

FINAL REPORT

Food Hygiene Regulation in the Scottish Wild Game Sector

Part I

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*Part I :
Review of the
implementation
and enforcement
of food hygiene
regulations in
the Scottish wild
game sector*

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Review of Food Hygiene Regulation in the Scottish Wild Game Sector

Executive Summary

This review has been commissioned by Food Standards Agency Scotland and compiled by SAC (now SRUC). The aim was to review the implementation and enforcement of food hygiene regulations in the Scottish wild game sector. The work was conducted by examining the food supply chains for wild game and interviewing 45 stakeholders involved in different aspects of the industry including enforcement officials, hunters, gamekeepers, approved game handling establishments and other food businesses. The authors acknowledge the candid discussions held with interviewees and are extremely grateful for the assistance of all involved.

The research has identified that the implementation of the EU food hygiene regulations in 2006 have been largely beneficial and the report focuses upon certain areas where improvements may be made or confusions need to be addressed. We ask that the different stakeholders involved consider the implementation of our targeted recommendations as we believe that the diverse interests and stakeholders involved in the wild game sector may use the recommendations to:

- *Understand and confirm their roles in the supply of wild game as a Scottish food product,*
- *Stimulate enterprise and promote their businesses, and*
- *Protect public health.*

We have also prepared a larger document (Food Hygiene Regulation in the Scottish Wild Game Sector: Literature Review) that is a more complete description of the Scottish wild game sector. We know that many readers will already have considerable understanding of the subject and may wish to focus their attention to the sections of the review where we have presented evidence from our interviewees and investigations and identified areas of concern with associated recommendations that are detailed in the following report. We trust this construction of a literature review and a shorter report will help readers achieve an efficient and comprehensive understanding despite possibly different starting positions.

Finally, the recommendations are intended to assist the wild game sector to interpret the regulations and to minimise risks. We trust that stakeholders will recognise their involvement with the recommendations and will work together on their development and implementation. The desire to mitigate, control and monitor these risks should strengthen consumer confidence in wild game and we hope that the industry will find this work useful in supporting the cultivation and promotion of wild game as a safe and healthy Scottish food product. The recommendations are as follows.

List of Recommendations

- 1** Education for all hunters supplying collecting agents and processors of wild game, should emphasise that the hygienic standards of food depend upon cleanliness, plus the establishment and maintenance of the cold chain. The education of deer-stalkers through Deer Stalking Certificates and SNH 'best practice' events should be developed and providers must ensure that their training courses are relevant for, and extended to, those shooting feathered game.
- 2** That an educational programme is developed by FSAS for AFOs on the consistent application of the regulations in the wild game sector.
- 3** That FSAS guidance should emphasise the requirement for all wild game operators that (i) are processing carcasses and supplying meat, or (ii) are supplying game to AGHEs, to register with their LAs regardless of their scale of supply.
- 4** That LAs and trade bodies educate FBOs on the requirements for FBO registration and the value of LA advice and inspections.
- 5** That LAs ensure registration of collecting agents, which are not AGHEs, as FBOs and with the guidance of FSAS become active in the examination of the collecting agents operational standards.
- 6** LAs in the process of the registration of FBOs capture data regarding the scale of business so as to inform the LAs risk analyses. These figures will permit the LAs to determine FBOs that are supplying the greatest volume, and if collected at a national level may provide evidence to clearly define small scale supply.
- 7** The OV requires assistance from FSAS and from their employers to achieve a consistency of approach in interpretation of required standards and the identification of appropriate best practice measures to handle risks.
- 8** That FSAS work with the LAs and AGHEs to identify simple means to improve the traceability and veracity of their supply chains.
- 9** That FSAS discuss with SNH and other stakeholders the feasibility and value of SNH issuing tags for all carcasses that enter the supply chain to permit deer carcass traceability, and simultaneously, identification of the scale of trade through regulatory exemptions.
- 10** That FSAS revises the Wild Game Guide to eliminate areas of confusion and clarify the complexity of hygiene regulations for FBOs and LAs.

Introduction

The management of wild game is a vital component in shaping Scotland's landscape and maintaining its communities. The sector delivers considerable environmental, economic, and health benefits. Much of the provision of wild game as food is through the continued use of traditional methods of production, processing and distribution, yet the procurement of meat from wild game is necessarily very different from the supply chain associated with domesticated animals.

EU food hygiene legislation is applied across the UK and has been implemented in Scotland by The Food Hygiene (Scotland) Regulations 2006 (SSI 2006/3) that came into force on 11 January 2006. This legislation encompasses the EU food hygiene regulations: Regulation 852/2004 on the hygiene of foodstuffs; Regulation 853/2004 laying down specific hygiene rules for food of animal origin for food business operators which supplement those of Regulation 852/2004; and, Regulation 854/2004 that relates to the organisation of official controls on products of animal origin intended for human consumption.

Vital to the operation of the food hygiene regulations are a variety of individual regulatory exemptions. These are described in greater detail in the literature review but as they encompass both scale and the route of supply some knowledge of their hierarchy is important to any reading of our report.

Firstly, the legislation considers the hunting of wild game as primary production and the private domestic consumption of wild game is unregulated. It is also permissible to supply small quantities of wild game that has undergone no processing other than that of hunting practice under the 'in-fur/in-feather' regulatory exemption; but it is a requirement that the primary product must be supplied direct to the final consumer or to local retailers that directly supply a final consumer. Such suppliers are not regarded as a food business under the regulations though they are responsible for supplying safe food.

Individual hunters, or those active in a hunting party, may use the 'hunter's' exemption to supply direct to the final consumer and/or to local retailers, small quantities of wild game meat with exemption from developing into an Approved Game Handling Establishment (AGHE). Similarly, those operating a retail outlet may be exempted under the 'retail' exemption from the obligation to become an AGHE if supplying wild game directly to the final consumer, or if the supply is marginal, localised and restricted (all three criteria must apply) under the 'retail to retail' exemption.

The Food Standards Agency (FSA) is the competent authority for the EU food hygiene regulations in the UK. FSA is an independent non-Ministerial

Government Department set up in 2000 by the Food Standards Act 1999 to protect public health and consumer food interests. FSA in Scotland (FSAS) is part of FSA, funded through the Scottish Government budget. As our work was conducted in Scotland we refer primarily in our report to FSAS, except where the authority is better identified as FSA if there is a UK responsibility. FSAS oversees enforcement activities conducted by local authorities and others in Scotland, with the powers of default and direction in case of serious failure in the delivery of enforcement.

The enforcement authorities are expected to apply the legislation proportionately and consistently and food hygiene legislation is structured so as to ensure that the appropriate level of public health protection is in place without placing unnecessary burdens on businesses. The primary legal responsibility for ensuring food safety rests with food business operators¹ and these (except primary producers e.g. farmers, growers and hunters) are required to implement and maintain a permanent procedure, or procedures, based on Hazard Analysis Critical Control Point (HACCP) principles. These rules and procedures are intended as a sound basis for ensuring food safety.

Research aims

This review has been commissioned by FSAS with the aim of determining how effective, proportionate and consistent is the application and enforcement of the food hygiene regulatory framework that operates in the Scottish wild game sector and to define, where necessary, how it may be improved.

The objectives were:

- i). To review the current enforcement regime in the Scottish wild game sector, by critically appraising and synthesising evidence from primary and secondary sources, collected through 45 interviews and a literature review.
- ii). To estimate the scale of the unregulated part of the industry compared to the regulated one, and in turn, assess the food safety risks in relation to the scale, economic and environmental importance of the Scottish wild game sector.

¹ For legislative purposes **'food business'** means any undertaking, whether for profit or not and whether public or private, carrying out any of the activities related to any stage of production, processing and distribution of food, and **'food business operator (FBO)'** means the natural or legal persons responsible for ensuring that the requirements of food law are met within the food business under their control.

- iii). To identify gaps in the current enforcement regime (e.g. confusions and difficulties with respect to the exemptions and irregularities in the provision of wild game).
- iv). To identify when and where collaboration exists with respect to food hygiene and its regulation, and where stakeholders gain knowledge, identifying and addressing knowledge gaps.
- v). To develop and propose interventions or changes to ensure and facilitate effective, consistent and proportionate food hygiene enforcement in the Scottish wild game sector, which protects public health and the prosperity of the sector.

Methodology

To examine the current enforcement regime in the Scottish wild game sector the project carried out a review of published information relating to the wild game industry and the food hygiene regulations. This included academic and scientific papers, statutory documents, official reports and reports of industry-related organisations and relevant web pages. This secondary evidence provided a context for the research, in terms of the nature of the industry and particularly in the application of food hygiene regulations. The literature review, whose findings are published as an annex (Food Hygiene Regulation in the Scottish Wild Game Sector: Literature Review) guided the subsequent gathering of primary evidence.

Following the literature review, the issues implicit in the project's scientific objectives were identified and a questionnaire was piloted in six face to face interviews² before a further 39 interviews were held with industry stakeholders. These included: landowners and land managers (4); game collecting agents (1); AGHEs (9); butchers (2); a supplier to a farmers' market (1); other industry-related organisations (5); FSAS staff or contractors (6); and Local Authority staff (11)³. The interviews were

² Animal Health and Welfare Division from the Rural Directorate of Scottish Government; Royal Environmental Health Institute of Scotland; British Association for Shooting and Conservation; Scottish Food Quality Certification; Natural Resource Division of Scottish Government.

³ The questionnaires were tailored to the various types of interviewees. For those involved in wild game production, processing and distribution the questionnaire topics covered: their involvement with the wild game sector including sourcing of animals/meat and the nature and scale of their operations; attitudes to food hygiene and safety; understanding of the hygiene regulations and exemptions, and their related business practices; interaction with FSA and hygiene inspectors; knowledge of the nature and scale of unregulated trade. For industry-related organisations and those charged with the regulation of hygiene, questions related to: their knowledge of and involvement with the wild game sector and its practices; as well as the conduct of hygiene regulation and their experiences in relation to the application of hygiene regulations and regulatory exemptions. The authors may be contacted for further details of the questions posed.

recorded and from these seventeen major interviews transcribed, with notes taken from all remaining recordings.

The analysis of the interviews involved collation of the responses to the identified issues, with common and conflicting responses recognised along with causal factors. Wherever possible, linkage between the findings of the primary interviews and the findings of the literature review has been made.

The work has gathered evidence and considered the hazards from the consumption of wild game in the context of risk management and where the risks arise if the existing legislation is not enforced. Implicit in this assessment is that the hazard (the threat to public health) is considered along with its likelihood and its potential impact.

This approach is supported by statements from interviewees who argued that the regulations should be commensurate with the risks that are weighted to their potential impact and likelihood. Respondents spoke of the risk being higher where the scale increases with volume.

Structure of Review

The review contains a summary of our findings on the food hygiene regulations and their application through the supply chain for wild game in Scotland and these findings are described in the following sections referred to as the report.

The report has been constructed by synthesis of the interview findings with additional information taken from the literature review. The report assesses the wild game sector in Scotland, describes food safety risks that may arise, provides evidence of the scale of the unregulated part of the industry compared to the regulated part, and examines the implementation of the food hygiene regulations in the Scottish wild game sector, with an overview of industry standards and drivers for change.

The report confirms that the food hygiene regulations put great emphasis upon self-regulation. It is our view that this is correct but our work has allowed us to identify certain difficulties associated with businesses involved in wild game supply chains. In the implementation of the regulations (section 5) we identify specific confusions and difficulties (section 5v) and towards the end of the report (section 8) we identify the operational areas that we perceive as having the potential to create greatest risks and argue how these may be mitigated. For each of the operational areas we develop recommendations that are proposed to the stakeholders so that they may respond to ensure and facilitate effective,

consistent and proportionate food hygiene enforcement in the Scottish wild game sector, with the aim of protecting public health and the prosperity of the sector.

For convenience the report is structured in 10 sections. The sections are:

1. Food Hygiene Regulations that Apply to Wild Game in Scotland,
 2. Hazards Arising from the Consumption of Wild Game,
 3. The Scottish Supply Chain for Wild Game,
 4. The Scale of Wild Game Production in Scotland,
 5. Implementation of the Regulatory Regime for Wild Game Supply,
 6. Industry Standards – Self-Regulation,
 7. Drivers for Change,
 8. Conclusions and Recommendations,
 9. List of the Recommendations,
- Appendix 1 – Revision of the Wild Game Guide.

Acronyms used in the report

AGHE	Approved Game Handling Establishment
ADMG	Association of Deer Management Groups
AFO	Authorised Food Officer
BASC	British Association for Shooting and Conservation
BDS	British Deer Society
BRC	British Retail Consortium
DCS	Deer Commission Scotland
DMG	Deer Management Group
DSC1	Deer Stalking Certificate level 1
DSC2	Deer Stalking Certificate level 2
FBO	Food Business Operator
FSO	Food Safety Officer
FSA	Food Standards Agency
FSAS	Food Standards Agency Scotland
FC	The Forestry Commission
HACCP	Hazard Analysis Critical Control Point
HNC	Higher National Certificate
OV	Official Veterinarian
REHIS	Royal Environmental Health Institute Scotland
SFQC	Scottish Food Quality Certification
SFLG	Scottish Food Liaison Group
SGA	Scottish Gamekeepers Association
SNH	Scottish Natural Heritage
SQWV	Scottish Quality Wild Venison
SVQ	Scottish Vocational Qualification.

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Report of the food hygiene regulations and their application throughout the supply chain for wild game in Scotland

1. Food Hygiene Regulations that Apply to Wild Game in Scotland

The philosophy behind the food hygiene regulations is to prevent, eliminate or acceptably control contamination of food, but not to avoid all risks as this is neither possible nor desirable. The underlying principle is a belief that private modes of self-regulation are more desirable than public modes and indeed many interviewees identified the positive impact that the implementation of Regulations 852/2004, 853/2004, and 854/2004 have had on raising hygiene standards in the Scottish wild game sector.

The neoliberal approach of food hygiene regulations puts great emphasis upon self-regulation, but UK food hygiene law and enforcement implementation was historically based upon a prescriptive command and control style that was heavily dependent on state systems whilst overlooking the responsibilities of food businesses. It is apparent from the interviews that for small businesses, of which there are a considerable number and diversity in the wild game sector, their knowledge and understanding of self-regulation is stretched and their capacity for self regulation is limited. Our interviews indicate that many small businesses still rely on prescriptive guidance on how to apply the hygiene regulations.

