et al.*, 1982).

2.5.7. The key issue for this form of *Exempt Hunting* is whether the animal is suffering, and whether it is appropriate to intervene to end that suffering. While animals feel physical pain, the extent to which they experience emotional suffering is less clear (e.g. Wall, 2000). The guidance for veterinary surgeons is that *The primary purpose of euthanasia is to relieve suffering*, and there is guidance on how to assess the degree of suffering and whether euthanasia is the appropriate course of action. This includes an assessment of an animal's long term prognosis (http://www.rcvs.org.uk/advice-and-guidance/code-of-professional-conduct-for-veterinary-surgeons/supporting-guidance/euthanasia-of-animals/). With wild red deer (and many, if not most, species of wild mammal), injuries are common and a feature of their normal activities. The majority (probably the great majority) of them are not a cause for concern because the long-term prognosis is that they will heal.

2.5.8. Current hunting activity of staghounds under the exemption for *Rescue of a wild mammal* does not seem to be undertaken for the purpose of relieving suffering. For instance, a report on a day's hunting by the Quantocks Staghounds, said that *the harbourer …. had harboured a one-antlered four-year-old stag in* [Crowcombe Park]

woodland, an animal that needed to be culled (Jackson, 2016). Only having one antler is not a welfare issue. A report on a day's spring-stag hunting with the Devon and Somerset Staghounds says that harbourers selected the hunted stag, and that *Sometimes, the animal that's been selected drops its horns* [sic] *and another is chosen* (Lester, 2017). It is hard to see how an animal dropping its antlers ends its suffering. The same report goes on to say that *The state of the deer's body and head or any signs of disease or damage are deciding factors* used by the harbourers to select the stag to be hunted. Again, it is hard to see how any of these *deciding factors* indicate that a deer is suffering. A report on autumn stag hunting by the Quantocks Staghounds said that *Any big stags seen with deformities or looking unhealthy were removed as the hunting act stipulates* (Anon., 2017b), and during hind hunting in 2016/2017 that *As in previous years any sick or injured hinds were culled by the hunt* (Anon., 2017b). From the published descriptions, it is also hard to see how any of these animals were suffering and so in need of euthanasia.

2.5.9. It is also unclear under which provision a shotgun is used to kill the deer. The Deer Act 1991 prohibits the use of *Any smooth-bore gun* and *Any cartridge for use in a smooth-bore gun* (Schedule 2). However, there are specified exemptions. Paragraph 6(4) of the Deer Act 1991 permits the use of *any smooth-bore gun for the purpose of killing any deer if he shows that the deer has been so seriously injured …. that to kill it was an act of mercy*. It is hard to see how a deer that is *so seriously injured* would need to be hunted with dogs before being shot. Paragraph 6(5) permits the use of a smooth-bore gun *as a slaughtering instrument*: it is unclear how pursuing a deer with hounds until it can be shot with a smooth-bore gun constitutes slaughtering an animal as generally understood. For instance, one of the principles underpinning slaughter techniques is that *death of an animal* [occurs] *without panic, pain or distress* (http://kb.rspca.org.au/what-do-we-mean-by-humane-killing-or-slaughter_115.html). *The law requires that when domestic animals are killed 'they should be slaughtered instantaneously or rendered instantaneously insensitive to pain until death supervenes' …. The same principle should apply to the intended act of killing wild animals* (Webster, 1994). It is hard to see how pursuing a deer with dogs prior to killing it is compatible with the goal of slaughtering it instantaneously without panic, pain or distress.

2.5.10. Section 9 *Research and observation* specifies the following conditions:-

(1) The hunting of a wild mammal is exempt if the conditions in this paragraph are satisfied

(2) The first condition is that the hunting is undertaken for the purpose of or in connection with the observation or study of the wild mammal

(3) The second condition is that the hunting does not involve the use of more than two dogs

(4) The third condition is that the hunting does not involve the use of a dog below ground

(5) The fourth condition is that the hunting takes place on land –

(a) which belongs to the hunter, or

(b) which he has been given permission to use for the purpose by the occupier or, in the case of unoccupied land, by the person to whom it belongs

(6) The fifth condition is that each dog used in the hunt is kept under sufficiently close control to ensure that it does not injure the wild animal.

2.5.11. Hunt monitors report that pairs of hounds are used in relays to chase red deer, thereby producing long, fast hunts (e.g. http://campaigntostrengthenthehuntingact.com/deer.php; Paul Tillsley, personal communication, 8 August 2017). The Devon and Somerset Staghounds says that *Riders and foot followers will see deer on the move and can follow two hounds at a good pace across beautiful country, depending on which exemptions are used at the time* (http://www.devonandsomersetstaghounds.net/?page_id=37). The ethical position of pursuing red deer with dogs for research or observation is unclear. Studies into the physiological effects of hunting red deer prior to the Hunting Act 2004 showed that *the physiological effects of hunts of even a relatively short distance and duration are severe, while longer hunts are characterized by signs of extreme exhaustion* (Bateson & Bradshaw, 1997). A person undertaking research that causes pain, suffering, distress or lasting harm to a deer would be open to prosecution under the Animal Welfare Act 2006.

2.5.12. It is also unclear what useful data could be collected by pursuing red deer with two hounds. The red deer populations on Exmoor and the Quantocks have been monitored annually using teams of observers, on the Quantocks since 1991 and Exmoor from 1994 (Langbein, 2016). No meaningful behavioural data could be collected when a deer is being pursued by dogs; and in the region of 700 to 800 red deer are culled each year on Exmoor (Werrett & Green, 2008), so there is an ample supply of material for any *post mortem* studies.

2.6. Hunting with packs of hounds traditionally used to hunt hares

2.6.1. Several types of dogs were used to hunt hares. Harriers (basically a small type of foxhound followed on horseback) that hunted hares exclusively are found mainly in East Anglia and north-west England: the *west country harriers* are slightly larger and hunted both foxes and hares (Gingell, 1994). Beagles are smaller and followed on foot, as are working basset hounds (Hudson, 1994). At the time of the Burns Inquiry, there were 102 recognised packs of hare hounds in England and Wales – 72 packs of beagles, 20 packs of harriers, about half of which also hunted foxes, and 10 packs of basset hounds (http://www.huntinginquiry.gov.uk/evidence/amhb.htm). Since then numbers have declined; in 2017 the Association of Masters of Harriers and Beagles (AMHB) listed 60 packs of beagles and 20 packs of harriers in England and Wales (http://www.amhb.org.uk). Baily's Hunting Directory for the 2017/2018 season listed eight packs of basset hounds (http://www.bailyshuntingdirectory.com/).

2.6.2. According to the AMHB, *Beagling takes place in the winter, officially from mid October to March* (http://www.amhb.org.uk/). This was possible because, when hunting hares with hounds was legal, Britain was one of the few European countries without a close season for hares. They still can be shot on enclosed land all year, but only between 11 December and 31 March on moorland and unenclosed non-arable land. In Northern Ireland they can be shot between 1 October and 31 January (https://www.gwct.org.uk/research/long-term-monitoring/national-gamebag-census/mammal-bags-comprehensive-overviews/brown-hare/). The Wildlife and Natural Environment (Scotland) Act 2011 introduced a close season for brown hares in Scotland from 1 February to 30 September (http://www.snh.gov.uk/protecting-scotlands-nature/species-licensing/mammal-licensing/hares-and-licensing/).

2.6.3. Close seasons for brown hares in Europe generally start on 1 February, varying slightly with latitude, and hence the onset of the breeding season (Lecocq, 1996). In Britain pregnancy is rare from October to December, but hares may be pregnant in all other months, with the main breeding season from February to October (Harris & Yalden, 2008). So between January and March beagling and hunting hares with harriers posed a welfare problem by leaving orphaned leverets; beagles killed about 7% of the local hare population (Stoate & Tapper, 1993). However, the welfare problems are likely to have been relatively small compared to the welfare problems posed by widespread hare shoots in February and March, when about 40% of the hare population is shot, and up to 69% of local hare populations are shot in a single day (Stoate & Tapper, 1993). Adult, and hence leveret, mortality at the start of the breeding season is of particular concern because the high survival rates of offspring make this a critical period for recruitment (McLaren, 1996). Low recruitment and immigration rates are a particular problem for hare population in south-west Britain (McLaren *et al*., 1997).

