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JAS/sp/ Lead/LAG/year end report/J Paice

28 June 2011

Rt. Hon James Paice MP
Minister of State for Agriculture and Food
Defra
Nobel House
17 Smith Square
London
SW1P 3JR

Dear Minister,

On behalf of the Lead Ammunition Group, I have pleasure in enclosing a report on the achievements of the Group since its establishment in March 2010.

This report accords with the requirement in the Group's Terms of Reference that the Group must produce a written report on progress for Defra/FSA at the end of the first year.

The Group exists to inform government policy development and our documentation is published on the Lead Ammunition Group website. I would welcome your confirmation that this report may be so published.

Kind regards.

Yours sincerely,

JOHN SWIFT
Chief Executive

Report on the Lead Ammunition Group

June 2011

Key Achievements

1. The lead Ammunition Group (The Group) was established in March 2010.

2. The Group brought together a diverse range of stakeholder interests to consider:

    a. Possible risks from the use of lead ammunition both for the conservation of wild birds and other species and for animal welfare.
    b. Possible risks to humans as a result of consuming wild game and venison shot with lead ammunition, and
    c. Possible risks to the food chain as the result of spent ammunition deposited on farm and agricultural land.

3. The Group met five times between April and November 2010 and its work continues. The Group has been provided with no budget or external funding and the costs have been covered by the Group's members' supporting bodies to which sincere thanks are due.

4. A public website was set up so that the Group's business would be open and transparent.

5. The Group agreed clear and practical Terms of Reference.

6. The Group agreed a sequence of steps to fulfil its mission:

    a. Collation and classification of the evidence
    b. Carrying out rigorous assessment of the risks on the basis of that evidence and
    c. Identification of practical and effective risk management and mitigation options for any significant risks identified.

7. In May, the Group established a "Primary Evidence Subgroup" to complete step (a). The Subgroup has been chaired by Prof. Len Levy from the Institute of Environment and Health and included Dr John Harradine (BASC), Dr Debbie Pain (WWT) and Dr Stephen Tapper (GWCT).

8. In September, the Group received a report from Dr Diane Benford, Head of Risk Assessment at the Food Standards Agency, and agreed the framework of concepts she described as pertinent to the risk assessments the Group was to undertake at step (b).

9. In November the Group agreed the Subgroup's "List of Publications and Reports Being Considered as Primary Evidence" and published the list as the primary evidence base on its website for public comment.

10. In November the Group also agreed to expand the role of the Primary Evidence Subgroup to the writing of risk assessments based on the primary evidence base; and invited Prof. Rees Green (a conservation scientist) and Mr Peter Green (a veterinarian) to join the Subgroup. Dr Alastair Leake (GWCT) replaced Dr Tapper. The Subgroup was thenceforward known as the "Primary Evidence and Risk Assessment Subgroup" (PERA Subgroup).

11. The PERA Subgroup met in late November and divided the drafting of risk assessments into three subject areas: human health, wildlife and livestock including venison.

12. The draft human health risk assessment report will be the first to be completed. It will become the subject of peer review under the auspices of the PERA Subgroup, before being tabled for discussion within the main Group. Once risk assessment reports have been approved by the Group they can provide the platform for step c above.

Preface

This is a progress report and assessment on the work of the Lead Ammunition Group. The Group's published Terms of Reference require that:

- At the end of the first year the Group must produce a written report on progress for Defra/FSA.
- During the year, the Group must inform Defra/FSA of any key findings as they become apparent.

http://www.leadammunitiongroup.co.uk/index.html

Background

In October 2009 Mark Avery, Conservation Director RSPB, and Deborah Pain, Conservation Director at the Wildfowl and Wetlands Trust, wrote to the Secretary of State at the Department for Environment, Food and Rural Affairs, Rt Hon Hilary Benn MP. Their letter was widely copied to other government departments and drew attention to new evidence about the risk to the health of humans and wildlife in the UK caused by the use of lead ammunition for the hunting of wild game (sic). Their organisations were concerned about the potential impacts of lead ammunition on wildlife and people. They considered that an analysis of the potential risks to human health from the consumption of game shot with lead ammunition was needed. They recommended that a wider group of interested stakeholders be convened by government to address the evidence and with a mandate to make whatever recommendations it saw as necessary.
http://www.leadammunitiongroup.co.uk/rspbletter.html.