Comments received from the majority of interviewees in the wild game industry, and by authorised food officers (AFOs) and Food Standards Agency in Scotland (FSAS) inspectors, are generally supportive of the hygiene regulatory regime. In their opinion, the legislation does not require an overhaul but there is room for improvement in relation to implementation. However, few interviewees were able to give a full and accurate account of the Food Hygiene Regulations that apply to the supply of wild game. We gather that primary issues that relate to the regulations' implementation are: the complexity of each individual regulatory exemption, the parallel requirements of other laws, insufficient activity of AFOs, the industry's low recognition of their roles and responsibilities as food business operators (FBOs), and poor identification of wild game food businesses (greater detail on these issues is available in section 5 'Implementation of the Regulatory Regime for Wild Game Supply').

2. Hazards Arising from the Consumption of Wild Game

Wild animals were widely perceived by many interviewees to be healthier than intensively farmed animals and the industry considers the health risk of food poisonings from wild game to be low. Public health authorities in

Scotland cannot be absolutely confident regarding the risk of food poisonings arising from consumption of wild game, because of the nature of their surveillance, but they have no record of any food borne disease outbreaks that can be definitively traced back to this source. Wild game is reared in extensive conditions, with some anecdotal evidence for the occurrence of salmonella or campylobacter, but generally the view expressed by respondents is that wild game is of a low biological hazard, is likely to be thoroughly cooked, and has not been found to carry significant pathogens or to be identified as causing food poisonings.

However, interviewees gave strong evidence that the greatest hazard from consumption of wild game meat relates to handling procedures after killing, where hygienic standards are difficult to sustain in the wild. Key hygiene factors that are widely recognised as necessary to prevent proliferation of contaminating organisms to dangerous levels are cleanliness at the kill, hygiene during transportation and storage, and establishment and maintenance of the cold chain.

For wild game, evidence suggests that these hygiene related operations not only have significant practical difficulty, but also their necessity is often misunderstood. In our assessment, the exposure to contamination at source is common and will be dependent upon the standards and practices of the hunter as well as the logistical problems of shooting and carcass retrieval in more remote terrain.

The consideration of hazards has also taken account of emerging problems and although no respondent identified an emergent hazard, the report's authors consider that such analysis should include infections that have not been identified in the UK, but where serious human illness might emerge. For example, a transmissible spongiform encephalopathy such as Chronic Wasting Disease prevalent in N. American deer, or *Echinococcus multilocularis*, might be introduced to Scottish wild game. Formal surveillance schemes for wild life disease are unlikely to be viable and certainly do not exist at present. Therefore detection of novel infections must be through passive monitoring with emphasis placed upon the hunter to report unusual findings and for the training of hunters to include possible emergent diseases. Some interviewees suggested that hunters being taught what is normal and encouraged to report deviations from normality is not a satisfactory approach, but it is considered that this approach is both practical and simple since the identification of abnormalities is too wide-ranging and exhaustive and beyond the scope of reasonable training.

3. The Scottish Supply Chain for Wild Game

The research mapped three routes of Scottish wild game supply to the final consumer. These routes have a historic basis that informed the drafting of the food hygiene regulations and these since their enactment have in turn shaped and further defined the industry's supply chains. However, it should be noted that within these supply routes there is considerable variability since there is a large number, and a great diversity of, suppliers.

Route 1: Supply from estates passing primarily through Approved Game Handling Establishments

This supply route typically begins with sporting estates shooting predominantly red deer, some roe in woodland, sika in the North or West of Scotland, or game birds. The bulk of the primary production goes to an Approved Game Handling Establishment (AGHE), directly or through collecting agents, and the product of AGHEs enters the local/domestic market with a significant part exported. Exports are typically: red stags (e.g. in rut), most roe deer, and a large proportion of the game birds. Both the collecting agent and AGHE are required to be licensed venison dealers⁴ and the AGHE is required to maintain records of the wild game supply passing through the establishment. An increasingly common variation of this route of supply is for wild birds to be processed by AGHEs and the game meat from birds returned to the estates to be sold at local markets or by mail/internet sales.

Estate shooting is primarily by gamekeepers or guests, and in Scotland it is unlikely that guests of the estate will buy or be given the deer carcass, although they may receive the head. The private transfer of feathered game is more likely, though a transfer of venison to guests may happen during the hind season in the winter. Individuals shooting for a week may buy hind carcasses that should be recorded under the venison dealer's licence, but it appears that some of these sales may be unrecorded.

⁴ According to the Deer Commission for Scotland, "any person who sells, offers or exposes for sale, or has in his possession, transports or causes to be transported for the purpose of sale at any premises, any venison, shall be guilty of an offence unless he is a licensed venison dealer, or he does the act constituting the offence for the purpose of selling to a licensed venison dealer, or he has purchased the venison from a licensed venison dealer." Available online: http://www.aberdeenshire.gov.uk/online/licenses/venison_Guidance_Notes.pdf

The British Association for Shooting and Conservation (BASC) estimates that 90% of the wild game birds shot in Scotland follow this first route of supply.

In addition to sporting estates, the Forestry Commission (FC) or private forestry companies, established by individuals or syndicates, will control deer numbers to prevent deer causing browsing damage. The FC has built modern, hygienic larders and indicates that approximately 90% of their supply goes to an AGHE. Some private forestry companies operate like the FC with sub-contracted stalkers and larders supplying AGHEs.

Route 2: Supply from estates to the final consumer or retailers under the 'in-fur/in-feather' exemption or 'hunter's' exemption

This route, which may pass through an estate larder, is for in-fur/in-feather wild game or wild game meat supplied directly to the final consumer or to local retailers under the 'in-fur/in-feather' exemption or the 'hunter's' exemption respectively, and where local retailers supply the meat to the final consumer. An estate may consist of independent areas or 'beats' with a basic larder(s). Larger estates may cull 500 head a year. Larger, well-equipped larders may serve as a collecting centre for all the 'beats', and this 'larder to larder' movement builds consignments with storage in refrigerated conditions and may include some processing. The estate requires a venison dealer's licence for their sales.

Estates shooting between 50 and 150 birds a day tend to sell to farm shops/catering outlets, farmers' markets or through mail/internet sales. This scale of shooting is below the typical threshold of 200-300 birds a day that would be worthwhile for supply to an AGHE and exceeds the private consumption needs of a hunting party. BASC report that there is no information on the numbers of shoots of 50 or fewer birds a day and the destination of sales is unknown, but they are assumed to go to private consumption.

Forestry companies may have leaseholders with individuals or syndicates as sporting tenants. The supply from leaseholders is very variable with some delivered in accord with Route 1 direct to an AGHE. Leaseholders are increasingly holding a venison dealer's licence in their own right to sell locally up to approximately 40 carcasses a year (a typical volume suggested by interviewees) under the 'in-fur/in-feather' or the 'hunter's' exemption. Their customers tend to be local pubs, restaurants, butchers or individual consumers.

Scottish Natural Heritage (SNH) has tried to estimate the scale of unreported sales and of private consumption through the private forestry companies. Anyone selling venison needs a venison dealer's licence,

whether it's the hunter, butcher or estate, and this legal requirement stands for both approved and exempt wild game establishments. SNH is required, by the Deer (Scotland) Act 1996, to account for the size and density of the deer populations in Scotland and SNH, with LAs who issue the venison dealer's licences, ask dealers for an annual cull return of the number of deer killed and a return of all purchases and receipts of venison. The Wildlife and Natural Environment (Scotland) Act 2011 repealed the Game Licences Act 1860 and the Game Act 1831, and abolished the game-licensing regime that was a parallel dealer's licence for game.

However, SNH reported that there is no legal requirement for venison dealers to provide returns and so they hold incomplete information. It also takes considerable effort and cost for SNH to inspect the records of smaller units. Therefore, in theory the scale of venison sales is collected in the venison dealers' returns, but it is recognised that not all leaseholders or sub-contractors are registered as venison dealers and not all the returns are accurate. One interviewee indicated that the venison dealer's licence serves a useful purpose in closing off outlets for poachers but offers little benefit to establishing the scale of the deer cull.

Route 3: Supply from informal recreational shooting

Recreational shooting on farms or small properties may involve an individual with a sporting lease and a few friends to help. Often the landowners are not involved in the shooting and the agreements may be informal arrangements where individual guns are hunting a variety of game species including those that are stalked like roe deer or are driven, such as pheasant, partridge or duck, or may be species such as pigeon or rabbits that are shot for pest control purposes but which then enter the food supply chain.

There is little or no dressing of game birds in the field and recreational stalkers may cull less than five large game a year that require dressing. For roe deer the carcass dressing⁵ is carried out in the field but it is notable that these recreational hunters do not usually have access to a larder. Sometimes, during spring and summer, game carcasses may be hung in small refrigerators.

Recreational stalkers tend to work independently, but occasionally deliver and sell to an AGHE those carcasses that are surplus to private consumption. It is expected that as the price of venison increases there

⁵ Dressing means to remove the pluck, head, legs etc., in which case all large game will be dressed, unless left on the hill.

will be a growing pressure on recreational stalkers to sell locally under the 'hunter's' exemption, rather than to AGHEs, in order to get a better price and save on transport expenses. Individuals selling carcasses do not always have the required venison dealer's licence; so are unidentifiable and the scale of their sales is unknown.

In large part, for roe deer, stalkers process the carcasses and give the venison to friends, or increasingly with confidence from best practice guidance, sell it under the 'hunter's' exemption. Consequently, fewer roe deer carcasses are passing through AGHEs but the trends are unknown for the reasons stated above.

Leaseholders in this third route differ from leaseholders in the case of private forestry companies as they: (i) shoot in smaller woodland properties, (ii) cull relatively smaller numbers of large wild game (maximum 10 carcasses per year, compared to the 40 carcasses culled in the second route), and (iii) most importantly lack access to facilities such as the larders of private forestry companies.

4. The Scale of Wild Game Production in Scotland

The opinion of many interviewees was that there are no accurate data on the complete scale of wild game production in Scotland and the numbers and volume that are traded outside AGHEs are officially unclear. However, we consider it important that any assessment of food safety risks is made in relation to scale and therefore available data have been used to make some estimates of wild game production in Scotland. We include a description of our caveats to these figures and we later produce recommendations that are intended to bring greater clarity to the situation.

To estimate the scale of wild deer production, the cull and venison returns^{6,7} to SNH may be used to complement the headage data collected by FSAS from AGHEs. The returns for the annual deer cull show a total of 100,000 deer shot in Scotland per annum, with 60,000 red deer and

⁶ There is a statutory requirement for all owners/occupiers that cull deer in Scotland to submit cull returns to SNH. The information required is the number and sex of each species of deer culled between 1st April and 31st March of each year. All Licensed Venison Dealers in Scotland are requested by SNH to submit their records of all purchases and receipts of venison for the period 1st April to 31st March each year.

⁷ The currently collected data on the cull and venison returns are subject to a number of limitations identified by the Deer Commission Scotland (DCS)' report (2008a), including inaccurate information, incomplete records, lack of information on domestic consumption, SNH's lack of enforcement on smaller venison dealers (e.g. local sales) etc.

30,000 roe deer forming the majority (DCS, 2007a, 2010). Generally, the venison returns (DCS, 2007a, 2010) reveal 70,000 to 80,000 traded carcasses. Venison dealer is a broader category than AGHEs, and these figures may therefore include those operating under regulatory exemptions. The 20 to 30% difference between cull and venison returns gives a crude estimate of the domestic consumption of wild deer and unrecorded numbers of deer processed. This difference between the two returns may not accurately represent the numbers used for private consumption as the venison returns are incomplete and, most importantly, the actual total deer cull is unknown⁸. In particular, as discussed in section 3, those individuals trading venison of individual carcasses do not always have the required venison dealer's licence, which is especially the case for roe deer. For these reasons, this estimate of 20 to 30% of culled deer comprises private consumption as well as some additional trade by regulatory exemption or that is possibly illegal.

This supply of wild game outside the approved channels (i.e. AGHEs) may involve local or mail/internet sales under regulatory exemptions, the supply for private consumption and game that is killed and traded illegally. Further information is provided by DCS which draws on BASC surveys and the cull and venison returns. This suggests that private domestic consumption varies between 16 to 38.5% of shot game, depending primarily upon deer species and region (DCS, 2007a). In addition, there are figures from a PACEC report (2006a) that surveyed participants in the UK where on average 36% of game was consumed by shooting participants in 2004. In Scotland, with a preponderance of the heavier red deer and a larger number of professional stalkers, this would suggest that a major element of the 20 to 30% difference between cull and venison returns is accounted for by domestic consumption of wild deer.

⁸ Munro (2002) suggested that the cull returns represent approximately 16-17% of the total free-living red deer populations, and that "the roe cull is probably significantly higher than that included in the returns and the actual population is almost certainly in excess of 200,000" (2002, p. 15).

Table 1: AGHEs throughput of game meat, on a headage basis, in UK and Scotland 2010/11 (FSA, 2012).

Category	UK	Scotland
Other Ruminants up to and including 18kg	53,579	23,981
Other Ruminants over 18kg	71,442	39,478
Small game birds & ground game weighing less than 2kg	3,678,781	676,317
Small game birds & ground game weighing 2-5kg	362,596	11,405
Small game birds & ground game weighing over 5kg	845	277
Wild Boar	26	0

With respect to the volume of trade passing through AGHEs, the UK and Scottish headage throughputs of wild game meat in 2010/11 are shown (Table 1). Although the figures available are for different years, 2009/2010 for cull (i.e. 90,738 deer) and venison returns (i.e. 71,397 deer) and 2010/2011 for AGHEs' throughputs (i.e. 63,459), a simple extrapolation suggests that 70% of cull returns and 89% of the deer numbers in venison returns pass through AGHEs. If 3,450 tonnes of wild venison is produced (ADMG, 2012) then approximately 2,415 tonnes (70% of 3,450) of venison per annum is the product of AGHEs.

Interviewees estimate that around 15% of deer shot in Scotland does not go through approved channels, i.e. AGHEs, and is supplied locally or by mail/internet sales under regulatory exemptions. The estimation for the trade of wild game birds outside approved channels was similar. Additionally, almost all respondents agreed that the scale of trade in wild game outside approved channels in Scotland is increasing.