2.6.4. In their submission to the Burns Inquiry, the AMHB said *There has never to our knowledge been drag hunting on foot with beagles because the followers would not be able to keep up; particularly as many beaglers are elderly. No future demand can be foreseen, not least because the danger of putting up a hare, and thus creating an offence, would be too great. A very few foot followers might be attracted to hunting the human quarry with bloodhounds* (http://www.huntinginquiry.gov.uk/evidence/amhb.htm). The AMHB clearly anticipated that it would be difficult, if not impossible, to trail hunt without disturbing, and potentially hunting, hares.

2.6.5. Despite the statement made to the Burns Inquiry, at least some harrier and beagle packs have taken up trail hunting following the implementation of the Hunting Act 2004. The Beagle Club was formed in 1890 *to promote the breeding of Beagles for sport and show purposes*, and the AMHB was formed in 1891 *to regulate hunting activities* (http://www.thebeagleclub.org/). The Beagle Club undertakes a form of drag hunting from late September to March; the scent is made from a mixture of aniseed and vegetable cooking oil (http://www.thebeagleclub.org/).

2.6.6. For hunts registered with the AMHB, *the hunted 'quarry' has been a 'trail'; an artificial scent* (http://www.amhb.org.uk/). The number of packs of beagles that trail hunt is unclear, although *Most hunts have had to resort to laying trails as the most practical way to keep within the law …. Experienced trail layers are very good at simulating how a hare is likely to run* (Ingall, 2009). When developing trail laying techniques, *Dead hares were* [originally] *tried by a number of packs, then parts of dead hares. In the end most people found that a simple rag, impregnated with a suitable scent substitute was sufficient, though some still prefer a fox's brush*: urine collected from shot hares was recommended as the scent substitute (Lonsir, 2012). The Derbyshire, Nottinghamshire & Staffordshire Beagles *lays trails using rabbit scent purchased from a company in the Midlands* …. they have *also had some success laying trails with …. sandalwood perfume from the Body Shop* (Bowyer, 2014).

2.6.7. Packs of beagles also undertake some forms of *Exempt Hunting*. For instance, after the Hunting Act 2004 came into effect, the Stour Valley Beagles *has managed to continue using various methods, including hound exercise, laying artificial (aniseed) trails, and working under exemptions to the Act nos. 3, 4 & 5* (http://homeofthestourvalleybeagles.co.uk/about.html). Hunting rats (Schedule 1 *Exempt Hunting* paragraph 3 of the Hunting Act 2004) *is exempt if it takes place on land –*

(a) which belongs to the hunter, or

(b) which he has been given permission to use for the purpose of hunting hares by the occupier or, in the case of unoccupied land, by a person to whom it belongs

The conditions for hunting rabbits (Schedule 1 *Exempt Hunting* paragraph 4 of the Hunting Act 2004) and for the retrieval of hares that have been shot (Schedule 1 *Exempt Hunting* paragraph 5 of the Hunting Act 2004) are exactly the same. There is no restriction on the number of dogs that can be used for any of these three forms of *Exempt Hunting*.

2.6.8. Many packs of beagles reportedly hunt *a "shot" hare* because *Most of the country we hunt over is now shared with shooting interests, and many hares will have been shot at before a day's beagling* (Ingall, 2009). Ingall went on to say that *I am an experienced hare hunter – I have been following beagles for many years. I believe I can tell a hare that has been shot by watching the way it behaves and the way it runs* (Ingall, 2009). Section 5 of Schedule 1 *Exempt Hunting* of the Hunting Act 2004 is titled *Retrieval of hares*; there is a lack of clarity as to what constitutes *retrieval* and the level of injury that would require the use of a pack of dogs to retrieve it. If, as Ingall (2009) describes, it takes skill to determine that a hare has been shot, it might seem reasonable to assume that its injuries are minor and that there is no welfare case to necessitate its *retrieval*. In any case, the number of hares that are shot and escape injured is extremely low: of a sample of 1018 hares examined *post mortem* before the Hunting Act 2004 came into effect, only 1 (0.1%) had an old shot wound (Harris, 2002a). Thus there seems to be little necessity (or opportunity) to use this form of *Exempt Hunting*.

2.6.9. An unlimited number of dogs can also be used to flush prey for falconry (Schedule 1 *Exempt Hunting* Section 6 of the Hunting Act 2004). This exemption allows *a wild mammal* to be flushed *from cover …. if undertaken –*

(a) for the purpose of enabling a bird of prey to hunt the wild mammal, and

(b) on land which belongs to the hunter or which he has been given permission to use for the purpose by the occupier or, in the case of unoccupied land, by a person to whom it belongs

While this type of *Exempt Hunting* is undertaken by packs of beagles and harriers (Taylor, 2017), the practice does not appear to be widespread. This exemption does not meet the basic needs of falconers, who use *highly obedient dogs …. trained to drop as soon as the game is flushed. Generally, there is only one dog per person, although with large fields there may be two or three different people each working their own dog* (Harris, 2002b). Using packs of dogs poses a significant risk of injury to the bird of prey.

2.6.10. According to the AMHB rabbits are the favoured live quarry following the implementation of the Hunting Act 2004 (http://www.amhb.org.uk/). However, it is unclear how packs of beagles or harriers can be used to hunt rabbits, which behave very differently to hares. While both species are predominantly nocturnal, hares spend most of the day lying in the open, in the middle of fields, in their forms, and can be flushed by packs of hounds, whereas rabbits lie up underground in burrows or in dense cover (Harris & Yalden, 2008), where they are inaccessible to packs of hounds that hunt by scent. At night, rabbits rarely move far from their refuges. Most sightings are within 10 metres of the field edge and only 5% are more than 40 metres from cover (Cowan *et al*., 1989). Rabbits were specifically excluded from the Hunting Act 2004 because they do not offer the opportunity for an extended chase, especially during the day when hunts operate (Harris, 2002b).

2.6.11. While beagles and harriers are not suitable for hunting rabbits, some other types of hounds can be used to hunt them while they are lying up in dense cover during the day. The Ryeford Chase, for instance, use a pack of Petit Basset Griffon Vendéen hounds, which are used in areas with *thick hedgerows and spinneys with plenty of cover …. there must be plenty of cover to hold* [the rabbits] *above ground* (http://www.shootinguk.co.uk/features/a-perfectly-legal-hunt-7997). In a typical day's hunting the pack catches *numerous rabbits, most taken within deep cover, though just occasionally one succeeded in bolting to safety* (Glover, 2009). Since packs of beagles and harriers are not suited for hunting rabbits, claiming to do so is widely viewed as a guise for hunting hares (Slaska, 2017).

2.7. Hunting waterways with packs of dogs

2.7.1. Otters received legal protection in1978 in England and Wales and 1982 in Scotland. In Northern Ireland otters are protected by Schedule 5 of the Wildlife (Northern Ireland) Order 1985. The number of otters killed by packs of hounds reached a peak of 434 killed by 23 packs in 1933. Only 11 main packs hunted after the Second World War:

the mean catch per annum in England, Wales and southern Scotland was 199 per annum from 1950 to 1959. This declined to 100 per annum in the next decade, and only 11 otters were killed between 1970 and 1976 (Jefferies, 1989; Harris & Yalden, 2008). Otter hunts started hunting mink prior to otters being protected in 1978 because otters had all but disappeared from many parts of south and east England.

2.7.2. Mink hunting is *one of our newer field sports* (Wild, 1994), and most packs of minkhounds are newly formed to some extent (Downing, 2012). Most *date from the mid-1970s when mink began to be hunted on a regular basis; although, some of the otter hunts which ceased operation in the mid-1970s …. also hunted mink* (Wild, 1994). *Horse & Hound* describes mink hunting as *a reminder of the long-gone art of otterhunting* (Anon., 2017a). The MMHA was formed in 1978 and originally represented *about fifteen Mink Hunts which had either taken over the mink control functions which had increasingly been assumed in their latter years by the former Otterhound packs (4 packs), or in the majority of cases had been recently formed*. There were 20 registered packs at the time of the Burns Inquiry (http://www.huntinginquiry.gov.uk/evidence/mmha.htm).