In November 2009 I also wrote to the Secretary of State on behalf of the British Association for Shooting and Conservation, British Deer Society, Clay Pigeon Shooting Association, Countryside Alliance, Country Land and Business Association, Deer Initiative Ltd, Game and Wildlife Conservation Trust, Gun Trade Association, Moorland Association, National Game Dealers Association and the National Gamekeepers Organisation. The listed organisations had been made aware of the RSPB-WWT letter and had discussed it carefully. We agreed that the new evidence had to be addressed seriously and justified reasoned attention by all the organisations involved in shooting activities. We drew attention to the popularity, diversity, economic and environmental value of shooting sports in the UK and recommended an objective risk management approach to the diversity of issues involved. We stressed that the shooting community did not believe that the case for sweeping legislative or regulatory restrictions on the use of lead ammunition had been made and underlined that our organisations had already been working on these issues through the shooting interests' Lead Ammunition Technical Working Group. We wished to have a constructive dialogue with Defra and government agencies especially those with responsibility for environment and health.
http://www.leadammunitiongroup.co.uk/shootingindustryletter.html.

Establishment

In December 2009 I received a letter from the Minister for Marine and Natural Environment, Huw Irranca-Davies. He recognised that the issue was complex and noted the concerns of RSPB and WWT. He was not, however, aware of any new research that showed that lead ammunition residues or spent lead shot was a real threat to the conservation of wildlife in general in England. He had asked his officials to look at the possibility of convening a group to look at possible impacts for wildlife, the welfare implications of available alternatives, and potential effects from contaminated food on human health.
http://www.leadammunitiongroup.co.uk/ministersletter.html.

In March 2010 I received a letter from Tim Andrews, Defra Biodiversity Programme, explaining that a group (Lead Ammunition Group) was being set up to look at the issues surrounding lead ammunition, focussing on possible impacts for wildlife, the welfare implications of available alternatives to lead ammunition, and potential effects from contaminated food for human health. This was to be a joint move by the Department (Defra) and the Food Standards Agency (FSA) in response to increasing concerns. The Group would be expected provide overarching direction and focus, making way for any subgroups the Group saw fit to convene. Defra invited me to chair the Group, provided draft terms of reference and undertook to provide the secretariat. Because the Group was set up to advise a government department and agency, there would not be government representation. It was expected that the members of the Group, beyond representing their respective organisations, would also contribute skills, expertise and knowledge from their sector. This it was hoped would ensure that any recommendations the group might make were based upon an open, broad and transparent dialogue. http://www.leadammunitiongroup.co.uk/letter.html.

Tim Andrew's letter acknowledged the wide level of interest from a number of stakeholders wishing to be involved and recorded the decision that the size of the Group should be restricted. Defra accordingly issued invitations and all the following accepted to join the Group:

Dr Mark Avery **–** RSPB

Mr John Batley – The Gun Trade Association Ltd

Mr Stephen Crouch – National Game Dealers Association

Mr Adrian Gane – Country Land and Business Association

Mr Robert Gray – The Countryside Alliance

Dr James Kirkwood – Universities Federation for Animal Welfare

Prof. Len Levy – Institute of Environment and Health

Dr Deborah Pain **–** Wildfowl & Wetlands Trust

Mr John Swift – British Association for Shooting and Conservation (Chairman)

Dr Stephen Tapper – Game and Wildlife Conservation Trust

Observers - Mr Terry Donohoe and Dr Christina Baskaran – The Food Standards Agency

Secretariat - Mr Tim Andrews and Ms Lucy Munro – Defra

LAG 1st meeting

The Group's first meeting took place on 26 April 2010 and the Group has to date met on five occasions. One of the first steps was to agree the establishment of a website so the Group's business was open and transparent. The minutes of meetings and related documentation have all subsequently been published on it. http://www.leadammunitiongroup.co.uk/minutes.html.

The Group preliminarily addressed the question of how best to tackle the emerging evidence that had given rise to the Group being set up and noted that the new evidence being referred to was contained in the proceedings of a conference held in May 2008 in Boise, Idaho entitled "Ingestion of Spent Lead Ammunition: Implications for Wildlife and Humans". http://www.peregrinefund.org/Lead_conference/default.htm.