In interview, an SNH representative was prepared to put trust in the cull and venison return figures for red deer, sika and fallow deer, as these species tend to be culled by large estates. However for roe deer, which are frequently handled by those trading meat of individual carcasses, there was no such confidence.

In summary, the estimations suggest that 89% of venison recorded through venison returns passes through AGHEs, and in theory a major part of 20 to 30% of culled deer may be consumed privately. However, as the individuals trading venison do not always have the required venison dealer's licence, and as the scale of their sales is unknown, the additional trade by regulatory exemption or that is possibly illegal is unclear. In section 5v is discussion of the confusions that are at the heart of this

problem, and in recommendation 6 we identify the means to obtain greater clarity on the volumes of venison and other game meat that is traded through FBOs.

Our estimation for the trade of wild game birds outside approved channels was by a similar process but was handicapped as there is no game-licensing regime equivalent to that for venison returns. Figures for the supply of feathered game shot in Scotland have been extrapolated from the PACEC survey (2006a). Within the UK they recorded approximately: 15 million (m.) pheasants; 3.6 m. pigeons; 2.6 m. partridge; 0.97 m. duck; 0.40 m. grouse; 0.25 m. woodcock and snipe; and 47,000 geese shot in 2004. Of these birds, the survey participants reported that on average only 44% were sold to game dealers (either processed or unprocessed) and the balance were consumed by the shooting provider or taken away to be used for private consumption (PACEC, 2006b). There were estimated to be 47,000 hare and 590,000 rabbits amongst the small mammals shot in 2004 (PACEC, 2006a).

We infer that as Scotland has approximately 15% of the total gun days of the UK and a similar percentage of shooting providers, then there may be 2,250,000 pheasants; 540,000 pigeons; 390,000 partridge; 145,500 duck; 60,000 grouse, and 37,500 woodcock and snipe, plus 7,050 hare and 88,500 rabbits shot in Scotland per annum. However, Scotland has a higher preponderance of some of these species, such as grouse, which undermines these estimations (PACEC, 2006a). Despite this concern, if 44% of the 3.5 million small game pass through a game dealer in Scotland, that would provide an upper estimate of just over 1.55 million game birds and ground game moving through AGHEs and FBOs operating under regulatory exemptions. For 2010/11, the recorded throughput of small game birds and ground game by Scottish AGHEs was 688,000 and this represents approximately 20% of the total small game bag passing through game dealers and by extension, 24% of small game birds and ground game pass through Scottish FBOs under regulatory exemptions.

In conclusion, the total volume of wild game entering the food chain is unclear, and the trade through food hygiene regulatory exemptions is only based on reasoned estimates, with no accurate measures of poached game or of the complete trade. Whilst reliable total numbers are unknown, we do believe that the available figures for venison suggest that the numbers of killings in comparison to the 2.5 million beef, pig and sheep slaughterings are small, the individual numbers of game birds shot are modest compared to the tens of millions of chickens produced for meat production and that AGHEs play a significant part in the trade of wild game meat.

However, three important issues arise from the lack of knowledge of the industry's scale:

- *It is not known who is involved in food production from wild game and to what extent the players acknowledge their role as food producers.*
- *The numbers of wild game passing through the FSA approved channels i.e. AGHEs, and some of the numbers passing through trade channels under the hygiene regulatory exemptions are known, but the total numbers involved in the trade outside approved channels are unknown.*
- *A defined limit of 'small scale', that is a requirement for interpretation of the food hygiene regulations as discussed in Section 5, does not have an evidence base.*

5. Implementation of the Regulatory Regime for Wild Game Supply

The regulatory regime operates throughout the food chain in a comprehensive manner but for clarity this section has separated its findings into subsections that include an examination of: (i) producers' attitudes, (ii) producers' processes, (iii) the inspection regimes, (iv) roles of the regulatory authorities, and (v) complexities and confusions in implementation of the food hygiene regulations.

(i) Producers' attitudes

The introduction of the food hygiene regulations has contributed to the improvement of hygiene standards in the Scottish wild game sector. However, a key issue is that the shooting of wild game is for land management or sporting purposes. Consequently wild game is often seen as a by-product and, with the perception that the risk of illness from wild game is low, may lead to those involved not recognising or accepting their role in food supply or their duties as FBOs.

The regulatory exemptions are regarded as vital for the survival of small-scale wild game operators, as they cannot afford the associated costs of approvals. However, it should be noted that the food hygiene regulatory standards include minimums that apply to these exempt operators and they are always responsible for supplying safe food. By the nature of the regulations it is considered that those operating under the various regulatory exemptions should be of small scale and where the exemptions are applied properly then these businesses should be of a low threat to public health.

Thus, in theory, an exempt establishment should not pose a risk to public health as it should comply with the General Food Law, Regulation 178/2002 when claiming the 'in-fur/in-feather' exemption, and Regulation

852/2004 when claiming the 'hunter's' exemption or the 'retail' and the 'retail to retail' exemptions. In reality, the risks from the consumption of wild game should be controlled as all suppliers (even exempt ones) are still regulated.

Interviewees acknowledged benefits from the regulatory exemptions with the protection of small businesses and economic activity in rural areas, the removal of export barriers thanks to direct sales in Europe, and a general increase of demand as exempt direct sales allowed people to appreciate the taste of venison or small game. Direct sales to the final consumer from hunters are claimed by some interviewees to ensure the closest traceability and therefore the highest standards in terms of hygiene and quality of the product. In terms of illegal trade, it was argued that the situation has improved and that the regulations are helping because of the regulatory requirement for a trained hunter's involvement in any supply to AGHEs.

The regulatory exemptions should thus permit exempt businesses to survive, but not allow unfair competition or pose threats to the viability of wild game in the food industry. However, AGHEs do not regard the hygienic standards of exempt establishments to be as highly developed as their own and expressed considerable concern that a public health incident could have a direct financial impact on their businesses. The feedback from AGHE operators was that illegal supply from non-approved wild game operators is widespread and that it poses a risk to the industry and represents unfair competition. Whether it is true that illegal supply is widespread or not, it is impossible to judge as the figures for trade outside approved channels and not captured in venison returns are unavailable.

Both AFOs and FSAS inspectors reported that when they requested concrete evidence about breaches of hygiene requirements or unfair competition, nothing more than anecdotal evidence was given, limiting their ability to take enforcement action.

Uncertainty in the scale of trade that is passing through exemptions creates a perception of unfair trading *vis a vis* AGHEs' activity, which may be real or a misconception. Many large AGHEs raised concerns about the scale and regulatory exclusion of those claiming the 'hunter's' exemption or the 'retail' and 'retail to retail' exemptions, with some requesting a full extension of the scope of Regulation 853/2004 to those exempted. This view is perhaps indicative that Regulation 852/2004 Article 5 (1) requiring food producers, other than primary producers, to have in place a food safety management procedure based on HACCP principles, and to maintain records to meet the traceability requirements of Regulation 178/2002, has been forgotten or overlooked by the industry.

We believe that FBOs have a profound appreciation of the economics of their businesses, are proactive and will introduce changes in their production system if these reduce costs or add value to their product, but otherwise may seek to undermine the requests for such changes. Irrespective of their scale, the risk management responsibility rests with FBOs who are free to determine the most appropriate amongst alternative methods for meeting the regulatory objective of 'supplying safe food'. Literature and some interviewees suggest that self-regulation is generally most suited to large⁹, well-informed and well-resourced companies and in other situations can lead to disagreements with regulators. However, interview respondents indicated that in the wild game sector AFOs and FSAS inspectors find it easier dealing with FBO's that have a hygiene system in place and already appreciate its added value. This was considered to depend on the educational level of the operator and less on the size of the business.

It is clear that wild venison and small game trade cannot easily be standardised due to the great diversity of primary product. As neither the industry, nor the EU hygiene regulations are prescriptive, the interpretation of required standards and appropriate measures to handle risks rest with individual businesses, which is in line with the neoliberal approach of self-regulation of FBOs. For enforcement bodies this is a barrier to consistency and for FBOs it poses a difficulty, as they may not have the resources or expertise to identify the hazards and appropriately manage the risks.

It is therefore considered important that players in the supply of wild game should be more familiar with regulatory requirements, and that those operating by regulatory exemption are assisted with the risk-based approach of the food hygiene regulations.

⁹ This argument is supported by the literature (Hutter and Amody, 2008; Wilson et al., 2010). The affordability of extra compliance costs related to hygiene requirements may be proportionally higher for smaller or medium-scale operators than larger establishments (Wilson et al., 2010). Small businesses, including those handling wild game in Scotland, experience difficulties in implementing HACCP, due to limited resources, a lack of technical expertise, few trained staff in food hygiene and high staff turnover rates (Wilson et al., 2010). Larger businesses tend to have access to better information, specialist internal resources and/or access to external support. They may also have more effective management structures, better documentation and hygiene policies in place when compared with smaller businesses. Overall, Wilson et al, (2010) conclude that smaller FBOs are more likely to have poor understanding, awareness of, and in turn compliance with hygiene requirements, though business size is not the only factor determining the degree of compliance.

(ii) Producers' processes

Maintaining hygienic standards of wild game presents considerable problems as culling, gralloching and transportation from the hill take place in an open environment. The key factor for hygienic standards of wild game is establishing and maintaining the cold chain, but this is difficult in practice and there is evidence that its operation is misunderstood. Hygienic preparation of larger carcasses in the field is fraught with difficulties, where the washing of hands in hot water may be impossible or the wearing of gloves for dressing may be ignored.

It should be a fundamental principle of food hygiene to cool a carcass quickly or for it to be moved to a cold place and then for the cold chain to be maintained. Temperature control is a generic means of food-pathogen control irrespective of the extent of the hazard or of the species of food animal involved. Legislation requires that chilling of the carcass should begin within a reasonable period after killing. That the regulation avoids specifying the time between shooting and chilling is regarded as right in principle, and we consider that this should be continued as long as individuals understand the scope of the regulation and that temperature control is a key means of controlling biological threats.

Respondents indicated that in the late 1990's the emphasis was placed on wild game operators improving their standards and in establishing refrigerated storage conditions and they felt that since then there had been substantial improvements. Though we recognise there are very considerable differences in handling of game birds and small wild game compared to large wild game, it is notable that some interviewees mistakenly said that it is a good practice to allow carcasses to cool down slowly to ambient temperature. Important differences in working practices with large game were reported that also influence the cold chain. Some hunters take deer carcasses after gralloching to the larder, cut the head and legs off and put it straight into a chill. Others store the carcasses overnight in a holding area after a long day on the hill, and transfer them to central refrigerated storage the next day. Others on shooting red deer in a remote glen may be forced to leave the gralloched carcass on the hill overnight and night shooting by contractors for forestry companies may result in shot deer being picked up over the following days.

Whilst an increasing number of larders have improved their hygiene standards these are still not uniform and there is a considerable possibility of wild game being stored in non-refrigerated larders.

In the wild game sector it is difficult, if not impossible, for the primary producer to affect the environmental conditions and the standard of their primary produce, and interviewees have argued that there are practical difficulties and associated costs of applying the required food hygiene

standards. The regulations require systems to identify hazards, control measures and critical limits, to monitor and record procedures, and take corrective actions appropriate to the size and nature of the business. However, it is felt that every business is different, so achieving consistency has proved difficult for both FBOs and enforcement bodies with considerable variations in the interpretation of compliance reported to us.

Some estates are understood to have a direct relationship with collecting agents and it appears these are increasingly being used but their role in the supply chain is opaque. Interviewees suggested that 10% of supply going to AGHEs is through collecting agents. It is alleged that collecting agents frequently put good carcasses through AGHEs so as to command a better price, whilst the poorer quality carcasses, that may potentially pose a human health risk, bypass the system of official inspection and enter the food chain through regulatory exemptions.

Collecting agents may have their own processing operations, in which case they have to be approved by FSAS as an AGHE. However, they may collect carcasses for themselves, on behalf of other larger AGHEs or exempt retail outlets and if not involved in processing they are not required to be approved as AGHEs.

There is widespread concern within the wild game trade that collecting agents' standards are variable and this is perceived as a weak link in the regulatory regime. In particular, respondents distinguished between the category of collecting agent that is working for a specific AGHE and those collecting agents who sell carcasses to various processors in response to offered price. This latter type of collecting agent is considered the most problematic part in the supply chain, where there are issues for traceability and maintenance of the cold chain. It was suggested in interviews that that this type of operator is small in number but involved in annually trading a total of 7,000 to 8,000 deer carcasses.

We were frequently informed that although most collecting agents have refrigerator vans and units, some have a disregard for temperature control since they mix carcasses at different temperatures, place carcasses in heaps, with few of their vehicles transporting carcasses on hanging rails. The argument given against hanging carcasses was that it raises the vehicle's centre of gravity and leads to instability on hill roads.

It is reported that the time on the road is unchecked and trade with poor traceability may extend beyond Scotland's borders. An example that was given by one interviewee was to refer to collecting agents picking up carcasses from Northern Ireland or the Republic of Ireland, then travelling through Scotland and collecting from various Scottish estates before delivering to Scottish AGHEs. The same agents on return pick up

carcasses, particularly of roe deer, from Scottish estates for sales to Ireland.

Traceability is central to the proper implementation of HACCP by AGHEs. The legal requirement is for large wild game to be accompanied by a numbered declaration that must be attached and signed by the trained person, but for small wild game no declaration is required except a report of abnormalities. Both large and small AGHEs have made significant efforts with traceability and we recognise the difficulties that are presented by the nature of the wild game supply chain. However, an important point presented to us is that it is not always possible to work out from a load in a collecting agent's van where carcasses come from, or whether some or all of the carcasses or pieces are going to their own premises or to other AGHEs or exempt retail outlets. It was also suggested that the drivers of collecting vans may sign trained hunter's declarations.

(iii) The inspection regimes

a) Local authority implementation of the regulations

We consider that a key issue in the implementation of the food hygiene regulations is the evidence for a lack of consistency in the enforcement activity of LAs in relation to the wild game sector.

In general, the AFOs of LAs do not perceive wild game as high risk and therefore in their risk assessments give a low priority to visits to wild game premises and place a greater emphasis on the inspection of ready to eat foods, take-away outlets and restaurants that handle raw and cooked food.