2.7.3. *The Shooting Times & Country Magazine* says that that 20 registered packs of minkhounds are currently operating in England and Wales (http://www.shootinguk.co.uk/features/the-marvel-of-minkhounds-4445), whereas *Baily's Hunting Directory* only lists 18 packs (http://baileyshuntingdirectory.co.uk/directory/hunting_in_England_minkhounds.php). The League Against Cruel Sports (LACS) says *There are 17 registered mink hunts in England and over 20 unregistered packs* (https://www.league.org.uk/mink-hunting) but do not give details of what they included in their estimate of the number of unregistered packs. So it is unclear if this figure includes e.g. packs of terriers that hunt waterways for rats (http://www.shootinguk.co.uk/uncategorized/sealyham-terrier-pack-hunt-rats-on-the-river-taw-706).

2.7.4. *The mink hunting season runs from April to October …. Most of England and Wales is covered by a mink hunt …. The hounds are often a cross between English foxhounds, Welsh foxhounds or pure-bred otterhounds* (Wild, 1994). Early in the season meets may be cancelled due to heavy rains and flooding, and the season may be curtailed by rising water levels in the autumn (Jackson, 2012). In their evidence to the Burns Inquiry, the MMHA said that *Mink hunting* [was] *a river/lake/stream activity* …. hounds worked *along river banks, through thick cover and must be ready to swim …. Although sometimes within sight when initially found a mink is hunted by scent along the river bank where it will make maximum use of cover and the water* (http://www.huntinginquiry.gov.uk/evidence/mmha.htm).

2.7.5. Following the introduction of the Hunting Act 2004, minkhounds follow the same season, hunting through the summer months depending on the state of the rivers. They undertake various activities, including: following an artificial trail, flushing to a bird of prey (Harris hawks), shooting mink that have been flushed by hounds, following the scent trail left by a mink, or a drag from a road-killed mink (Downing, 2012). They also

hunt rats (http://www.shootinguk.co.uk/features/the-marvel-of-minkhounds-4445) and rabbits (Bowyer, 2012; paragraph 2.6.7).

2.7.6. Whether activities such as shooting mink that have been flushed by hounds and following the scent trail left by a mink are *Exempt Hunting* is unclear. For instance, the master and huntsman of the Devon & Cornwall Minkhounds, when hunting the River Torridge, said that *We're seeking rats, but if we do find a mink we can legally hunt it with a couple of hounds, having put the rest of the pack in the hound van. Usually, a hunted mink will go to a tree, where it can be shot with a .410* (Jackson, 2012). When describing having found a mink's den in the bank, it was reported that *Had a mink bolted, the pack would have been removed to the nearby hound van, which had been following us, and only a couple of hounds put on the scent* (Jackson, 2012). Searching for a wild mammal is not unlawful hunting; the hunting starts as soon as the animal is found (Russ & Foster, 2010). Paragraph 1(1) of Schedule 1 *Exempt Hunting* of the Hunting Act 2004 says that *Stalking a wild mammal, or flushing it out of cover, is exempt hunting* if a number of specific conditions are satisfied. Paragraph 1(5) says that *The third condition is that the stalking or flushing out does not involve the use of more than two dogs*. However, it would appear that packs of minkhounds are being used to flush mink out of cover. Paragraph 1(7)(a) of this exemption requires that *reasonable steps are taken for the purpose of ensuring that as soon as possible after being found or flushed out the wild mammal is shot dead by a competent person*. As described in the report on the Devon & Cornwall Minkhounds, two dogs were being used to hunt the mink after it had been flushed from cover.

2.7.7. Generally minkhounds and the packs of terriers that hunt along rivers, streams and associated habitats are doing so during the breeding season for a wide range of aquatic and terrestrial birds and mammals. Mink hunts recognised that they were hunting during the mink's breeding season: *When we used to hunt mink, it was always difficult early on in the season as the mink bitches would be in kit. To protect themselves from predators they do not lay a scent* (http://www.shootinguk.co.uk/features/the-marvel-of-minkhounds-4445). Others claim that *mink have their young* in the early part of the season and *they carry little scent* (Jackson, 2012). Hunters make similar claims about female foxes when they are pregnant or have young cubs. However, there is no evidence that the females of either species do not leave any scent when breeding. In any case, the terriers used by both mink and fox hunts will locate animals lying up under the roots of trees or in similar dens, or when underground, irrespective of how much scent they leave (http://www.huntingact.org/hunting/other-types-of-hunting/).

2.7.8. Terriers are widely used by mink hunts e.g. the Pembrokeshire and Carmarthenshire Minkhounds use a couple of Sealyham terriers *running with the hounds and they were drawing the riverbanks as well as their larger companions* (Anon., 2017a). Terriers are used because mink spend up to 80% of their time inactive, usually in their dens, and focus their foraging to the vicinity of dens (Dunstone, 1993). Mink are more active during the summer, especially females when rearing cubs, and less active during the

winter: temperature influences activity (Zschille *et al*., 2010). Mink have a number of dens in their range and use them for periods of one to 40 days (for females with kits) before moving to a new den (Dunstone, 1993).

2.7.9. Mink dens are generally close to the river bank; favourite sites in riparian habitats are cavities between tree roots at the water's edge, or in rock piles. Rabbit burrows and other holes are also favoured in some habitats (Dunstone, 1993). Thus mink select exactly the same den sites as are favoured by otters, water voles and rats. When currently hunting e.g. rats, terriers are used to inspect *every nook and cranny on the river bank …. rough brambles and thickets* and, in the day's hunting being described, the terriers *marked at the base of a huge lime tree, one of a grove of similar trees beside the bank, all with a dense growth of side shoots clinging to the main trunks like a matted jungle …. The terriers were scrabbling at the earth and trying in vain to climb up into the higher branches that were out of their reach. Our quarry* [which was never identified] *must have been hidden under the massive root system* (Brown, 2017). The master and huntsman of the Eastern Counties Minkhounds said that *Although we cannot hunt them as we used to, hounds will still mark mink to ground or a tree*, where they are then shot: this is because *the pack's original purpose, controlling the non-native mink, is not forgotten* (Bowyer, 2012). So it is impossible to hunt waterways for one species without regularly encountering, and impacting on, all the others found in riparian habitats.

2.8. Hunting live quarry in Northern Ireland

2.8.1. Hunting with dogs in Northern Ireland would have become illegal had Michael Foster's Private Members Bill, published in November 1997, become law (http://www.ifaw.org/united-kingdom/our-work/banning-hunting-dogs/history-campai-0). By the time the Hunting Act 2004 reached the statute book, the Northern Ireland Assembly had been established and issues relating to hunting had been devolved. A Hunting Bill was introduced in the Northern Ireland Assembly but rejected in December 2010. Northern Ireland is the only part of the United Kingdom where hunting with hounds remains legal. However, following a series of temporary bans, from 17 August 2011 it has been illegal to organise, participate in, or attend a hare coursing event. Hare coursing was banned on welfare rather than conservation grounds (https://www.psni.police.uk/globalassets/advice--information/animal-welfare/documents/do1-15-39921-wildlife-law-and-you-2015---web-version.pdf).

2.8.2. The number of hunts operating in Northern Ireland, and their activities, are unclear. According to the Ulster Society for the Prevention of Cruelty to Animals, four fox hunts and two packs of stag hounds *are active* in Northern Ireland. However, while *deer hunts are restricted to 'Wild Stags' yet many we have filmed have had antlers removed* (David Wilson, personal communication, 15 August 2017). According to LACS, the hunts in Northern Ireland *notoriously change their names, break into splinter groups, or combine with other hunts …. this makes it very difficult to attribute responsibility in cases of trespassing, damage and more. However, we cannot state definitively why*

they do this. The number of kills each year …. are not registered officially and the information is rarely shared outside the closed groups of the hunts (Daniel Barclay, personal communication, 16 August 2017). The best available estimate is that there are six packs of foxhounds, seven packs of harriers which hunt both hares and foxes (one of these is kennelled in Northern Ireland but hunts in the Republic of Ireland), three packs of beagles and one pack of staghounds (Paul Tillsley, personal communication, 4 August 2017; https://www.league.org.uk/news/boxing-day-hunts-ni-2016; https://en.wikipedia.org/wiki/List_of_hound_packs_of_Ireland). It is also likely that there is a significant amount of illegal hunting with dogs in Northern Ireland (Looney, 2003).