Defra stressed that the UK Government had not so far formulated conclusions in relation to the possible impacts of lead ammunition on wildlife conservation and animal welfare. The main objective for Defra in setting up the Group with the Food Standards Agency (FSA) was to investigate possible risks from the use of lead ammunition both for the conservation of wild birds and other species and for animal welfare. Defra undertook to carefully consider the conclusions and recommendations of the Group in formulating its policy in this area and endeavour to keep the devolved administrations informed of progress.

FSA suggested two key objectives for the Group to consider:

- The possible risks to humans as a result of consuming wild game and venison shot with lead ammunition, and
- The possible risks to the food chain as a result of spent lead ammunition deposited on farm and agricultural land.

FSA explained that while Defra has an England only remit in terms of nature conservation policy, FSA's remit for food safety extends UK wide. The Agency is an independent UK government department and its remit covers food safety and healthy eating. In the context of the Group, the FSA's priority concerns related to the possible impacts on food safety from lead in the environment.

The Group noted that the European Food Safety Authority (EFSA) had published a scientific opinion on possible health risks related to the presence of lead in food. http://www.efsa.europa.eu/en/scdocs/scdoc/1570.htm). The Group noted that the

report mentioned that high consumers of game meat could have a higher than average exposure to lead. Risk assessments had however so far indicated that due to the relatively small quantities of game eaten and the relatively low levels of lead present, it was unlikely that eating game would increase exposure to lead over the long-term for the majority of the population.

FSA reported they were shortly to commission research on patterns of consumption (of game and to identify the possible existence of vulnerable people) that the Group might wish to consider upon its publication.

The FSA said they were aware of a small number of incidents where animals have ingested spent lead ammunition leading to animal welfare and food safety concerns.

Two recent sources of information that might be of use in the FSA risk assessment were mentioned, one on lead concentrations in game from WWT, and one on game consumption from BASC.

The Group gave detailed consideration to and agreed its Terms of Reference with minor amendments and for their publication.
http://www.leadammunitiongroup.co.uk/reference.html.

The Group agreed that a collation of the primary evidence would be necessary as a first step covering:

1. Wildlife health and welfare – how much of a risk might lead ammunition pose?
2. Human health - how much of a risk might lead ammunition pose?
3. What broad mitigation options might there be?

It was established that the Group's approach would follow a sequence of steps:

1. Collate and classify the evidence
2. Carry out an assessment of the risks on the basis of that evidence, and
3. Identify practical and effective risk management and mitigation options for any significant risks thus identified.

Evidence to be taken into consideration would have to be:

1. UK based evidence
2. International evidence
3. Illustrating problems proved in the UK i.e. relevant to the UK situation.

The Group also heeded the principles of open and multidisciplinary working, respecting the Chatham House Rule, as set out in the draft terms of reference; this being necessary for producing robust and convincing conclusions carrying wide support.

LAG 2nd meeting

At its second meeting on 28 May the Group discussed the research the FSA was commissioning into the consumption of game meat and venison. The Group stressed the need for such research to involve deer management and gamekeeping interests, and for the Group to be able to comment on the design and evidence base being considered.

The Group agreed as a further extension of the categorisation that primary evidence might come from three sources:

1. Peer reviewed and published papers from recognised and established journals

2. Unpublished reports of recognised quality such as internal reports that have been commissioned but not necessarily published (proceedings of technical or scientific conferences, workshops and seminars).

3. Articles from other journals or other sources that contain evidence of recognised quality but not falling within the other two categories i.e. "grey literature".

The Group determined that research findings' relevance to assessment of risk in the United Kingdom must be clear. It was a stipulation of the Group's Terms of Reference that any scientific data or research used to underpin the written report must be of a quality that would withstand peer review. The Group underlined that evidence must not be accepted or dismissed uncritically. Research findings in the fields of physiology, human and veterinary health and in the technological fields such as ballistics might be relevant whatever their origin. Care would always have to be exercised when assessing relevance of human-health-related evidence as local factors such as diet may be influential.

The Group noted the possible relevance of work connected with the EU REACH regulations (Registration, Evaluation, Authorisation and Restriction of Chemical substances) and the need to be informed about ongoing assessments of lead ammunition and shot by the International Lead Association – Europe (which was undertaking risk assessments on behalf of the European cartridge industry).