Enforcement in the wild game sector is considered by AFOs to be sufficient for the risks involved, as wild game is a raw material that will be further processed and cooked thoroughly. This is confirmed from the very low percentage of the total enforcement activity that wild game represents for all LAs included in this research, which was reported to be from 1-2% to no more than 5% of activity. Sometimes, wild game establishments are classified as category E in LAs' risk scoring system, which means that these establishments can be regulated without inspection.

A number of AFOs interviewed said that their engagement with the wild game sector is limited to issuing venison dealer's licences, which is related to the legality of trading rather than hygiene standards. It is also apparent that some LAs in Scotland are out of touch with the wild game sector as they have on-line reference to game dealer's licences that were abolished in April 2011.

Across the Scottish LAs it was identified that local needs resulted in different priorities, assessed from a basis of local knowledge and experience of AFOs. Additionally, rural areas may well be expected to have more wild game activity than towns and cities. Against the criticism of inconsistent activity, AFOs argue that their authorities are under staffed, face economic constraints, and have a need to concentrate on higher risk sectors.

Concerns were raised with us over the decrease in the number of AFOs, and the budgetary pressures to partially replace them with Food Safety Officers (FSOs), who have relatively restricted powers and functions. A REHIS 2012 newsletter suggests that, from 31 Mar 2009 to 16 Sep 2011, the number of AFOs in Scottish LAs has fallen by 9% and the number of FSOs by over 20%. There is also a widespread view amongst respondents, outside LAs, that AFOs have insufficient experience and knowledge of the particularities of the wild game sector in terms of production conditions compared to a farm-abattoir system, and are unable to distinguish wild game meat from farmed game meat or to be knowledgeable of the pathogens of wild game. This concern is shared by some AFOs who identify a lack of meat hygiene training for the younger generations of AFOs, and the slow pace of transfer of knowledge and experience from trained officers, many of whom are close to retirement. These problems have been compounded as it was highlighted that multifunctional departments are replacing Environmental Health departments and AFOs felt they would have less influence and operational independence. Another view expressed was that the potential for inconsistency increases because wild game is low on the priority list, and fewer AFOs are available to subject others to peer review scrutiny.

It should be noted here that REHIS has an important role in the training of AFOs in Scotland. REHIS accredits MSc and BSc (Hons) Environmental Health degree courses that contain meat hygiene and inspection modules, has established the REHIS Scheme of Practical Training with a minimum of 48 weeks placement with a LA, carries out the final professional examination of AFOs, and provides continual professional training. REHIS also plays a central part in the qualification of FSOs; a lower level of qualification than for AFOs.

AFOs interviewed contend that FSAS needs to take a more balanced view in its audits¹⁰ of LAs between the requested level of enforcement in the

¹⁰ The FSAS' audit of 32 Scottish LAs for the period from June 2004 to March 2008, indicated a number of non-conformities against the Framework Agreement on Local Authority Food Law Enforcement, (called the Standard and introduced in April 2001). All identified non-conformities were considered by the FSAS as technicalities that generally do not compromise the safety of the food chain and the effective protection of consumers. In particular, these included: the inappropriate

wild game sector and the resource constraints that LAs face. Some respondents suggest that a universal inspection form tailored to the needs of a wild game inspection, and prepared by FSAS, could help AFOs in terms of consistency in record keeping and in assisting the younger generation of AFOs to access accumulated knowledge and tackle wild game-specific challenges.

For those LAs that are active in the wild game sector a reported issue is the difficulty in identifying new wild game establishments and the incomplete records they hold of wild game operators in their territory; so that LAs are severely hampered in checking regulatory standards. Often LAs are dependent on wild game operators notifying them under their legal obligations when they start a new business or expand their premises. The most direct way for AFOs to find a new supplier claiming an exemption is to trace back a product found at retail inspection. Then, officers can check if such a supplier's premises meet the minimum hygiene standards, fulfill any required registration, and if the supplier respects 'local' restrictions or other restrictions specific to the exemption.

It is evident that individual AFOs show considerable commitment to the challenges of the wild game sector. For example, in some authorities AFOs cross check registration records and the venison dealer's licence records, or use applications for planning consents to identify unregistered businesses. However, a limitation to the use of this approach as a tool is that there is no direct correlation between the need for a venison dealer's licence and the need for an FBO registration, so this requires a great deal of cross-referencing work.

Some AFOs argued that a registration and licensing system should be implemented in the wild game sector. Reference was made to the Butcher's Licence system, introduced after the Pennington Review, being an effective piece of food safety legislation and a powerful enforcement tool for AFOs. It was argued by AFOs that butchers under this licensing

authorisation of enforcement officers; that some officers were not receiving the minimum level of continuing professional development; that enforcement duties allocated to and/or carried out that were beyond the scope of their officers' qualifications, and the lack of documented evidence to demonstrate that authorities had assessed their officers' competences on procedures based on HACCP. In some cases, the quality and quantity of documented evidence for procedures used in inspections and post-inspection follow-ups were insufficient to demonstrate conformity with the Food Law Code of Practice. For a large proportion (25/32) of Scottish LAs the non-conformities were because these authorities had not appointed a sufficient number of officers to deliver the service. Consequently, only 8 out of 32 Scottish LAs had been able to complete their planned program of food hygiene and/or food standards inspections. As a result of the audit, FSAS organised and delivered low cost training to 75 Food Law enforcement officers in Scotland. It also recommended a focus of future audits on those LAs having a high number or more serious non-conformities.

system maintained higher standards and this was confirmed by our interviews with butchers.

The food safety enforcement tools (improvement notices, emergency prohibition notices and prosecutions) were argued by some AFOs to be unsatisfactory, but we note that these are standard procedures that should be sufficient for their work. However, AFOs are troubled by the requirement to have sufficient evidence of an imminent risk to public health before an emergency prohibition or prosecution can be initiated, as LAs may face businesses' claims for damages. Recently, we understand there has been a consultation to allow a remedial action notice that stops business operations, without the need of evidence of an emergency, to be extended in its application to all FBOs. This was seen by AFOs as beneficial.

The move by FSAS and some LAs to publish audit or inspection reports is seen as enabling enforcement, even if inspectors will be required to be answerable for their reports. It is noted that some customers are showing interest in reading the OVs' reports about AGHEs' inspections. However, some LAs recently stopped giving access to inspection reports and instead publish only the outcome of inspection, because they felt that consumers may misunderstand AFOs' comments and there may be unintended damage to the business's reputation.

There exists a degree of conflict between the dual roles of an AFO as an adviser and an enforcer. It is discernable that LAs historically are more comfortable than FSAS inspectors in advising FBOs because of close links with the local community and seeing their function as a source of advice; acting as enforcers only when the advice has failed. However, not all AFOs agreed with the emphasis given to the role of adviser, arguing that LAs' priority should be on the enforcement of regulations, especially under the pressure of limited resources and the increased range of tasks for AFOs.

It was apparent that a considerable difference exists amongst the Scottish LAs in terms of willingness to prosecute, which contributes to the aforementioned inconsistency of enforcement and which respondents argue also highlights an inconsistency of operation for FBOs. In particular, when data on prosecutions from all Scottish LAs are pooled for similar periods before and after the application of the new hygiene regulations, the results show that even if the total number of prosecutions has dramatically decreased, it is still the same 9 out of 32 LAs that carry out almost 80% of prosecutions. Tackling maverick producers will depend upon LAs receiving information and acting with a clear understanding of the regulations.

In summary, the evidence gathered during this review indicates that amongst LAs there is inactivity or very low activity in relation to the wild

game sector. In general, AFOs do not perceive significant risk from wild game and give it low priority, whilst also facing a variety of limitations including: incomplete registration records, a lack of resources, insufficient knowledge/experience about the wild game sector, and uncertainty over the extent of their authority. The consequences from the absence or infrequency of AFOs' activity, and the confusions that arise over the operation of the regulations, lead to concerns for large sections of the industry. The concerns amongst AGHEs that an increasing number of operators find the opportunity to breach the restrictions related to exemptions may not be proven, but we consider that establishing, publishing and communicating what is acceptable for FBOs, with a requirement that LAs become more active in the examination of exempt business standards, are important points that are captured in our recommendations.

b) Implementation of the regulations at AGHEs

The responsibility of approving AGHEs rests with FSAS and their operational staff that monitor the official controls at AGHE's. Approved private contractors to FSAS employ and train the OV to deliver meat hygiene inspection services at AGHEs and perform the statutory responsibilities required by the regulations. The OV is assisted in relation to meat hygiene and inspection duties at AGHEs by qualified Official Auxiliaries, formerly known as Meat Hygiene Inspectors.

OVs are responsible for the inspection regime at AGHEs, and we understand they frequently will make reference to the business's HACCP documents. The business HACCP plan, as required by the EU hygiene regulations, is recognised as the best way to describe, maintain and enforce AGHE production standards. Interviewees identify the HACCP plan as a powerful document for improvement and enforcement, especially when the AGHE is subject to auditing by a third party, e.g. the British Retail Consortium (BRC) or a major customer. The OVs make reference to the business's HACCP documents whenever the AGHE's hygiene practices are not matching agreed standards and they regard this as helping the business to meet auditors' or customers' requirements, rather than acting as an enforcer.

The management of food risk in the wild game industry begins with the individual hunter and it is therefore appropriate that supply to AGHEs must be from trained hunters. However, of particular concern to the implementation of the regulations at AGHEs is the supply of small wild game, as information is not regularly supplied to the AGHE about their origins, the temperatures of storage and whether chillers have been used or not. For large game, the trained hunter's declaration that accompanies

each carcass is considered to offer greater information and no case of non-submission of the trained hunter's declaration was reported.

Insufficient information adds significant difficulty to inspection efforts. We recognise an important issue that the OV has to rely on information received from the primary producers, supplying large and small wild game, and the hunter's commitment and professionalism, without being in a position to check the accuracy of this information and where the detail available in these declarations varies considerably.

The AGHEs and FSAS's inspectors are dependent upon LA's activities because the OV, as the FSAS inspector, is not responsible for checking the upstream supply chain of AGHEs, i.e. whether the supplying estates, individual hunters or collecting agents maintain the required hygiene standards. It is therefore beholden upon LAs to ensure the proper operation of the regulations outside AGHEs. However, the HACCP requirements of the EU regulations for AGHEs also place the responsibility upon the operator to be confident that their suppliers handle the carcasses properly prior to delivery.

However, AGHEs argue that there is a limit to the pressure they can put on their suppliers to improve standards. For example, it was highlighted that AGHEs feel they cannot afford to refuse wild game from estates that do not use refrigerator units because there may be, when venison and game is in short supply, less demanding customers with more relaxed attitudes ready to purchase that game.

Problems therefore occur if LAs are not inspecting the supplying FBOs, because wild game establishments are low in their risk assessments, and additionally AGHEs and the FSAS's inspectors may be unaware of concerns with particular suppliers as AGHEs and the OV have little contact with LAs. This issue may be reduced if AGHEs saw LAs giving greater attention to wild game food production and mechanisms for joint communication were agreed. One AFO interviewed suggested that the FSAS should inspect any larger supplying AGHEs.

Evidence suggests that different interpretations of statutory requirements amongst OVs visiting the same plant, or between the OV and AGHE managers, trigger managers' reactions in accepting or largely disregarding an OV's instructions. Several AGHE managers requested more consistency in interpretation of regulatory requirements amongst OVs. A lead veterinarian underlined the need for OV training to ensure consistency in veterinarians' approach not only to risk assessment, but also the selection of appropriate measures to handle risk, which is where most inconsistency occurs.

From the interviews, it became apparent that if standards are imposed by an OV, which are not in the customers' specifications, a number of AGHEs

may ignore the instructions based on their own assessment of what is necessary. It was also said that AGHEs may process without first notifying the OV and we understand that in response OV pay unannounced visits to those businesses about which they have concern.

We believe that disagreement over the application of hygiene regulations in a particular processing plant may only be resolved if the regulator prosecutes the matter

It is a widely held view of AGHEs' managers that they have superior knowledge/experience of wild game hygiene issues than the official inspectors, and that they are best placed to make such judgments being the person ultimately responsible for the safety of their products. According to OV's this view is partially correct, but because of their professional qualifications, and because they deal with a large variety of establishments and hygiene problems in the production process, including small wild game plants, that gives them a wider picture of what sort of problems are emerging. The attitude of AGHEs towards the OV is reported to depend on their helpfulness in meeting customers' or auditors' standards. The OV is here seen as an adviser, but if an OV seeks to impose extra requirements they are seen as inspectors, which may lead to conflicts; as AGHEs will want to minimise costs.

An important reason given for the uneasy relationship between OV and AGHEs was the high turnover of OVs, who in the majority of cases are junior veterinarians, lacking experience of the wild game sector and who may lack confidence when dealing with AGHE managers.

Moreover, respondents informed us that the approved private contractors to FSAS vary in size and employment strategies, with some focusing on employing young staff and others focusing on more experienced OVs. Interviewees expressed concern at the high turnovers of OVs and a high percentage of non-native speakers. It is reported that the senior OV are more experienced at establishing good working relationship with AGHEs.

In addition, it was observed that the fact that some FBOs can operate with exemption from regulation 853/2004 often creates a friction in the negotiations between the OV and AGHEs. Approved GHEs expressed the view that exempt establishments have lower standards and reduced costs compared to AGHEs, and this unfair competition precludes any opportunity or need to improve standards. In contrast, OVs argue that the scale of operations of AGHEs justifies the higher standards imposed, and that the argument about trade under regulatory exemption has been over-used by AGHEs as an excuse for low standards or non-compliance.

The EU hygiene regulations are not prescriptive and we understand that AGHEs may challenge an OV about their interpretation of the regulations. This is a particular issue in the definition of batches of feathered game,

and in wider standards for both large and small wild game. The regulatory regime is based upon a HACCP approach but includes a requirement upon OV to batch examine game birds. This leads to a frequent request that the definition of batches for feathered game, and the level of inspection according to the risk identified for each batch, needs clarification, and that it should be more specific and realistic.

OV inspections of feathered game are most efficient in small plants, whereas in large plants they have little chance of following every batch. We are told that large processing plants receive many batches of feathered game of different species and from many different places. Guidance for an OV is that they should inspect 5% of each batch and that this should be completed in a time of 90 minutes to two hours per visit. This is argued to be an unrealistic target in large plants, given time constraints and associated costs. The problem is compounded as large processors do not always immediately process what they receive, and may chill wild game for a few days. Interviewees report that post-mortem inspection of game birds has to be of unviscerated birds. For this reason it is often limited to those that have no value for the processor and that are put aside for inspection so as to avoid stopping the production line.