2.8.3. Fox populations in Northern Ireland are relatively stable (Lysaght & Marnell, 2016), and a survey in the mid-1990s estimated that the rural population was between 9000 and 15,000 for the years of the study (Looney, 2001).

2.8.4. There are two species of hare in Northern Ireland, the native Irish hare and the introduced brown hare. The Irish hare is an endemic subspecies and a Northern Ireland Priority Species that has *Limited protection under the Games Acts and Schedule 6 of the Wildlife (Northern Ireland) Order 1985* (http://www.habitas.org.uk/priority/species.asp?item=42516). *Estimating population sizes and densities at local and national levels is extremely challenging due to the species' capacity for short term population change, variation between population density between habitats and the difficulties of sampling …. Nevertheless, it is reasonably clear population declines occurred during the 20th Century* (Lysaght & Marnell, 2016), with an estimated *25 per cent* [decline] *over the last 25 years* (http://www.habitas.org.uk/priority/species.asp?item=42516). Causes for the decline are believed to be multi-factorial: the *All-Ireland Species Action Plan* for the Irish hare identifies disturbance by dogs and unsustainable taking of hares for sporting purposes as contributory factors (https://www.npws.ie/sites/default/files/publications/pdf/ 2005_Group_SAP.pdf).

2.8.5. Brown hares were introduced at multiple points in Ireland up to 15 times from 1848 to the 1890s for field sports (Reid, 2011). All the early introductions in Northern Ireland seem to have died out other than for a few animals surviving near the Baronscourt Estate in County Tyrone (Lysaght & Marnell, 2016). However, in 2005 a new population was discovered in Mid-Ulster and it is believed that these may have been introduced in the 1970s. The known range of this new population expanded three-fold in the ten years from its discovery, and is now locally common in southern Derry and east Tyrone. In 2012-2013 there were up to 1250 brown hares in this population (Caravaggi *et al*., 2015), and Irish hares had all but disappeared from areas where they were well established (Lysaght & Marnell, 2016).

3. Effects of hunting on National Trust land on wildlife and conservation

3.1. Laying scents for trail hunting

3.1.1. The MFHA state that *The aim of trail hunting is to simulate traditional hunting as practised before the ban* and it *is important* [to use a fox-based scent] *because the aim is to keep the hounds focused on the scent of their historical quarry during the time of this ban* (http://www.mfha.org.uk/hunting/notes-on-trail-hunting). Since the intention is to ensure that hounds continue to follow the scents of foxes (and other wild mammals), and because *The trail is laid across the country taking a route that might be taken by a fox – ie through hedgerows and woods and along ditches in essence simulating the natural movement of a fox across the countryside* (http://www.mfha.org.uk/hunting/notes-on-trail-hunting), it is not surprising that there are numerous reports of packs of foxhounds hunting, and killing, foxes (Slaska, 2017).

3.1.2. In addition to the risk of hunting live quarry, trail hunting with some form of fox-based scent will have a significant impact on the behaviour of wild foxes. Foxes mark their territories with urine: they deposit four to ten scent marks per kilometre of travel (Henry, 1980; Goszczyński, 1990). A study using a commercially available fox urine from America (as purportedly used by fox hunts for trail hunting) found that male foxes shifted their home range boundaries towards areas marked with the artificial scent, spent more time in areas marked with the artificial scent, and searched a greater percentage of their home range each night after the artificial scent had been applied. Female foxes showed no significant spatial or behavioural response to laying artificial scents (Arnold *et al*., 2011). The use of fox-based scents will also have had a significant impact on the behaviour of other wildlife: increased fox activity in response to the scent trails that are laid, and the fox odours themselves, reduce the activity of potential prey species and cause them to avoid areas with increased predator activity and/or scent marks (e.g. Dickman & Doncaster, 1984; Rosell, 2001).

3.1.3. On 21 August 2017, the National Trust announced that it intended *Banning the use of animal-based scents as a trail for hounds or beagles to follow*. The Trust said that this change *will reduce the risk of foxes or other wild animals being accidentally chased* (https://www.nationaltrust.org.uk/features/our-position-on-trail-hunting). However, continuing to allow hounds to trail hunt i.e. follow trails laid *through hedgerows and woods and along ditches* to simulate the natural behaviour of a fox (http://www.mfha.org.uk/hunting/notes-on-trail-hunting) will mean that hounds continue to find, and chase, foxes and other species. Where the trails are laid is as much of a concern as the type of scent that is used. When hunting in dense cover, hounds will encounter a wide range of species. While the prey drive varies between breeds of dogs, many, *especially the hunting breeds …. instinctively give chase …. on seeing a small animal running away from them* (Bradshaw, 2011). It is impossible to prevent this occurring because packs of hounds operate out of sight of the huntsman for extended periods, sometimes a considerable distance from the huntsman (http://blencathrafoxhounds.co.uk/recent/Barry%20at%20Peterborough.mp4).

3.1.4. While the Countryside Alliance and the Council of Hunting Associations make it clear that *hounds will continue to hunt the scent of their normal quarry during the temporary ban so that they remain focused on their normal quarry* (Anon., 2005b), it is unclear whether trail hunting by itself is a suitable interim activity until the ban on hunting wild mammals with dogs is reversed. A key aim of trail hunting is to keep the hounds content (http://www.council-of-hunting-associations.co.uk/category/Legal_activities). However, it is essential to keep hounds working live quarry *for their mental wellbeing as well as their natural instinct and working qualities* (North Westerner, 2017).

3.1.5. Hunting dogs can be trained to identify and respond to different scents (Browne *et al*., 2006) but organisations and individuals who used to hunt live quarry maintain that it is not possible to use an artificial scent for trail hunting. This is because, while hounds will follow an artificial scent, they do not respond in the same way as when they hunt live quarry. Following the introduction of the Hunting Act 2004, the licensing agreement between the Forestry Commission (FC) and the MFHA contained a commitment for hunts to convert from using animal-based scents to artificial scents in licensed trail hunting (Matt Fox, personal communication, 14 December 2011). However, in 2007 the New Forest Foxhounds wrote to the FC saying that they had *experimented with …. essence of valerian and something called "gamestay". We then tried various fox-based scents, such as fox urine, red fox gland scent and the liquid from "marinated" fox carcasses. Initially hounds would not "speak" to these either. …. Gradually a few hounds started to hunt the line giving us the opportunity to experiment further with these three alternatives, all of which were mixed in varying degrees with paraffin wax or cooking oil. …. Experience we have gleaned from other hunts is that most of them are using fox based scents and if they use geranium or some other essence it is primarily added to a carcass they are dragging, it is not a "stand alone" scent.*

3.1.6. Following receipt of this report, Joan Ruddock MP, the Parliamentary Under Secretary – Climate Change, Biodiversity and Waste (who had responsibility for the FC), wrote to Robbie Marsland (the UK Director of IFAW) on 23 October 2007 to say that *The scent recommended to their members by the MFHA, with Forestry Commission approval, has been Red Fox. The Commission has asked the hunts to endeavour to convert to a chemical only scent, but trials, particularly by the New Forest Hunt, have been unsuccessful*. *The Forestry Commission is not aware of any hunt that has successfully transferred to chemical-only based scents*. …. *It would seem that the only way to achieve a complete switch to chemical scents is to require a replacement of the foxhounds with hounds more adaptable to an artificial scent. This would need to be done over a period of years, and would require a major change in the structure of the hunt packs*. Thereafter the FC dropped the conversion clause from the licences they issued to hunts (Matt Fox, personal communication, 14 December 2011).