For large game, the OV's inspection is a visual one of a carcass with the skin off and without the head, legs, the pluck or viscera and interviewees questioned the effectiveness of such visual inspections. The veterinarian thus relies on the ability of the 'trained' hunter to recognise any abnormality and their commitment to report it. Against the argument that all carcasses should be inspected in an AGHE, some of the respondents raised the question of 'what is it that the service [FSA Operations, previously known as Meat Hygiene Service] is inspecting?' The respondents also concluded that there are no major differences for the risks related to carcass inspection between the three different supply routes if there is a 'trained' hunter's inspection. The view was also expressed that the AGHE was likely to condemn doubtful carcasses because of their customers' demands for quality.

Comments received from OVs suggest that non-prescriptive regulations pose a problem, because there is a shortage of sufficient scientific evidence on the pathogens of wild game with very limited published data for total bacterial counts on carcasses. For poultry and red meat species other than wild game we hear that FSAS is publishing data, which provide objective evidence and serves as an enforcement tool for the OV in identifying the existence of a hazard. The FSA has been undertaking work on the microbiological status of wild and farmed venison (Project M01049) but, at the time of writing, this work has not yet been completed or published.

Respondents from both the industry and enforcement bodies express the view that there is insufficient knowledge and research-based evidence on the sort of pathogens that wild game animals carry, and due to handling conditions after culling this represents a threat for the risk-based approach of the EU hygiene regulations. Their argument is that the proportionality principle in enforcement may only be truly applied, if the actual risks of wild game have been identified, and currently any discussion of appropriate regulation and enforcement is not evidence based. At present, the OV uses the other species of red meat and poultry as a proxy for wild game to assess the risks and to determine the enforcement level.

However, senior veterinarians indicated that the inspection system is not very good at detecting microbiological risks in meat in general, not just in the wild game industry. We were impressed by the view that inspection is more geared towards animal health and quality issues, rather than microbiological contamination, and the only effective way of controlling microbiological contamination is to apply good hygiene practice consistently. These interviewees said that the introduction of HACCP has considerably improved food hygiene standards, as inspection and testing cannot guarantee microbial safety.

As part of their review of official controls, the FSA is pursuing the gradual movement towards a full recovery of meat official controls costs from meat establishments, which includes AGHEs. This is a departure from the current arrangement where AGHEs are subsidised by government, with the majority of premises receiving a discount on the inspection charge of around 50-60%. Respondents argued that this change is very likely to force some AGHEs out of business, leading to less competition in the wild game industry but negatively affecting the business manager and OV relationship, where managers will be less likely to follow OVs' requests.

It was argued by OVs that the traditional character of the wild game sector, its relatively relaxed attitude towards hygiene risks, the competition from exempted establishments, and the non-prescriptive regulations may compound the circumstances for disagreements between the OV and an AGHE. Whilst these aspects are relevant, we consider that issues of consistency are most important and they may be addressed by the FSAS assisting their OV representative, and their employers, to identify best practice measures to handle risks that may be communicated to AGHEs.

We are informed that FSA is planning in UK to move towards decreasing the number of 'clusters' (defined geographical areas in which fresh meat premises are grouped and served by one contractor for inspections), and consequently decreasing the number of contractors; Scotland will become a single 'cluster' with one provider. Some respondents expect this move to

improve efficiency, cost-effectiveness and consistency in the delivery of meat hygiene inspection services.

(iv) Roles of the regulatory authorities

The responsibilities of FSA and LAs are demarcated in the food hygiene regulations, but the differences are not always clear in implementation. The 32 LAs in Scotland appear to work together more closely than English LAs and also to have established a closer relationship with FSAS than occurs south of the border. However, it is a strongly held view that LAs and FSAS need to achieve consistencies in interpretation and implementation of the regulations and especially over Regulation 852/2004 for which they have common responsibility of enforcement.

Of note is the Scottish Food Liaison Group (SFLG) that is a forum for the LAs to consult with FSAS and Royal Environmental Health Institute Scotland (REHIS), and below which there is a number of regional liaison committees. However, it was reported that little reference has been made to wild game at SFLG meetings. Also, some respondents indicated that the group is out of touch with the needs of enforcement staff especially over their interactions with FBOs, which is an area where improvement is needed.

Individual AFOs regard FSAS as expert in interpretation and they report that they seek answers direct from FSAS staff when clarification of the hygiene regulations is needed. FSAS may be able to assist Scottish LAs where there are issues for them to: (i) know which businesses in the wild game sector they need to be examining, (ii) be clear about which businesses are exempt and which aren't, (iii) provide assistance to LA staff who do not specialise in the wild game sector and may be unaware of its particular challenges, and (iv) lack the enthusiasm to follow up with inspections on estates or collecting agents, in cases that FSAS's inspectors have indicated are breaching the hygiene regulations. FSAS is recognised by many interviewees as open to dialogue, accessible, and striving to ensure that LAs are receiving information and guidance on changes on the EU regulations in a timely fashion.

FSAS respondents expressed a concern that Scottish LAs are not always interpreting and applying the hygiene regulations consistently, as their systems are regarded as less developed than their own. FSAS has made considerable effort to assist LAs by introducing the Framework Agreement on Local Authority Food Law Enforcement, which was drafted with LAs. This sets out the minimum standards of performance (called the Standard) for LAs across the full range of their food and feed law activities. FSAS audits LAs against the Standard to ensure improvements and sharing of good practice amongst LAs. Positive feedback for the existence of this Code of Practice is given from the LAs. However, in

FSAS's audits the LAs are criticised for not carrying out inspections of low risk establishments to the required frequency. This causes frustration for LAs, as at the same time they are required to follow a risk-based prioritisation of tasks, and have a shortage of resources.

Our conclusion is that the 32 LAs in Scotland have an established relationship with FSAS and the mechanisms to work through problem areas.

(v) Complexity and confusions in implementation of the food hygiene regulations

A requirement of the report is to identify gaps in the current enforcement regime (e.g. where confusions and difficulties arise).

It is obvious that confusion arises from the complexity of the regulations and their design encompassing both scale and the route of supply and there are difficulties in terms of eligibility criteria for individual regulatory exemptions, the level of hygiene standards that each exempt business needs to apply and the parallel requirements of other laws or between Regulations 852/2004 and 853/2004. We have identified the most significant areas of confusion in implementation of the food hygiene regulations as:

- a) Required hygiene standards for exempt businesses*
- b) The registration of businesses as FBOs with LAs and what needs to be registered*
- c) The self-definition of small quantities of supply*
- d) The regulatory exemptions for direct sales to final consumers*
- e) Distinguishing statutory requirements from best practice*
- f) Where collecting agents fit within the regulatory regimes*
- g) Defining wild bird batches for inspection at AGHEs*

These seven areas of confusion are discussed in more detail below:

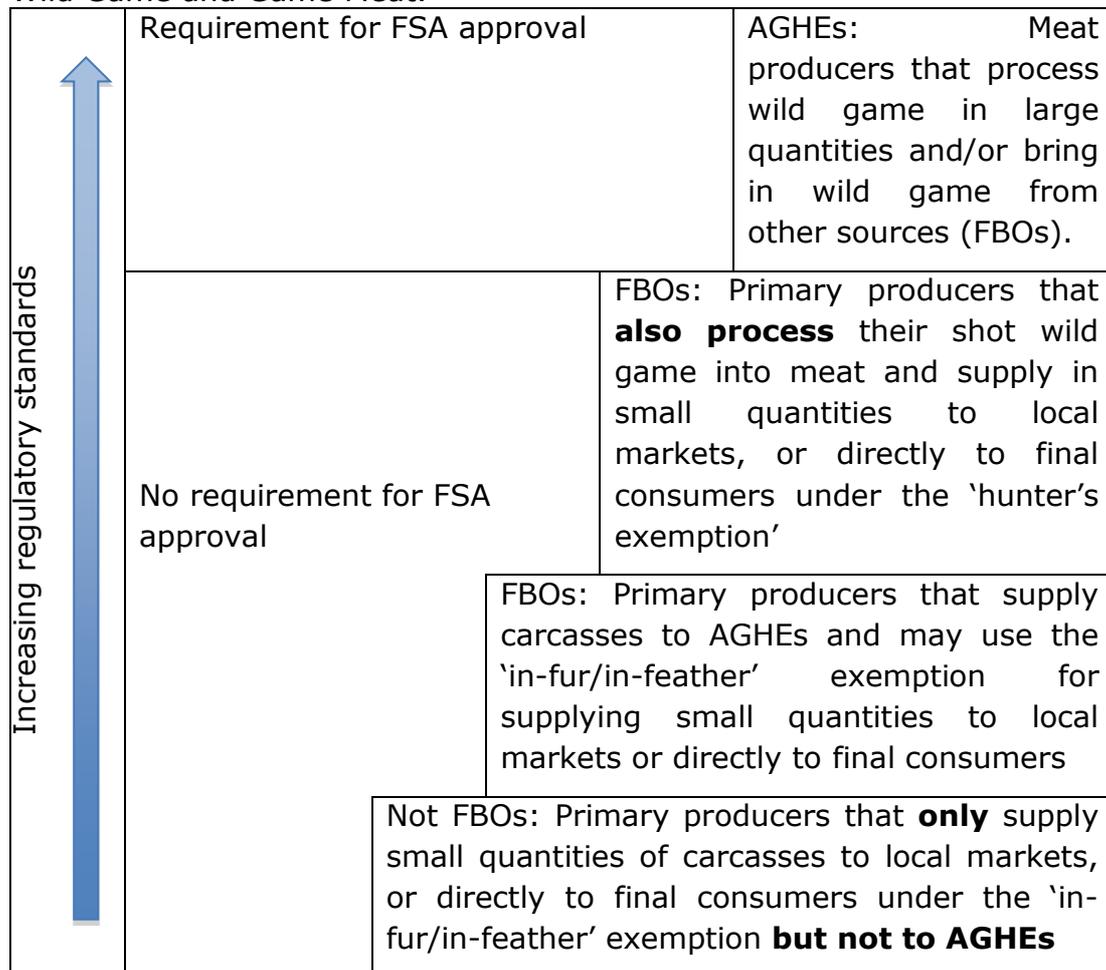
a) Required hygiene standards for exempt businesses

In many cases, the complexity for wild game operators and some AFOs arises from their lack of recognition that under the regulations there is a hierarchy of rigour (Figure 1).

At the *lower level* of this hierarchy, for those that operate under the 'in-fur/in-feather' exemption and are not supplying AGHEs, there is a responsibility to supply safe food under Regulation 178/2002, but there is no legal requirement to register as an FBO with the LA or to base their management procedures on HACCP principles. Any primary producers supplying a part or the whole of their own wild game to an AGHE are obliged to maintain *higher* standards. In particular, they are required to register as a FBO with their LA, to comply with general hygiene

requirements for primary production (described in Regulation 852/2004 Annex I) and the specific provisions for handling large/small wild game in Regulation 853/2004. At the point where primary producers process carcasses and supply meat under the 'hunter's' exemption, then a *higher* level of hygiene standards is introduced. Finally, if their production of game meat exceeds small quantities, or includes the processing of game supplied by another source, then they become an AGHE, which represents *the highest level* of regulation applied in the wild game sector. It is apparent that this hierarchy of rigour is not widely understood by FBOs and that it requires action by both FSAS and LAs.

Figure 1. The Hierarchy of Statutory Hygiene Regulations for Producers of Wild Game and Game Meat.



b) The registration of businesses as FBOs with LAs and what needs to be registered

There is the difficulty of categorising a wild game business as a retailer or a wholesaler, because businesses are continuously evolving. Yet it is the categorisation that determines the regulatory authority and misunderstandings or misinterpretations mean there is no guarantee that an establishment is being monitored by the right organisation.

Importantly, a retailer may breach conditions of the regulatory exemption without detection; as wild game businesses may be visited infrequently by AFOs or are unknown to LAs.

Interviewees requested greater clarity of when businesses should register with LAs as a FBO and of what needs to be registered. This legislative requirement is particularly confusing to recreational stalkers and those businesses claiming the 'in-fur/in-feather' exemption and not supplying AGHEs, as LAs may interpret the need for premises and/or vehicles to be registered. SNH said that there is also confusion between the 'hunter's' exemption and the requirement for FBO's to have a venison dealer's licence. Issues also arise from the differences between venison dealer licensing in Scotland and the rest of the UK, where there are no such licences.

According to anecdotal evidence, establishments operating with exemption from Regulation 852/2004 are mistakenly processing to produce wild game meat and therefore breaching the requirement to be small-scale suppliers of only 'in-fur/in-feather' wild game. The interpretation of regulatory standards needs to emphasise that processing of carcasses and/or supply to AGHEs implies registration as FBOs with LAs, and compliance with Regulation 852/2004, irrespective of the scale of supply.

While a primary producer may be exempt from registration with the LA, one respondent's opinion was that incomplete business registration records and poor identification of wild game food businesses serve to handicap the functions of the LAs and their provision of advice to those operations whose scale and nature should be regulated. It is also notable that without registration as an FBO, the LA has no means of checking regulatory standards.

We were informed that those breaching the requirement to be small-scale suppliers of 'in-fur/in-feather' wild game may actually be large operations because larders can handle significant quantities of product, or they are sometimes operating as distributions centres with 'larder to larder' movement to build larger consignments. A cautionary note was also sounded, in that those claiming the 'in-fur/in-feather' exemption do not have to be trained hunters, which may introduce extra risks.

We consider the scale of risk to public health may be considerable because many of those claiming 'in-fur/in-feather' and 'hunter's' exemptions, or those operating as collecting agents (discussed in the section 5ii. Producers' processes) may be under the radar of LAs and so escape inspection or provision of advice. In such circumstances they may not comply with the regulations and have a bare minimum of hygiene standards.

For these reasons, clarity and consistency are needed in the operation of the 'in-fur/in-feather' and the 'hunter's' exemptions, where the responsibility for enforcement rests with the LAs.

c) The self-definition of small quantities of supply

An important area that needs clarity is over the self-defined small quantities of supply. Strong statements were received that the requirement for small quantities is systematically abused by some FBOs that are claiming exemptions. The self-defined nature of small quantities causes confusion for FBOs and AFOs over which premises need approval.

It is alleged that as wild game establishments tend to be categorised as low risk and are visited infrequently by LAs, FBOs may have more opportunity to breach conditions for an exemption. The majority of respondents believe that because of LA's enforcement inconsistencies, there is a need to more clearly define small quantities. Many interviewees considered that the indicative numbers of 300 large game and 10,000 small game per year, which had been included in drafts of previous Wild Game Guides, were too high and that significantly smaller quantities could be defined.

d) The regulatory exemptions for direct sales to final consumers

The understanding of exemptions and direct sales to the consumer is frequently misunderstood as illegal trade by FSAS inspectors and AGHEs. The 'in-fur/in-feather' and 'hunter's' exemptions allow the respective supply of in-fur/in-feather or wild game meat direct to the final consumer or to 'local' retailers. Confusion arises as mail orders and internet sales of carcasses or meat to the final consumer have no geographical limit, because it is only the supply to retailers that is restricted to local trade. Conversely, some exempted FBOs were found to misunderstand direct sales and to abuse the exemption by supplying distant retailers e.g. restaurants in England or abroad through mail orders or internet sales; as these businesses are not the final consumer such practice constitutes an illegal trade that should be dealt with by LAs.

e) Distinguishing statutory requirements from best practice

There is a perceived lack of official documentation distinguishing statutory requirements from best practices for the non-approved wild game operators, and we found FBOs have an attitude of 'just keeping their heads down', which is seen by some as an obstacle to improvement. In most cases wild game operators said that information of required hygiene standards is requested from a trusted person, considered to be knowledgeable, rather than from an enforcement officer. There is therefore a need for the existing guides to explain required minimum

standards, according to the various features/activities of wild game operators, in a simpler and more straightforward manner.

f) Where the collecting agents fit within the regulatory regimes

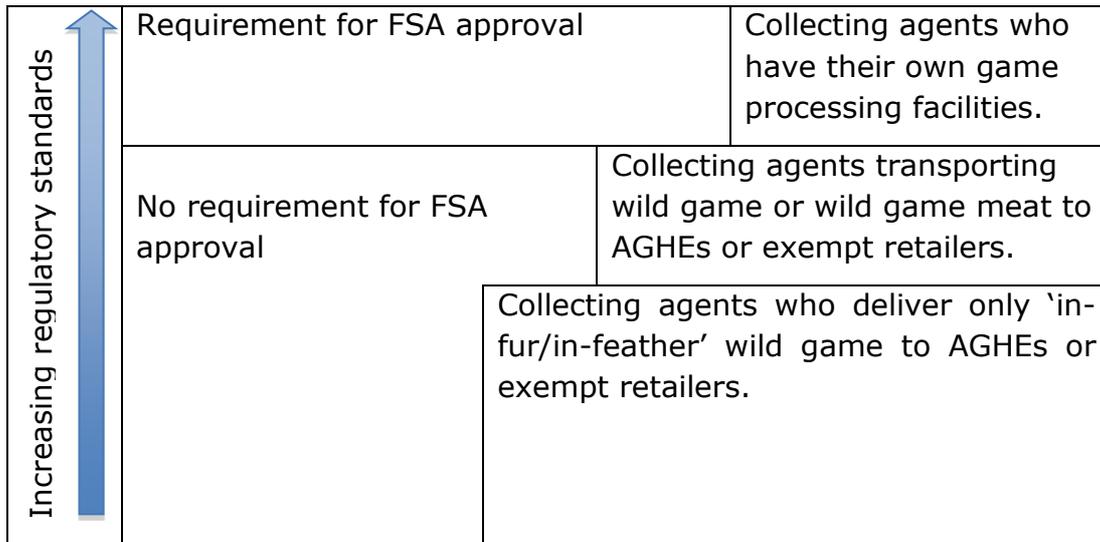
In section 5ii we identified the widespread concerns over collecting agents' standards and we know that collecting agents form an important and substantial part of the supply chain and their role is likely to grow as transport costs rise and the value of wild game increases.

In many cases, the complexity for collecting agents and some AFOs and FSAS inspectors arises from their lack of recognition that under the regulations there is a hierarchy of rigour in the statutory requirements for collecting agents (Figure 2). Collecting agents that have processing operations have to be approved by FSAS. However, not all collecting agents are involved in processing. The operators who are only involved in transportation should be registered with their LA as FBOs, but it is unclear to what extent this happens or if LAs examine their operations.

At the *lower level* of this hierarchy, we are advised that are those collecting only in-fur/in-feather game to deliver to AGHEs or exempt retailers for processing have to comply with statutory hygiene requirements similar to primary producers supplying AGHEs. In particular, the requirements are: (i) to register the business with the LA, (ii) meet the traceability requirements of Regulation 178/2002, (iii) comply with general hygiene requirements for primary production (described in Regulation 852/2004 Annex I), and (iv) comply with the associated regulations specific provisions for the handling of large/small wild game (in Regulation 853/2004), covering vehicles, game larders and collection centres.

If these collecting agents also transport meat to AGHEs, or to exempt retailers for further processing, then they are obliged to follow *higher* hygiene standards similar to those claiming the 'hunter's' exemption. In particular, collecting agents of wild game meat must fulfill requirements (i) and (ii) above, but importantly they must comply with (iii) the hygiene requirements as specified in Regulation 852/2004 Annex II, and (iv) have in place a food safety management system based on HACCP principles to comply with Article 5 (1) of Regulation 852/2004.

Figure 2. The Hierarchy of Statutory Hygiene Regulations for Collecting Agents of Wild Game and Game Meat.



We contend that FSAS need to confirm for LAs the hygiene statutory requirements with regard to collecting agents that operate only as transport businesses.

g) Defining wild bird batches for inspection

This is an area that creates considerable antagonism for the AGHEs and OVs. Guidance from FSAS has been requested on whether the OV needs to inspect the whole batch of birds, or a certain proportion of them, and how the proportion fluctuates when risk is deemed high, medium or low. It seems to us that there is little logical basis to the scale of the batch examinations of game birds, and we are convinced by the view that inspection and testing cannot guarantee microbiological safety.

6. Industry Standards – Self-Regulation

There is a widely held view that standards in the wild game industry have improved in recent years. Elements of the industry have recognised that for better prices it needs to consider game as a food rather than a by-product of sporting or land management activities. Peer-pressure in the industry and through associated bodies has aided these improvements. Best Practice Guidance has given hunters simple and practical instructions and demonstrates hygienic handling of wild game. The FC has changed its policy and requires its sub-contactors to have evidence of competence such as Deer Stalking Certificate level 1 (DSC1) or the National Stalkers Competency Certificate (a precursor to DSC1). Deer Management Groups (DMG), and the Scottish Quality Wild Venison (SQWV) assurance scheme

have also led to investments in improved larder standards with emphasis on the use of refrigerator units.

The food hygiene regulations of 2006 have reinforced these improvements to hygiene standards in wild game handling and processing with the requirement for trained hunter certification of supplies to AGHEs and management systems based on HACCP principles. We understand that REHIS accredits primary producers' and processors' food safety training centres that are either attached to universities or colleges, or are independent businesses. The industry has thus made steady progress towards a voluntary competence scheme and we acknowledge that since 2006: standards in the wild game industry have improved; that investment has been made; that best practice guidance and voluntary training courses offered by BASC, the British Deer Society (BDS) and REHIS are successful; and that the majority of the shooting industry is extremely concerned to do the right thing.

There are also other examples of positive responses by the industry. The SQWV assurance scheme was launched in 2002 as an independent, voluntary scheme developed through the collaboration of public and private sectors in the Scottish wild venison sector. The scheme's aims are to assist members to respond proactively to consumers about the way wild venison is produced, to improve food safety, to assist over legislative requirements and to help members address their environmental and animal welfare responsibilities.

The scheme has imposed higher hygiene standards on the wild deer supply of its members than the minimum legal requirements. It also places a mandatory requirement for its members to collect and provide cull returns and in general is recognised as a blueprint for good standards. Views expressed were that the SQWV scheme and peer-pressure amongst its members has had a positive impact on raising hygiene standards in the Scottish wild game sector.

The FC is the largest primary producer for red deer in Scotland and Highland Game Ltd the largest processor, both are SQWV-certified. It was observed that respondents appeared to have the opinion that the SQWV scheme targets inspections at the larder level and works best for traditional estates, i.e. for the first supply chain of Scottish wild venison. Respondents from estates explained that the price premium for SQWV-certified product is negligible, and does not cover the additional costs, but the scheme's benefit is a demonstration to their customers that they produce safe food.

Though it is estimated that the scheme covers more than 60% of all Scottish wild venison production, its membership is less than a quarter of producers. Additionally, very small amounts of roe deer or other species

go through the SQWV assurance scheme. This is presumed to be because of structural differences in the second and third supply routes. Interviewees suggested that the scheme is less attractive to small-scale producers, who mainly supply local markets or mail/internet orders. Respondents stated that small-scale producers claiming regulatory exemptions tend to see the SQWV as introducing extra costs and more bureaucracy, without offering a financial incentive. Moreover, several respondents view the current SQWV scheme as incapable of expansion into wild game bird production or being able to serve the variations of all the wild game supply chains.

Most AFOs and FSAS inspectors interviewed were not aware of the SQWV scheme, but agreed that industry-led assurance schemes could be helpful in raising hygiene standards in the wild game sector, and facilitate a reduction in the frequency of inspections of AFOs and OVVs. Despite their ignorance of the scheme, a strong view of AFOs was that private schemes should not be considered as independent from the industry's interests and therefore should only be complementary to inspections by FSAS and LAs who are formally serving public interests.

Notwithstanding the positive comments received regarding the improvement in standards in the industry, the Scottish Gamekeepers Association (SGA) has received complaints of hunters lacking training. Complaints of poor animal welfare and hygiene standards were made with regard to the professional stalkers, paid on a headage basis, that are contracted by FC or private forestry companies. Night shooting, by contractors of FC or private forestry companies, may also be argued to be in conflict with best hygiene practices because of difficulties in observing abnormal behaviours of deer before killing, or consequential delays in picking up carcasses. However, we understand FC has made 'trained hunter' certification necessary for all its stalkers. The contracted stalkers (around 25 in number) are trained to the same standards as those directly employed by FC (around 65-70 in number), and are audited to meet all the requirements of the FC Operational Guidance Booklet, which specifies that the time between killing and gralloching of a carcass must not exceed one hour. Fewer complaints are apparent in relation to contractors with private forestry companies, presumably because of smaller cull numbers.

The respondents of SNH, Association of Deer Management Groups (ADMG) and SGA argued that although the training system is voluntary there has been considerable demand for it by the industry. However, as discussed above, concerns were raised by interviewees about hunters' standards and it is unclear to what extent voluntary training is taken up, especially with regard to the shooting in the third supply route and particularly of feathered game where training has seemingly received less emphasis. However, it should be noted that changes brought about by the

WANE Act 2011 are now increasing pressure on deer producers to demonstrate competence through DSC1.

The sporting organisations strongly supported the voluntary principle in demonstrating competence in deer stalking and management when the legislation was being drafted. The Government agreed to allow a period to formalise a voluntary competency scheme. A review of competency in terms of safety (hygiene), public safety and animal welfare is to be carried out by SNH by 1 April 2014¹¹. Views expressed were that the Scottish wild game industry has made steady progress in that direction, and will continue to do so, thus avoiding further regulation.

The EU food hygiene regulations, which require hunters/stalkers supplying AGHEs to be trained, are widely supported. The least formal way of being acknowledged as a 'trained hunter' is based on lengthy practical experience. Thus a hunter that has supplied an AGHE satisfactorily for years may receive a letter of certification as a 'trained hunter'. This can only be used when supplying the specific AGHE. Alternatively, those who have gone through DSC1 may pay to convert it to be certified as a 'trained hunter'.

The requirement for 'trained hunter' certification for supplies to AGHEs, has led to an increase in training through the Deer Stalking Certification courses, other qualifications, and SNH best practice days. This training has brought increased awareness of the required standards, and potentially increased professionalism and discipline to the management of hygiene risks in wild game.

Training of hunters/stalkers in Scotland is provided mainly by SNH, BASC, BDS, and for wild game processors and retailers by REHIS. Colleges in Scotland also offer training and qualifications, including Scottish Vocational Qualifications (SVQs) and Higher National Certificates (HNCs) relevant to food hygiene. We understand that the most popular certifications are: DSC1 and DSC2 that both include training in hygiene, and also Meat Hygiene for small and large game levels 1 and 2. LANTRA and REHIS have approved a range of providers in Scotland for these courses and certifications. DSC1 involves written tests, oral questions and a shooting assessment, while DSC2 is a practical test where hunters are observed in the field three times.

However, feedback from one examiner is that DSC2 is unpopular (almost 16,700 people hold DSC1 and approximately 3,700 have DSC2) because hunters are not prepared to commit to the DSC2 examination

¹¹ The 2014 SNH review of competency will only be for deer, highlighting the low uptake of training for other game.

requirements. The same respondent expressed some concerns about the suitability of the DSC1 test, as some hunters capable of passing the DSC2 field-examination fail the multiple-choice test of DSC1 finding the requirements of a written test to be daunting.

In conclusion, there is evidence for a number of initiatives and steps that have been taken to improve the standards of the wild game industry. However, we are concerned that other than the 'trained hunter' supply to AGHEs there is no procedure to ensure that a hunter is competent: to shoot, has regard to the welfare of the animal, and knows how to handle a carcass hygienically. These issues are highly dependent on the hunter's professional standards but that the legislation does not specify training courses or the level of certification and most importantly recreational hunters may not take up voluntary training. Therefore, we believe that peer pressure is required to extend training to those not involved in the requirement for a 'trained hunter' certificate and that training providers should develop their courses so as to encourage uptake by hunters and to facilitate especially the involvement of those involved in shooting feathered game.

7. Drivers for Change

Shooting and sporting interests are economically important to Scotland and in some geographically remote parts form a principle component of the community. However, many interview respondents commented that the game produced is a by-product with a low financial value, of variable standard that brings little financial opportunity for improvement, and aspects other than food hygiene matter more for business reputation.