3.1.7. A decade later, it appears that there has been little progress with conversion to artificial scents for trail hunting. A kennelman working with northern packs of hounds reports that fox hunts have found it a *challenge to lay a trail scent that will excite hounds enough to freely give mouth, baying as they hunt the line, very often at great speed*

(North Westerner, 2017). Products such as aniseed and *cooked liver that has been allowed to go off for a few days* and *soaked in water* cause the hounds *to speak a little but not to any great effect*. …. *The very best scent I have seen, that actually excites hounds so much they fly and speak very well indeed, is fox urine diluted with water*. While *adding a little vegetable oil to the mix …. will give the scent a more holding quality* (i.e. reduce the rate of evaporation), it *will not make the scent stronger* (North Westerner, 2017). Neil Salisbury, secretary of the Central Committee of Fell Packs, said *Using artificial scent would take years for hounds to get use to* (Jones, 2017).

3.1.8. While fox hunts continue to maintain that it is not possible to use an artificial scent for trail hunting because the hounds do not speak and it would take years to train the hounds to hunt an artificial scent, the MDBA says that *The English Foxhound makes an excellent Drag Hound …. who love to follow a drag line and also to bay – there is nothing more thrilling …. than to hear a pack of Foxhounds pick up the scent of the laid line and voice their excitement and enthusiasm* (http://www.mdbassociation.com/about-us/). It is difficult to understand the basis for this dichotomy of opinions. It is unclear why the National Trust announced on 21 August 2017 that they will be *Banning the use of animal-based scents as a trail for hounds or beagles to follow* when the groups that trail hunt maintain that this is not an option for foxhounds, although it is for beagles, *which are notorious for hunting anything* (New Forest Foxhounds, report to the Forestry Commission, 2007).

3.1.9. Even if fox hunts do not use a fox-based scent on National Trust land, in view of the difficulties they have reported when trying to use artificial scents, it seems highly likely that they will continue to use fox-based scents everywhere else. It is difficult to understand how packs of hounds can be trained to follow different scents when operating on and off National Trust property. Dogs have to be trained to ignore any scent other than the one they are being schooled to follow. So when training foxhounds to hunt a trail using an artificial scent, it is also essential to train them to ignore all other scents, including those of foxes. This is not a realistic option if hunts continue to use animal-based scents when not operating on National Trust land, and if they have to continue hunting live quarry as opportunities arise (North Westerner, 2017). So the change announced by the National Trust will have, at best, minimal impact on the number of foxes and other animals that are chased and/or killed by hounds on their property. In fact, Neil Salisbury, secretary of the Central Committee of Fell Packs, said *Using artificial scent would …. mean more accidents; if* [the hounds] *don't stick to the trails, they're more likely to chase something else* (Jones, 2017).

3.1.10. Foxes are canids (members of the dog family) and any artificial scents that are used for trail laying are likely to be equally attractive to foxes as they are to dogs. The impact of using artificial scents on the behaviour of wild foxes is currently unknown, as are the effects on other wildlife. While *odours control and guide the behaviour of animals and some of their physiological processes …. in manifold ways* (Stoddart, 1980), these are still poorly understood.

3.2. Impacts of dogs on wildlife

3.2.1. Irrespective of the scents used for trail hunting, dogs have a variety of impacts on wildlife: these have become a major focus of research in recent years. Dogs interact with wildlife as predators, prey, competitors, and disease reservoirs or vectors, and can have a dramatic impact on species of conservation concern (Vanak & Gompper, 2009; Young *et al*., 2011). However, most studies have been into the impacts of free-ranging (feral) dogs or of dogs being exercised either on or off the leash (Gompper, 2014). There have been few studies into the impacts of free-running hunting dogs on wildlife, but see Sastre *et al*. (2009). In the absence of quantified data, it seems reasonable to assume that packs of hunting dogs will have effects somewhere between those of dogs being exercised and feral dogs.

3.2.2. *Dogs have the potential to interact with wildlife in a multitude of ways …. their influences on wildlife are complex and nuanced* (Gompper, 2014). A review of studies worldwide found that the main interactions between domestic dogs and wildlife were, in order, predation on wildlife, disease transmission, wildlife disturbance, hybridization and predation on dogs by wild carnivores (Hughes & Macdonald, 2013). *The presence of dogs triggers strong and diverse responses by wildlife* (Gompper, 2014), and *The mere presence of a predator in an environment can affect prey in subtle, sublethal, indirect, yet apparently deleterious ways* (Weston & Stankowich, 2014).

3.2.3. *The scant evidence available implies broad and potentially significant effects* on wild mammals (Weston & Stankowich, 2014). In Colorado, for instance, a comparison of wildlife activity in areas that prohibited domestic dogs with areas that allowed dogs to run freely but under *voice and sight* control found that deer activity was significantly lower in proximity to trails where domestic dogs were allowed. This effect extended for at least 100 metres off the trail. Small mammals showed lower levels of activity within 50 metres of trails in areas where dogs were allowed. These findings have *implications for the management of natural areas …. that allow dogs off-leash* (Lenth *et al*., 2006).

3.2.4. In California native carnivore species richness was 1.7 times greater, and the relative abundance of coyotes and bobcats over four times greater, in sites not open to the public compared to those where dogs were allowed, either on or off the leash (Reed & Merenlender, 2011). In Australia dog walking in woodland led to a 35% reduction in bird diversity and a 41% decline in abundance (Banks & Bryant, 2007). Thus the use of dogs in conservation areas has a dramatic impact on the distribution and density of wildlife.

3.2.5. The impact of disturbance by dogs and people on wildlife and conservation was highlighted in Britain during the 2001 outbreak of foot-and-mouth disease because public access to large areas of the countryside was prevented or restricted for much of that year. Even in this relatively short period, there were very obvious changes in the behaviour of wildlife (Robertson *et al*., 2001). These included *ground nesting birds nesting nearer to footpaths and birds, deer and rabbits much more visible and utilizing*

'public' areas. Absence of dogs was more frequently cited as a probable cause than absence of people per se (Small *et al*., 2002). These effects were particularly apparent in areas normally subjected to high pressure from dogs and people. For instance, in the New Forest Martin Noble, the Forestry Commission Chief Keeper, said that *Keepers reported unsurpassed numbers of ground nesting waders such as lapwing, successfully hatching off broods in places such as Balmer Lawn. In other years the presence of people and dogs usually drives the adults away, leaving the nests vulnerable, either to the dogs or to crows* (https://www.forestry.gov.uk/pdf/FootandMouthDisease.pdf/$file/FootandMouthDisease.pdf).

3.2.6. Most studies to date have focussed on mammals and birds, although *dog disturbance is also likely to occur to many reptilian and amphibian species* (Weston & Stankowich, 2014). However, *A key information gap …. is differentiating the extent to which disturbance is a welfare issue, primarily impacting individual animals, and the extent to which it is a conservation issue, reducing viability of wildlife populations* (Weston & Stankowich, 2014). In addition to behavioural changes, there is a growing body of literature on the physiological changes that occur in response to disturbance by dogs. In combination they cause population-level effects by lowering habitat quality and thereby reducing carrying capacity (Weston & Stankowich, 2014).

3.2.7. Dogs evoke some of the most dramatic responses among wildlife because canids instinctively hunt wildlife and so dogs may be perceived as particularly threatening (Gabrielsen & Smith, 1995; Weston & Elgar, 2007). *A limited number of studies have addressed the ways in which the presence of unrestrained hunting dogs affects the habitat use and ranging behavior of wildlife species*. *Some species, including non-target species, avoid areas in which the presence of dogs is apparent …. Other species are reluctant to alter their home ranges or use of habitats when exposed to dogs* (Koster & Noss, 2014). Unrestrained dogs are particularly threatening because they *often move 'unpredictably' (i.e., their direction and speed varies frequently) and sometimes harass wildlife, traits that do not promote 'habituation' …. Rather, these attributes promote 'sensitization' or enhanced response frequencies or intensities with increasing exposure to stimuli* (Weston & Stankowich, 2014). However, there are no good data that differentiate the disturbance risks to wildlife posed by visual cues, barking and scent marking by dogs (Weston & Stankowich, 2014).