However, it was reported that wild game is currently enjoying an increase in popularity on the grounds of sustainability, healthy eating, and local production. Operators may have a very high reputation based on the quality of their product and their 'niche' appeal as small, independent, artisan producers. These aspects appear to score higher than hygiene standards in building a wild game business reputation. Moreover, it was indicated that eating quality may be independent of hygiene, and some expressed the subjective view that 'the best quality meat does not necessarily come from the cleanest place'. It was also suggested that the cleanest places produce the most consistent meat, but not necessarily the best in terms of taste.

Many outside the approved sector of the wild game industry see the trade through regulatory exemptions as a cottage industry. The argument of several respondents was that the large AGHEs have stronger drivers to improve and maintain hygienic standards, as they are concerned with reputation and brand. Indeed, some view Highland Game Ltd, a Dundee

based specialist venison producer that supplies major retailers as well as the wholesale trade, as being dynamic in the wild game market and succeeding in building their brand image.

However, a considerable problem for wild game is that the quality of meat produced is variable, as animals are not raised to specific standards and especially in deer culls the quality of carcass may be poor. This is a major issue for the economic viability of the industry and there is awareness that it limits the ability of producers to establish a stronger place in the market. Comment was received from SQWV about trying to tackle the issue, but many recognise the difficulty where there is a multiplicity of small-scale producers. However, respondents' opinions are that the industry has to act in a coordinated manner if they wish to tackle the quality issue and establish a viable industry.

Evidence suggests that powerful customers, such as multiple retailers, can force wild game operators to raise their hygiene and quality standards faster than enforcement agencies. However, the wild game industry remains quite fragmented, and therefore largely unattractive to supermarkets. An outcome is that major retailers have turned to farmed stocks and imports as alternative sources of game meat.

Transport, storage and chilling are some of the areas where industry collaboration could be helpful in terms of achieving scale economies, whilst at the same time raising hygiene standards. However, there is a widespread view that establishing collective larders is fraught with difficulties. Firstly, it is reported that those hunting are protective of sporting rights and methods, and not inclined to cooperate. Practical concerns arise over the identification and ownership of carcasses that may complicate traceability, and over the potential for different handling standards. It may also be unclear as how to divide maintenance and running costs between users and who are preferred as supply chain clients.

Despite such negative comments we did identify collaborative initiatives. SNH has made efforts to promote collaboration in order to reduce processing costs, either by encouraging estates to look for local processors, or to consider further processing to add value. SNH has encouraged neighbouring estates to pool resources and collaborate in the construction of collective larders. Progress has been slow but these efforts should be continued and the idea may become more attractive as transport and other costs rise. A successful example is that of a group of about 20 individual stalkers in North Lanarkshire, who have a central refrigerator unit where carcasses are picked up by an AGHE.

The FC serves as the forestry directorate of the Scottish Government, and their mission is to protect and expand Scotland's forests and to increase

their value to society and the environment. FC has invested heavily in state-of-the-art larders, but these are exclusively for FC's own staff and contracted stalkers, not the private sector. It is suggested that recreational stalkers may benefit from access to these larders at an appropriate price, though it is known that there may be concerns for the parties in agreement on larder operation and forward supply issues. Despite these difficulties it seems this shared use could lead to better utilisation of public resources, and also reduce risks associated with the third route of supply chains with their lack of facilities.

The existing regulatory regime is also said to hinder collaboration. Examples were that estates using an exempted supply chain may wish to buy from other wild game producers at busy times of the year, but they cannot do so unless they become an AGHE. However, the costs of obtaining approval are likely to be prohibitive.

DMGs are made up of estates or other landholdings that have access to a discrete population or herd of deer. DMGs have been set up in the past 30 years and are supported by SNH to conserve and control deer populations. The ADMG and SNH state that DMGs cover much of the open, hill range in Scotland where red deer are found and DMGs are slowly expanding into lowland and woodland areas.

Membership of DMGs has potential benefits as a place to share experience, and to inform on best practice and training. Officially, there are 52 DMGs in Scotland, of which approximately 40 are meeting at least once a year. However, only about 12 DMGs are reported to work collaboratively; all in upland territory, predominately shooting red or sika deer. The group approach to management is justified by the absence of fences and deer movement over neighbouring estates, so these properties recognise a common resource and their own inter-dependence. Estates have an incentive to agree on management of a shared resource and establish the population targets, the size of annual cull, the ways of achieving those targets and counting the deer on an annual basis. In these circumstances it was argued that DMGs could have worked to form central larders or arrange joint carcass collection.

DMGs have indeed worked to form central larders and in one instance to arrange joint carcass collection in the same glen. However, membership of DMGs is voluntary and in drafting legislation the effectiveness of compulsory DMGs was considered difficult to implement and enforce. It is reported that DMGs find it hard to achieve cooperation where there is conflict between the members' interests. This is likely to be the case where the make up of membership varies considerably, e.g. estates having sporting interests in deer or/and wild birds, estates owned by conservation organisations, or public or private forestry companies. Coordination and mutual recognition of others' goals and priorities are

required. Evidence suggests that in almost all successful cases it was SNH, and their forerunner DCS, that was required to facilitate such developments. DMGs also tend to exist where there are EU designated sites in Scotland. Within DMGs there is no peer-pressure or requirement to collaborate, and indeed often two or three collection agents travel through the same glen collecting from different estates.

Roe deer populations are found in lowland or upland forestry and DMGs in these areas typically consist of a larger number of holdings than in the Highlands, which makes it more difficult to form a consensus over management plans and the drivers for collaboration are often weak. The ADMG in Scotland has launched the Lowland Deer Network Scotland, to allow stakeholders to voluntarily explore the pros and cons of collaboration in the management of lowland deer species such as roe, sika and fallow deer.

An objective of the current project was to identify when and where collaboration exists with respect to food hygiene and its regulation, and our reflection upon the views shared is that a major issue for the future viability of wild game as a food industry is the need for participants to act in a coordinated manner if they wish to establish a viable industry. Industry collaboration seems to offer opportunities for economies of scale and benefits for food hygiene, but we recognise that collaboration is difficult, has the potentially damaging consequence of reducing competition and thus may take a considerable time to implement.

8. Conclusions and Recommendations

It is central to this report that there is widespread recognition of the positive impact the implementation of Regulations 852/2004, 853/2004, and 854/2004 have had on raising the hygiene standards in the Scottish wild game sector. Peer-pressure in the industry and through associated bodies has also aided improvements. Comments from the majority of interviewees are generally supportive of the hygiene regulatory regime.

It is clearly expressed by smaller producers of wild game or wild game meat that they should retain access to exemptions. However, the regulatory exemptions are complex and confusing to industry players at all levels. This complexity leads to a possible misunderstanding that an exemption from regulation allows an exemption from responsibility.

In our conclusions we identify the problems in the current application of the food hygiene regulations and describe hazardous areas that we consider pose the highest risks because they are common to a wide variety of situations and occur across all or significant parts of the wild game industry. To achieve improvement we have identified in the areas of

greatest concern a series of 10 recommendations that we believe may be used to address the gaps and inconsistencies of approach.

The food hygiene regulations are unlikely to be revised by the European authorities in the immediate future and we therefore lodge this report with FSAS in the expectation that the wild game sector will take ownership of the recommendations and they may be developed by them to confirm practice, to inform and assist the development of the wild game sector in Scotland, and to ensure continued public safety.

Our concluding statements are listed below together with our recommendations.

(i) Wild game and risks to food safety

Human health may be harmed by wild game meat, but of most concern is that a fundamental issue for all wild game is that the slaughter process is less controlled than for domesticated species. There may be damage from a poor shot, and/or incurred during the handling and evisceration in the field that may introduce contamination. In addition, transport of the carcasses is complicated by access to remote or isolated sites that may delay preparation of the meat. Therefore any regulation of hygiene for wild game must account for these conditions and activities that are less controllable than those taking place in a slaughterhouse.

Despite the well-established difficulties in the hygienic production of meat we found a widespread assumption that wild game poses very little threat because of a lack of evidence of harm to human health. Importantly, this lack of evidence does not signal the absence of any hazard and we therefore consider the food hygiene regulations and implementation of food hygiene controls as necessary for wild game supply.

Indeed, there is industry recognition of the threat to public health as interviewees spoke of the potential for a food poisoning incident and that any adverse publicity will badly affect wild game consumption and the image of the wild game industry.

The most common hazard from the consumption of wild game meat we consider will relate to handling procedures after killing where, as hygienic standards are difficult to sustain in the wild, the key factors for food hygiene are cleanliness, establishing and maintaining the cold chain so as to prevent the proliferation of pathogens to dangerous levels. Such hygiene related operations in the wild game sector may have significant practical difficulties but we have gathered evidence that their necessity is often misunderstood and it is of concern that some players in the supply of wild game are uncomfortable with a risk-based approach as advocated in the hygiene regulations.

Whilst the primary producer cannot affect the environmental conditions and the conformation of their produce, there is a clear responsibility upon producers to be aware of, and to understand how, wild game as a foodstuff may pose a health threat. In our assessment, the exposure to contamination at source is common and control of this hazard is dependent upon the standards and practices of the hunter. However, the legislation does not specify training courses or the level of certification and we are aware that recreational hunters may not take up voluntary training.

Despite this, evidence suggests that the voluntary training and education of hunters has been beneficial, particularly in the supply of venison, and it offers a way to raise knowledge and understanding of hygienic food production standards and of producers' responsibilities.

Therefore to mitigate the hazard and to address the assumption that wild game poses very little health threat we suggest that peer pressure is required to extend training to those not involved in the requirement for 'trained hunter' certification and that training providers should broaden their courses so as to encourage uptake by hunters and to facilitate the inclusion of those involved in shooting of feathered game.

Recommendation 1: Education for all hunters supplying collecting agents and processors of wild game, should emphasise that the hygienic standards of food depend upon cleanliness, plus the establishment and maintenance of the cold chain. The education of deer-stalkers through Deer Stalking Certificates and SNH 'best practice' events should be developed and providers must ensure that their training courses are relevant for, and extended to, those shooting feathered game.

(ii). Standards of LAs in their application of the hygiene regulations

We consider that clarity over FBO registration and their increased interaction with LAs are essential and complementary to the voluntary training for hunters. To ensure consistency of approach the FSAS has a critical responsibility to ensure more uniform activity by LAs.

The evidence is that AFOs do not perceive significant risk from wild game and that for many authorities, because of a variety of limitations and other priorities, these perceptions are translated into inactivity or very low activity in the wild game sector. Besides incomplete registration records for FBOs, evidence suggests that LAs' limitations also include a lack of

resources, insufficient knowledge/experience about the wild game sector and uncertainty over the extent of their authority.

However, the absence of AFO activity, infrequency of inspections, and the confusions that arise over the operation of the regulations lead to concerns from large sections of the industry. There is a view that an increasing number of operators use the opportunity to breach the restrictions related to exemptions, and especially amongst AGHEs that creates a perception of unfair trading. The concerns of AGHEs may not be proven, but there is an important issue that the widespread confusions that we have identified must be addressed by enhanced LA activity.

We believe that action is required by FSAS, through the SFLG, to ensure LAs promote FBO registration and confirm that LAs activity is central to ensuring greater consistency and understanding for the proper operation of the regulations outside AGHEs.

Recommendation 2: That an educational programme is developed by FSAS for AFOs on the consistent application of the regulations in the wild game sector.

It is also apparent that there is no clear understanding of regulatory exemptions amongst almost all interviewees. The complexity and apparent errors of interpretation readily leads to those operating under exemptions to breach the legal restrictions.

By the nature of the food hygiene regulations those operating under the various regulatory exemptions should be of small scale and where exemptions are applied properly then these businesses should be a lesser threat to public health as the population at risk will be fewer and the scale of such operations should offer little competition to larger operations. We are also persuaded by the argument that a hunter's direct sale to the final consumer ensures the closest traceability and therefore the highest standards in terms of hygiene and quality of the product. For such reasons the 'in-fur/in-feather' and the 'hunter's' exemptions appear appropriate where they are properly applied.

However, we are concerned that there is considerable inconsistency in the application of food hygiene regulatory exemptions. An important misunderstanding to address is that FSAS and LA guidance should emphasise the requirement for all wild game operators that are processing carcasses and therefore supplying meat, or are supplying game to AGHEs, to register with their LAs regardless of their scale of supply.

In addition, it is important in our view that those operators that are exempt under the 'in-fur/in-feather' exemption, where there is no legal requirement to register as FBOs with the LA or to base their management procedures on the HACCP principles, should be of small scale and therefore reducing the likelihood for risk. However we consider there is still a risk since many of those claiming 'in-fur/in-feather' exemptions, are under the radar of LAs and so escape inspection or provision of advice, and they may not comply with the regulations and have a bare minimum of hygiene standards. For these reasons, clarity and consistency are needed in the operation of the 'in-fur/in-feather' exemption and establishments operating with exemption from regulation 852/2004 should not be processing carcasses and producing wild game meat. To address these confusions we identify two related recommendations.

Recommendation 3: that FSAS guidance should emphasise the requirement for all wild game operators that (i) are processing carcasses and supplying meat, or (ii) are supplying game to AGHEs, to register with their LAs, regardless of their scale of supply.

Recommendation 4: That LAs and trade bodies educate FBOs on the requirements for FBO registration and the value of LA advice and inspections.

(iii) Collecting agents in the wild game supply chain

The opinion of interviewees is that collecting agents are on a significant scale picking up carcasses and delivering to a variety of clients, including AGHEs, for processing within or outside Scotland. We are concerned as to where these collecting agents, especially those who operate only as transport businesses, fit within the hygiene regulations and of comments from many interviewees that their operational standards are highly variable. In particular, interviewees raised serious concerns over traceability, maintenance of the cold chain and separation of good quality carcasses from those of inferior quality that are not delivered to AGHEs and therefore bypass official inspection.

Overall, collecting agents form an important and substantial part of the supply chain and their role may well grow. We contend that FSAS needs to confirm for LAs the hygiene statutory requirements with regard to collecting agents that operate only as transport businesses, and that LAs become active in the scrutiny of collecting agents' operational standards.

Recommendation 5: That LAs ensure registration of collecting agents, which are not AGHEs, as FBOs and with the guidance of FSAS become active in the examination of the collecting agents operational standards.

(iv) Scale of wild game supply

The regulations have an implicit recognition that the level of risk posed by the wild venison and small game trade is influenced by scale of supply, but the data available to inform the application of the regulations are weak. Consequently, we urge greater effort in the collection of data on the scale of wild game supply and the subsequent definition of small scale.