3.2.8. While *more information is needed on disturbance caused by unaccompanied dogs* used for hunting and herding (Weston & Stankowich, 2014), it is clear from the data available that allowing free-running packs of dogs (often 20-plus animals) to hunt on National Trust land will have a significant effect on wildlife conservation and the quality of the habitat, irrespective of the scent that is used to lay trails and whether animals are actually hunted by the dogs.

3.2.9. It is also important to remember that hunting with dogs is *an 'unselective' method of hunting, partly because dogs can indiscriminately attack prey, including juvenile animals, females with young, or non-target species before hunters are able to*

intervene and *the effect of hunting with dogs on the mortality of non-target species* may be underestimated (Koster & Noss, 2014). Whether or not hunts are trail hunting in National Trust land, they hunt animal-based scents and animals elsewhere, and hunting dogs instinctively chase and hunt animals they encounter (Bradshaw, 2011).

3.2.10. In addition, studies worldwide have shown that there is ongoing conflict between those who desire unconditional access for dogs versus those who want access to be limited or controlled (Iojă *et al*., 2011) and compliance levels with various restrictions on the use of dogs on areas on conservation concern are generally limited (Miller *et al*., 2014). The review by Slaska (2017) shows that this is also true for hunts in Britain. Failure to apply with restrictions on their use is one of the reasons why *natural parks and reserves in many parts of the world prohibit owned dogs* (Weston & Stankowich, 2014).

3.3. The use of terriers

3.3.1. Terriers are routinely taken out by fox hunts that claim to be trail hunting, despite the very specific conditions under which they can be used (paragraph 2.3.1). In their Inquiry, Lord Burns and his team concluded that *We are satisfied that the activity of digging out and shooting a fox involves a serious compromise of its welfare, bearing in mind the often protracted nature of the process* (Burns *et al*., 2000). Why the National Trust permitted terriermen and their vehicles on their property for 12 years after the Hunting Act 2004 came into effect is unclear since it has always been clear that they *have no practical purpose on a trail 'hunt'* (https://www.nationaltrust.org.uk/features/our-position-on-trail-hunting).

3.3.2. There appears to be no information on the number of foxes killed by hunts on National Trust land in the twelve years since fox hunting became illegal, nor how many were killed by terriermen, so it is not possible to estimate the impact this has had on the conservation objectives of the National Trust. This is of particular concern since terriers are routinely entered to badger setts (Slaska, 2017), and digging is a key part of terrier work (paragraph 2.3.19). Furthermore, over the last twelve years there appears to have been low levels of compliance/frequent breaches of the *Licence for trail hunting and exercising of hounds* issued by the National Trust, in part because the National Trust did not monitor or enforce their licence conditions (Slaska, 2017).

3.3.3. Since the National Trust's *Licence for trail hunting and exercising of hounds* already prohibited taking and parking vehicles on National Trust land (Schedules 11 and 12), the use of terriers (Schedules 25.1 and 25.2) and the National Trust's byelaw 2.(a) (Schedule 5 of the licence required hunts *in particular to comply with the National Trust Bylaws*) states that *No unauthorised person shall dig, cut or take turf, sods, gravel, sand, clay or any other substance on or from Trust Property*, it is hard to see why the National Trust announced on 21 August 2017 that their new policy will *Prohibit the use of terriermen …. and the use of their vehicles*. Contrary to the National Trust's announcement, this is not *introducing changes in the way we licence trail 'hunts'*.

Whether it means that henceforth the National Trust will be monitoring and enforcing their licence conditions remains to be seen.

3.4. Effects of hunting with dogs on wildlife

3.4.1. There is no utilitarian value to hunting foxes with packs of hounds, which has no impact on population size because it takes place during winter, when there are large numbers of dispersing foxes (Rushton *et al*., 2006; Lieury *et al.*, 2015). In Britain hunting with hounds was banned from 23 February to 17 December 2001 due to foot-and-mouth disease. There were also significant restrictions on access to the countryside, and so it is likely that other forms of fox control were also curtailed. Despite these widespread restrictions on fox control, fox numbers across Britain as a whole did not increase but actually declined by 4.7% (Baker *et al.*, 2002). Changes in fox numbers did not differ between areas that were and were not hunted by packs of hounds (Baker *et al.*, 2002).

3.4.2. A study that looked specifically at the effects of gunpacks (packs of hounds used to flush foxes to waiting guns) on fox numbers in commercial forests in Wales found that, even though roughly twice as many foxes were killed in the winter of 2003/2004 as had been present in autumn 2003, by spring the losses had been replaced by immigration. Furthermore, the more foxes that were killed in the winter, the higher the population in the spring (Baker & Harris, 2006). This supported the findings from an earlier study in Scotland; the more foxes that were killed in winter (October to March), the higher the spring breeding population in three of the four areas being studied (Hewson, 1986). Killing foxes in winter does not reduce the spring breeding population, and appears to prevent the natural decline in fox numbers that occurs in the spring (Dorning & Harris, 2017).

3.4.3. This may seem counter-intuitive but is due to the large number of non-resident foxes that visit territories and then move in to compete over the vacancy. Studies in Bristol found that a fox that died was typically replaced within four days (Baker *et al*., 2000; Potts *et al*., 2013). The loss of a key member of a fox social group can have a particularly dramatic impact on group dynamics and the number of animals resident on, and exploring, the territory: when the dominant male died in a social group in Bristol in summer 2014, 26 other foxes were recorded on the territory, and it took nine months for the group size to return to normal, which only occurred after a new male had established itself as dominant (Dorning & Harris, 2017). Group cohesion is important to regulating fox populations locally and “pest control” can lead to an increase, not a decrease, in fox numbers. Similar events have been recorded in other species of carnivore (Harris, 2015).

3.4.4. One of the aims of cub hunting was to disperse the fox population (paragraph 2.4.5); it started from late July to early September, depending on the part of the country and state of the harvest, and finished at the end of October: the main hunting season opened in November. In their submission to the Burns Inquiry, the MFHA said *It was traditionally referred to as "cub-hunting" but that is a misleading title, as young foxes*

are nearly fully grown by the time autumn hunting begins, so are no longer cubs. They are self sufficient and independent of their vixen, although they may still be living in family groups (http://www.huntinginquiry.gov.uk/evidence/mfha.htm). In fact, foxes are still cubs until virtually the end of cub/autumn hunting: based on their biology, growth and development, Harris & Trewhella (1988) defined foxes as being cubs until the end of September in their first year, and sub-adults from October to March.

3.4.5. While the MFHA states that a key aim of cub/autumn hunting from August onwards is to disperse the fox population and break up family groups, fox cubs would not normally disperse until later in the year. A study in Bristol (a fox population not subjected to hunting pressure) found that dispersal occurred mainly among sub-adults (not cubs), with most foxes dispersing between November and January in their first year, although some did not disperse until their second year (Harris & Trewhella, 1988). This suggests that, during cub/autumn hunting, fox hunts disrupted fox family groups three, or more, months before they would disperse naturally.

3.4.6. The impact of fox hunts breaking up family groups early on fox behaviour, population dynamics and other wildlife is currently unknown. However, it clearly causes erratic behaviour in the individual. Lloyd (1980) described the movements of a sub-adult fox fitted with a radio-collar on its natal range in November. It was subjected to excessive disturbance from people trying to recapture it to replace its collar, but this did not cause it to leave its home range or change its behaviour significantly. However, *Each of its four major movements occurred shortly after encounters with hounds*, even when the hounds did not actually hunt the collared fox. While the disruption to the fox's behaviour cannot be directly attributed to the activity of fox hunts, the fact that a variety of disturbances did not induce dispersal movements suggests that the mere presence of hounds has a dramatic impact on the behaviour of foxes.

3.4.7. There are extensive data showing that widespread fox control has no effect on fox predation levels on livestock e.g. see White *et al*. (2000). There have been a number of studies looking at livestock losses to various carnivores across the world, and an analysis combining data from 28 of these found that, while efforts to manage the impacts of predators invariably concentrate on attempts to reduce predator numbers, livestock losses appear to be unrelated to predator density (Graham *et al*., 2005). So trying to reduce predator numbers does not make sense when trying to reduce losses of livestock.

3.4.8. There are few data on the effects of the population perturbation associated with fox population control on predation levels. However, there is growing evidence that predator control can actually enhance livestock, and hence economic, losses. Some of the best data come from a 25-year study of livestock losses to wolves in Idaho, Montana and Wyoming. This showed that predation levels were higher the year following wolf control; the odds of livestock losses increased by 4% for sheep and 5-6% for cattle with increased wolf control until mortality reached unsustainable levels (Wielgus & Peebles, 2014). These authors recommended that lethal control of individual problem wolves may be necessary in the short-term, but that non-lethal

alternatives should be considered.

3.4.9. While it may appear counter-intuitive that livestock losses are increased, not reduced, by predator control, there are several possible explanations. It may be due to the disruption of the social groups (paragraph 3.4.3), so that the animals that move in are less familiar with where to find wild prey, or are less able to hunt wild prey, or the increased number of animals that move in to contest the vacant space leads to higher livestock losses. Of course, these may all be contributory factors; more research is needed to understand the adverse effects of "pest control" on predation on both livestock and species of conservation concern, and the impact on other wildlife generally.

3.4.10. Brown hare populations in England and Wales declined by 80% in the first part of the 20th century (Hutchings & Harris, 1996). In the mid-1990s the spring population in Britain was around 817,500 adults (Harris *et al*., 1995); in light of the significant decline in the earlier part of the century, brown hares were included as a priority species in the first list of UK biodiversity action plans. The objectives and targets for brown hares were to *Maintain and expand existing populations, doubling spring numbers in Britain by 2010* (Anon., 1995). This target was not achieved: brown hare populations declined by 12% between 1996 and 2015 (https://www.bto.org/volunteer-surveys/bbs/latest-results/mammal-monitoring).

3.4.11. When hunting hares with packs of hounds was legal, basset, beagle and harrier packs in England and Wales combined killed an estimated 1650 hares per season (Burns *et al*., 2000). This was 0.3% of the spring population in these two countries (Harris *et al*., 1995; Hutchings & Harris, 1996), and so direct mortality from packs of hounds had no impact on population size. However, there were significant impacts on the spatial distribution of brown hares. Beaglers were aware that, if a particular area was hunted too often, the hares would move out because of *excessive disturbance* (Hobson, 1987).

3.4.12. There were also long-term impacts of hunting with dogs on hare behaviour. Hares flushed earlier from their forms in areas where they were hunted with beagles (Hutchings & Harris, 1995). While an earlier flight initiation distance would help a hare avoid/escape from packs of hounds that hunt by scent, it has an energetic cost and puts the hare at risk from other predators (Hutchings & Harris, 1995; paragraph 3.4.13). So hunting with packs of hounds, irrespective of mortality levels, led to changes in the learned behaviour of hares.

3.4.13. There may also have been subtle population-level impacts that were more difficult to detect. Since hares start breeding in January (paragraph 2.6.3), trail hunting poses two risks to leverets. First, hounds hunt indiscriminately and mortality of young animals is often underestimated (paragraph 3.2.9): leverets are extremely vulnerable to being found and killed by packs of hounds. Secondly, increased levels of disturbance will enhance their overall risk of predation. Leverets spend the day scattered and lying

immobile and are only nursed for a few minutes once a day, at dusk, when they are least likely to be detected by diurnal and nocturnal predators. Their urine, excreted during nursing, is licked up by the doe. This behaviour is an adaptation to minimise the risk of predation (Broekhuizen & Maaskamp, 1980). Disturbance during the day by packs of hounds will enhance the risk of leveret, and adult, predation, which can have a significant impact on brown hare populations (Erlinge *et al*., 1984; Schmidt *et al*., 2004; Reynolds *et al*., 2010). Allowing hounds to trail hunt in areas with brown hares will continue to have the same adverse impacts as hunting live quarry.

3.4.14. In Northern Ireland, the three packs of beagles and seven packs of harriers mostly hunt Irish hares, which are believed to have undergone a significant population decline: disturbance by dogs is a contributory factor (paragraph 2.8.4). Continuing to hunt hares with packs of dogs is likely to have the same impacts on Irish hare populations as for brown hares in England and Wales.

3.4.15. While *Exempt Hunting*, as practised by the three packs of staghounds from August to April, is not currently licenced on National Trust land, the hunts appear to operate regularly on National Trust (Slaska, 2017). The disturbance issues and impacts on other wildlife apply equally to stag hunts.

3.4.16. It is unclear whether mink hunts are licenced to hunt on National Trust land but apparently do so (Slaska, 2017). Because they operate through the summer, and use both terriers and packs of hounds to hunt waterways, riparian and other habitats and refuges unselectively, they have a particularly significant impact on a diversity of wildlife, most of which is breeding when mink hunts operate. The otter is a European Protected Species, and the Conservation of Habitats and Species Regulations 2010 (as amended) make it an offence to deliberately disturb otters or damage or destroy a breeding site or resting place used by otters (https://natural resources.wales/guidance-and-advice/environmental-topics/wildlife-and-biodiversity/european-protected-species/otters/?lang=en). Even if the actions described in paragraphs 2.7.6, 2.7.8 and 2.7.9 are not deliberate, it is hard to see how mink hunts are not knowingly disturbing breeding sites and/or resting places used by otters. Water voles are fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 and are a priority conservation species: it is illegal, for instance, to *damage, destroy or block access to their places of shelter or protection (on purpose or by not taking enough care)* and to *disturb them in a place of shelter or protection (on purpose or by not taking enough care)* (https://www.gov.uk/guidance/water-voles-protection-surveys-and-licences). It is hard to see how the activities of mink hunts do not damage and/or disturb water voles and/or their refugia.

3.4.17. Similarly, the Wildlife and Countryside Act 1981 *makes it an offence (with exception to species* [of birds] *listed in Schedule 2) to intentionally …. take, damage or destroy the nest of any wild bird while that nest is in use or being built …. and destroy an egg of any wild bird*. For birds listed on Schedule 1 of the Act (which includes a number of riparian species), *there are additional offences of disturbing these birds at their nests,*

or their dependent young (http://jncc.defra.gov.uk/page-1377). While mink hunts may not be destroying the nests and eggs of wild birds intentionally, by hunting packs of hounds and terriers through riparian nesting habitats in the bird breeding season, it is hard to see how mink hunts are not knowingly disturbing nesting birds and destroying bird nests and/or their eggs.

4. Conclusions

4.0.1. The National Trust manages *more than 250,000 hectares* (over 2500 square kilometres) *of countryside* in England, Wales and Northern Ireland (https://www.nationaltrust.org.uk/features/our-position-on-trail-hunting). This is approximately 2% of the area of non-urban land in these countries, and so the way the National Trust manages their land has the potential to influence wildlife and conservation in the wider countryside. Their land also has the potential to act as refugia for wildlife, since the majority of the British countryside is already managed for field sports. *Shooting is involved in the management of two-thirds of the UK's rural land area* (https://basc.org.uk/wp-content/plugins/download-monitor/download.php?id=1052) and all of rural England and Wales is covered by one or more packs of hounds.

4.0.2. Prior to its revised statement issued on 21 August 2017, the National Trust's position was that it *is very much aware of the importance of countryside traditions*, and that it allows *field sports to take place on* [its] *property where traditionally practised* (http://www.huntingact.org/news/national-trust-bans-fox-hunt/). Trail hunting (whatever scent is used), hound exercise as practiced after the Hunting Act 2004 came into effect, mink hunting, and using packs of dogs for falconry, to catch rats and rabbits, to pursue wild animals for research and observation, and to retrieve hares that have been shot, are all modern inventions, not traditional field sports. Mink hunting was invented in the 1970s following the decline in otter numbers, and all the other undertakings were invented as temporary activities after the Hunting Act 2004 came into effect. Since these activities are neither *countryside traditions* nor *traditionally practised* (http://webcache.googleusercontent.com/search?q=cache:https://www.nationaltrust.org.uk/features/our-position-on-trail-hunting), it is unclear why the National Trust issues licences for these activities to be undertaken on their property.