We acknowledge that the venison dealer's licence offers one way to determine the scale of supply but in reality it appears that the figures are difficult to collect, inaccurate and by their nature exclude figures on game birds. Therefore alternative approaches need to be found and it is in our view a central part of the registration of FBOs with LAs that we have already identified as being an important gap in the current application of the food hygiene regulations.

We consider that AFOs will be assisted in prioritising their work by enforcing the requirement for food businesses to register with LAs, and that it should be a required part of this registration that an indication of the scale of business is given so as to inform the LAs risk analyses. These figures are also likely to be the most accurate available and we believe will provide evidence for future analysis to determine the businesses that may be truly defined as small scale and where regulatory exemption is permissible.

Recommendation 6: LAs in the process of the registration of FBOs capture data regarding the scale of business so as to inform the LAs risk analyses. These figures will permit the LAs to determine FBOs that are supplying the greatest volume, and if collected at a national level may provide evidence to clearly define small scale supply.

(v) Operation of the regulations at AGHEs

The largest scale of wild game supply may be presumed to be through AGHEs. This supply route is managed by the current regulations where the greatest controls are rightly imposed.

The business's HACCP plan, as required by the EU regulations, is recognised by FSAS's inspectors as the best way to describe, maintain and

enforce AGHE production standards. However, we were made aware of differing interpretations of the HACCP plan requirements amongst OVs visiting the same plant, or between the OV and AGHE managers, and several AGHE managers requested more consistency in the interpretation of regulatory requirements amongst OVs.

Risk management responsibility rests with AGHEs who are free to determine the most appropriate amongst alternative methods for meeting the regulatory objective of 'supplying safe food'. However, it is recognised by a number of interviewees and the literature that enforced self-regulation is generally most suited to large, well-informed and well-resourced companies and this approach can lead to disagreements with regulators.

Whilst differences of interpretation are expected, our opinion is that the risk management responsibility rests with FBOs who should be free to determine the most appropriate among alternative methods for meeting the regulatory objective of 'supplying safe food'. FBO's have a profound appreciation of the economics of their businesses and we believe they are proactive and will introduce changes in their production system particularly if these reduce costs or add value to their product. However, we also consider it true that the regulatory approach to the operation of AGHEs is based upon trust and that such trust needs to be earned and demonstrated.

It was argued by OVs that the traditional character of the wild game sector, the relatively relaxed attitude towards hygiene risks, the competition from exempted establishments, and the non-prescriptive regulations that may lead to disagreement between the OV and an AGHE. Whilst these aspects are relevant, we consider that the OVs require assistance from FSAS, and from their employers, to achieve a consistency of approach in risk assessment, and also the selection of appropriate and proportionate best practice measures to handle the risks at AGHEs. It seems to us that whilst it is not always possible to fully identify and quantify the hazards related to wild game the principle should be adherence to cleanliness and maintenance of the cold chain. It would be beneficial if a range of measures could be identified that may serve as best practices for dissemination to the industry.

Furthermore, the requirement for inspection of batches of game birds is an area of considerable disagreement between AGHEs and OVs. It is practically challenging for an OV to inspect batches of wild game birds because of time constraints, a lack of clarity on the definition of a batch but with a requirement to inspect 5%. It may be considered to be significantly less important than the OVs' work in supporting the AGHE in the proper development, execution and then audit of the HACCP plans.

We ask that the FSAS clarify for their OVs the level and frequency of batch inspection based upon the proportionality principle.

Recommendation 7: The OV requires assistance from FSAS and from their employers to achieve a consistency of approach in interpretation of required standards and the identification of appropriate best practice measures to handle risks.

A major concern at AGHEs is the difficulty over the traceability of supply and their dependence on information from primary producers, supplying large or small wild game, where the OV is in no position to check the accuracy of that information. One means of addressing this concern is, as described, that LAs need to know of the FBOs, to be able to identify those that are supplying AGHEs, to increasingly examine collecting agents and importantly to collaborate with the OV in investigating reports of unacceptable practices.

It seems to us that the relationship between AGHE and the regulators' representative, the OV, will be considerably assisted if as already recommended there is greater attention by LAs to improve the supply chain and subsequently that LAs communicate to the OV over the standards of those supplying FBOs. Successful implementation would close the knowledge gap where AGHEs may be unaware of LAs' concerns with particular suppliers. We therefore suggest action is necessary to improve traceability.

Recommendation 8: That FSAS work with the LAs and AGHEs to identify simple means to improve the traceability and veracity of their supply chains.

We also consider it vitally important that the OV, with support from FSAS, should work with AGHEs' operators to determine how to prevent HACCP plans from breaking down when the legal requirement is for large wild game to be accompanied by a numbered declaration that must be signed and attached by the trained person, but that for small wild game no declaration is required except a report of abnormalities.

The management of food risk in the wild game industry begins with the hunter and it is therefore appropriate that the supply to AGHEs must be from trained hunters. However, we consider it an anomaly that there are different requirements for large and small wild game and whilst legislative

change is not envisaged this reinforces our recommendation for training to be extended to gamekeepers and those handling feathered game so as to ensure an awareness of responsibilities in the supply chain.

It is also worth noting that many interviewees are positive about the compulsory use of venison carcass tagging (suggesting that approved tags be issued by a state organisation such as SNH) for all carcasses that enter the supply chain. Interviewees felt this would improve both traceability and identification of the scale of trade through regulatory exemptions. Currently, tags are mainly provided to hunters by some AGHEs or the SQWV assurance scheme to attach them only to deer carcasses supplied to AGHEs. We therefore recommend consideration of compulsory deer carcass tagging.

Recommendation 9: That FSAS discuss with SNH and other stakeholders the feasibility and value of SNH issuing tags for all carcasses that enter the supply chain to permit deer carcass traceability, and simultaneously, identification of the scale of trade through regulatory exemptions.

(vi) Communication strategies to enhance the implementation of regulatory exemptions

Finally, to ensure consistency of approach, the FSAS has a responsibility to advise and educate, and we believe there is a need for it to adjust its communication strategies to the needs and preferences of practitioners, to address the concern that many respondents report difficulty in browsing official web pages and to overcome the confusions that exist for the implementation of the regulatory exemptions.

Interviewees indicated that the preferred means of communication is for personal interaction where the regulatory requirements are explained to them in a simple and practical way. However, the preparation of guides like CookSafe, that is designed to help catering businesses understand and implement a HACCP-based system, is suggested as an alternative means to help wild game operators to understand the required minimum standards, and to distinguish these from best practices.

Mechanisms should be sought to ensure that all players in the supply of wild game become more comfortable with the risk-based approach of the food hygiene regulations, the value of advice and inspections, and the value of the approach based on the HACCP principles.

Fundamental to this matter is a requirement for revision of the Wild Game Guide. To supplement recommendation 10 we have identified in appendix

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1 those specific parts of the current Wild Game Guide that we believe need to be examined and clarified.

Recommendation 10: That FSAS revises the Wild Game Guide to eliminate areas of confusion and clarify the complexity of hygiene regulations for FBOs and LAs.

9. List of Recommendations

- 1** Education for all hunters supplying collecting agents and processors of wild game, should emphasise that the hygienic standards of food depend upon cleanliness, plus the establishment and maintenance of the cold chain. The education of deer-stalkers through Deer Stalking Certificates and SNH 'best practice' events should be developed and providers must ensure that their training courses are relevant for, and extended to, those shooting feathered game.
- 2** That an educational programme is developed by FSAS for AFOs on the consistent application of the regulations in the wild game sector.
- 3** That FSAS guidance should emphasise the requirement for all wild game operators that (i) are processing carcasses and supplying meat, or (ii) are supplying game to AGHEs, to register with their LAs regardless of their scale of supply.
- 4** That LAs and trade bodies educate FBOs on the requirements for FBO registration and the value of LA advice and inspections.
- 5** That LAs ensure registration of collecting agents, which are not AGHEs, as FBOs and with the guidance of FSAS become active in the examination of the collecting agents operational standards.
- 6** LAs in the process of the registration of FBOs capture data regarding the scale of business so as to inform the LAs risk analyses. These figures will permit the LAs to determine FBOs that are supplying the greatest volume, and if collected at a national level may provide evidence to clearly define small scale supply.
- 7** The OV requires assistance from FSAS and from their employers to achieve a consistency of approach in interpretation of required standards and the identification of appropriate best practice measures to handle risks.
- 8** That FSAS work with the LAs and AGHEs to identify simple means to improve the traceability and veracity of their supply chains.
- 9** That FSAS discuss with SNH and other stakeholders the feasibility and value of SNH issuing tags for all carcasses that enter the supply chain to permit deer carcass traceability, and simultaneously, identification of the scale of trade through regulatory exemptions.
- 10** That FSAS revises the Wild Game Guide to eliminate areas of confusion and clarify the complexity of hygiene regulations for FBOs and LAs.

Appendix 1. Revision of the Wild Game Guide

The FSAS and other organisations have produced guidance and advice on the operation of the food hygiene regulations and the Wild Game Guide describes the requirements in a summary flow chart in part 1 (What the regulations require), but without a clear statement identifying the gradually increasing rigour in the statutory requirements.

We suggest that the guide should highlight the existence of this hierarchy of statutory requirements, and illustrate it in a similar manner to Figure 1 (section 5v), because evidence suggests that it is not readily recognised either by FBOs or some AFOs.

In addition, the complexity of the regulations and exemptions leads to particular difficulty in identifying the requirements for food business registration, particularly for shooting/stalking estates supplying all their in-fur or in-feather game for private domestic consumption or under the 'in-fur/in-feather' exemption. The reader may be confused by text differences between part 1 (What the regulations require), part 9 (FBO responsibilities) and part 12 (Registration of FBOs) with phrases such as "may be interpreted by your Local Authority as a need for (registration)" in the part 1 and "registration is required for" in the part 12. Thus, it remains unclear whether wild game operators who are not recognised as FBOs under the regulations are necessarily excluded from the registration requirement.

Confusion arises from text differences between part 13 (Traceability) and part 1 (What the regulations require) due to a reference to FBOs, while the Regulation 178/2002 and rules on food traceability apply to primary producers operating by the 'in-fur/in-feather' exemption, who are not recognised as FBOs.

The flow chart in part 1 (What the regulations require) is considered as a very useful way of guiding wild game operators to identify where they fit within the regulatory regime. However, there is room for improvement. For instance, it does not differentiate between primary producers supplying only AGHEs and those also supplying small quantities directly to final consumers or to local retailers, under the 'in-fur/in-feather' exemption. It seems to us that the guide needs to take into consideration the mixed practices of many stalking/shooting estates, and clarify that the latter category of primary producers cannot adopt the inferior hygiene standards under the 'in-fur/in-feather' exemption, in the supply of 'in-fur/in-feather' game delivered to AGHEs.

Overall, related to proper interpretation of eligibility criteria for hygiene exemptions is a concern over the lack of emphasis in the Wild Game Guide on the clarification that not all non-approved wild game operators are eligible for regulatory exemptions. Instead, under the non-

requirement for approval there is a mix of categories of wild game operators that may be eligible for individual exemptions or not. One example is already discussed about primary producers supplying AGHEs who face no requirement for approval, but they cannot claim the 'in-fur/in-feather' exemption for wild game that goes to an AGHE as they do not meet the criteria of only supplying small quantities directly to final consumers or to local retailers. Under the non-requirement for approval, another example is collecting agents of wild game or/and wild game meet who lack own game-processing facilities, but again they cannot claim the 'in-fur/in-feather' or 'hunter's' exemptions.

Furthermore, the flow chart in part 1 (What the regulations require) mixes producers of wild game (rows 1, 2 and 3) and wild game meat (rows 5 and 6) with collecting agents of only in-fur/in-feather game (transport businesses at row 4). At the same time, other categories of collecting agents including those transporting wild game meat, or having their own processing units are missing from the flow chart. The confusion and complexity of regulations may be reduced if two separate summary flow charts, one for producers and another for collecting agents existed to help wild game operators to identify where they fit within the regulatory regime.

To avoid misunderstanding or misinterpretations, the headings of text-boxes in part 9 (FBOs' responsibilities) need to be in accordance with the descriptions of different categories of wild game operator given in the left column text-boxes in part 1 (What the regulations require). Text differences between these two parts in terms of regulatory requirements, e.g. the use of phrase of "comply with general hygiene requirements for primary producers and associated operations..." (part 1, row 3), instead of "comply with Regulation 852/2004 Annex I" (part 9, box 2), might cause confusion to readers that are not familiar with the actual content of each regulation. Most importantly, parts 1 and 9 should be consistent in their language, and if possible should be ordered next to each other. We believe this could help readers to identify a clear link between each category of wild game operators, the applied regulations, and particular statutory requirements that stem from each regulation.

Currently, in part 1, primary producers supplying only under the 'in-fur/in feather' exemption (row 2) are guided to seek information for issues that are not relevant to them such as retail exemptions or HACCP. Yet, we recognise that these primary producers (together with those shooting for private consumption), tend to have the less interaction with their LA, because there is not a clear-cut obligation for registration (as explained above). Consequently, primary producers supplying only under the 'in-fur/in feather' exemption may use the guide as sole source of information. Therefore, we consider it important in the Wild Game Guide that there

must be greater attention to clarification of not only the eligibility criteria for the 'in-fur/in feather' exemption, but also all particular statutory requirements of Regulation 178/2002, if possible in a separate section devoted particularly to this category of primary producers.

Finally, to avoid misunderstanding or misinterpretations, the Wild Game Guide could benefit from forming a 'rule of thumb' for each of the requirements, either for registration (e.g. if processing or supplying AGHEs) or for approval (e.g. if preparing game from 'bought-in' carcasses or wholesale), and emphasise that in both cases the rule applies regardless of the scale of supply.

Whilst the Wild Game Guide describes these requirements in part 9 (FBOs' responsibilities), there is not a separate section that refers only to collecting agents or recognises the gradually increasing degree of rigour in the statutory requirements for operation standards of collecting agents, and probably illustrate it in a similar manner to Figure 2 (section 5v). Evidence suggests that at present it is not readily recognised either by FBOs or some AFOs. Therefore, we propose that the Guide could benefit from the addition of such a section, the explanation of different categories of collective agents in a summary flow chart, and the clarification that although some collecting agents face no requirement for approval, they are not eligible for individual regulatory exemption.

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