4.0.3. The Hunting Act 2004 was designed to end hunting wild mammals with dogs. However, an independent reviewer and an analysis of hunt monitoring reports for over 4,000 days' hunting, covering the majority of hunts in England and Wales, both concluded that trail hunting is a guise illegal hunting. On 21 August 2017 the National Trust announced that they would be *Probing the track record of each hunt* (https://www.nationaltrust.org.uk/features/our-position-on-trail-hunting). It is unclear whether this will include establishing whether hunts really are trail hunting.

4.0.4. While cub/autumn hunting has been renamed hound exercise/training, the practice remains essentially the same: young hounds are trained to hunt foxes and fox cubs are killed/dispersed. Prior to the Hunting Act 2004, hounds were exercised on open roads

and in open countryside. The Board of Trustees' response to members states that *conservation and looking after the special places in our care must always be our top priority*. Since the Countryside Alliance and Council of Hunting Associations say that trail hunting *has no utilitarian value to farmers* and does not *contribute towards wildlife management or habitat conservation*, it is unclear why the National Trust allows *special places* to be used for trail hunting and hound exercise/training when there is no shortage of other land available for these activities.

4.0.5. The National Trust's *Licence for trail hunting and exercising of hounds* says that the Licensee is *bound by* [the] *rules and regulations …. of the Masters of Foxhounds Association or the Council of Hunting Associations*. However, neither organisation has produced rules and regulations that specify how trail hunting or hound exercise/training should be undertaken following the implementation of the Hunting Act 2004. In particular, there are no rules and regulations that instruct hunts on how to avoid hunting live quarry or on the use of terriers when trail hunting. The absence of any rules and regulations makes it extremely hard to monitor trail hunting and hound exercise/training and decide when hunts are in breach of their licence conditions.

4.0.6. Trail hunting was specifically designed to keep hounds focussed on hunting their normal quarry i.e. wild mammals, until the Hunting Act 2004 could be repealed. However, the underpinning rationale for trail hunting is no longer relevant. None of the hounds alive today were born when it was legal to hunt live quarry. So, should the Hunting Act 2004 be repealed, all the foxhounds alive today will need to be retrained to hunt wild mammals. The same applies to packs of beagles, harriers and minkhounds. Since the key function of trail hunting has now been negated, it is unclear why the National Trust continues to licence this activity.

4.0.7. Schedule 20 of the *Licence for trail hunting and exercising of hounds* issued by the National Trust requires that *trails are laid and marked using scent which is either to be artificial or legally procured fox urine*. Since foxhunters have maintained that artificial scents cannot be used for trail hunting, and no legally procured fox urine was available for much of the period following the implementation of the Hunting Act 2004, the inescapable conclusion is that hunts have been in breach of the licences issued by the National Trust for most or all of the last twelve years.

4.0.8. On 21 August 2017 the National Trust announced that it plans to continue to licence trail hunting but ban *the use of animal-based scents …. following an in-depth review of* [their] *current processes and procedures* (https://www.nationaltrust.org.uk/features/our-position-on-trail-hunting). The Board of Trustees' response to members says that using fox-based scents *is not a prerequisite for a fulfilling, legal trail hunt*. This statement is surprising since hunting organisations and individuals have consistently maintained that trail hunting with artificial scents is not an option for fox hunts, although it appears to be an option for packs of beagles. It is hard to see how the National Trust's *in-depth review* has considered all the available information or understand how the National Trust has decided that henceforth it will licence fox hunts to trail hunt on their land

using artificial scents.

4.0.9. This assessment is reinforced by the Countryside Alliance's response to the National Trust's revised position statement. They said that the National Trust's *in-depth review* did not involve consultations *with any of the individual licence holders or the associations that represent them*. The Countryside Alliance describes *some* [of the changes] as *impractical* (http://www.countryside-alliance.org/countryside-alliance-condemn-proposed-changes -national-trusts-trail-hunting-policy/).

4.0.10. In their response to members, the Board of Trustees' state that *artificial trails are regularly and successfully used by drag hunts.* This argument is confusing two very different activities. As the MFHA states, *draghunting and trail hunting ….are poles apart.*

4.0.11. Contrary to the Board of Trustees' response to members, changing the scents used for trail hunting will not reduce *the potential for accidental fox chases*, for two reasons. First, since the hunting organisations maintain that it is impossible to trail hunt with artificial scents, it seems inevitable that fox hunts will continue to use animal-based scents when trail hunting everywhere else. If so, there is no basis to believe that fox hunts will not continue to chase foxes and other wildlife on National Trust land. Second, hunting dogs instinctively give chase when they see a small animal running away from them, and it is impossible to prevent this occurring because packs of hounds often operate out of sight of the huntsman for extended periods and sometimes a considerable distance from the huntsman. So changing the scent trail used on National Trust land will, at best, have minimal impact on the effects of packs of hounds on wildlife and conservation.

4.0.12. The National Trust is continuing to licence trail hunting and hound exercise/training on their property despite the strong body of scientific evidence to show the negative impact this has on wildlife and conservation. Scent trails based on fox urine have a significant effect on the behaviour of wild foxes, particularly males, and predator odours have a significant impact on the distribution and behaviour of a variety of potential prey species. It is less clear how artificial scents will affect the behaviour of other wildlife. Scents that attract dogs are also likely to affect the behaviour of foxes, and changes in fox behaviour and movements will adversely affect the behaviour and distribution of other wildlife. The direct effects of artificial scent trails on other wildlife is less clear, but since mammals use odours to communicate, and odours affect their physiological processes in a variety of ways, it is likely that artificial scent trails will also influence the behaviour of wildlife.

4.0.13. While the Board of Trustees' response to members states that *There is no current evidence from our properties that trail hunts are any more or less damaging to conservation than many other outdoor pursuits that we license*, the scientific evidence shows that this is not the case. The mere presence of dogs triggers strong and diverse responses by wildlife and can affect prey in a variety of subtle, deleterious ways.

Unrestrained dogs, particularly packs of hunting dogs, are particularly threatening because of their unpredictable movements, which promotes sensitisation rather than habituation by wildlife. So the more often that unrestrained packs of dogs operate on National Trust land, the greater the impacts on wildlife. Licensing hunting dogs to operate on their land is incompatible with the charitable objectives of the National Trust i.e. *the preservation (as far as practicable) of …. animal and plant life*.

4.0.14. Schedule 25.1 of the National Trust's *Licence for trail hunting and exercising of hounds* required the licensee *To ensure that if any hounds in the exercise of these Rights inadvertently chase a fox into an earth hole that the fox is not injured, killed or otherwise disturbed by the Licensee or anyone authorised by the Licensee to exercise the Rights and the Licensee must not permit or allow third parties to do the same.* Schedule 25.2 also required the Licensee *To immediately report to the police and the Nominated Person any person attempting to injure, kill or otherwise disturb the fox chased into the earth hole referred to in clause 25.1*. Since their licence conditions already banned the use of terriers, it is unclear why the National Trust announced on 21 August 2017 that, *following an in-depth review of our current processes and procedures*, they would *Prohibit the presence of terriermen, who have no practical purpose on a trail 'hunt', and the use of their vehicles* (https://www.nationaltrust.org.uk/features/our-position-on-trail-hunting). It is even more puzzling that the Board of Trustees' response to members says that terriermen *are **now*** [my emphasis] *a redundant element: we will no longer permit their presence*. Since terriermen were already banned by the National Trust, the inescapable conclusion is that this "change" of policy has been necessitated by a failure of the hunts to comply with their existing licence conditions.

4.0.15. Compliance levels with restrictions on the use of dogs on areas of conservation concern are generally limited; this appears to have been the case with hunts operating on National Trust lands and elsewhere since the Hunting Act 2004 came into effect (Slaska, 2017). It is unclear how the proposed changes to the National Trust's licensing conditions will increase compliance levels. Low levels of compliance with restrictions on the use of dogs in conservations areas has been a key factor necessitating a ban on dogs in natural parks and reserves in many parts of the world.

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