The Group established a Primary Evidence Subgroup and appointed Dr Pain, Dr Tapper, Dr Harradine and Prof. Levy as its constituent members. Prof. Levy agreed to chair the Subgroup. The Subgroup was tasked with preparing a report setting out the primary evidence and making recommendations as to the form risk assessment might take. The evidence base can be viewed on http://www.leadammunitiongroup.co.uk/pdf/Primary%20Evidence%20References%2020%20October%202010.pdf.

LAG 3rd meeting

On 6 July 2010 at its third meeting the Group noted that the FSA research requirement had been published and could be viewed at the following link: http://www.food.gov.uk/aboutus/how_we_work/procurement/nonresreq/pau303 . It

was expected to last from September 2010 to March 2011 and was for work within Scotland. The Group concluded that it would wish to be able to assess the results of this research and assumed they would be available before the Group had to prepare its own progress report. It was noted that the FSA research focused on identifying high-level consumers of game. The first part of the research would be a feasibility study on whether the population group can be identified. This is understood to have been completed. The second phase of the study would be to actually carry out interviews and collect data. In due course the contract was given by Food Standards Agency Scotland (FSAS) to Harris Interactive and at the time of this report, FSAS report that the project is well underway, they are satisfied with the progress made so far but that it will be a few months before they are in a position to publish any outcomes but will do so through their on-line repository (http://foodbase.org.uk/) and website (www.food.gov.uk). FSAS is not publishing further interim information.

The Group noted the FSA's report setting out evidence in follow up to the concerns stated at the first meeting (possible impacts on food safety from lead in the environment) are publicly available as Chemical Food Safety reports produced by the Veterinary Laboritories Agency and can be found at http://www.defra.gov.uk/vla/reports/rep_food.htm. These reveal a small number of reported veterinary incidents concerning lead and livestock.

The Group agreed that human health issues should be tackled before issues concerned with wildlife.

LAG 4th meeting

On 24 September at its fourth meeting the Group received a report from Dr Benford, Head of Chemical Risk Assessment at FSA on the report of the European Food Safety Agency.

Dr Benford explained her scientific involvement with the Panel on Contaminants in the Food Chain (CONTAM) established by EFSA. EFSA had been established in 2002 to provide objective scientific advice and risk assessment. The European Commission sets regulatory limits in consultation with the Member States. She explained that there is a large amount of data from epidemiological studies on different effects of lead in human populations. Data from studies in experimental animals are consistent with those findings. Of a wide range of reported clinical lead effects the ones seen at the lowest levels of exposure concern neurodevelopment, cardiovascular endpoints and kidney toxicity. Particular attention has been given to developmental effects resulting in decrease in IQ in children at very low levels of exposure. In regard to the possible carcinogenicity and genotoxicity risks EFSA had concluded that lead was unlikely to be a significant risk at the low levels that are present in food.

Dr Benford explained the principle of calculating a benchmark dose (BMD) and its lower confidence limit (BMDL) in the context of assessing risks created by substances where no lower threshold level of effect is identifiable. She explained that EFSA had set the BMDL for lead at 12 micrograms per litre of blood i.e. the level that was estimated to result in a 1 IQ point reduction in the population as a whole. In the USA it had been estimated that a 1 IQ point reduction might result in a 4.5% increase

in the risk of failure to graduate to high school or, in later life, in a decrease in worker productivity of 2%.

The BMDL for cardiovascular effects was based on increased systolic blood pressure in five studies showing a dose-response relationship with lead levels. A 1% increase in SBP was considered significant as it was associated with a 2.5% increase in mortality from stroke or heart attack and a 3.1% increase in treatment for hypertension (raised blood pressure). In identifying the most relevant BMDL EFSA did not take the most precautionary option but took the average of the five studies at 36 micrograms per litre in blood.

For kidney effects and chronic kidney disease a BMDL of 15 micrograms per litre of blood was associated with a 10% increase in chronic kidney disease. This had been derived from a single large study in the USA.

Dr Benford explained that these BMDL levels expressed as levels of lead in blood might be used to estimate dietary exposure - producing these clinical effects expressed as micrograms per kilogram bodyweight per day. Risk characterisation could be measured for population groups in terms of margin of exposure – being the BMDL divided by the estimated dietary exposure. She concluded that adverse effects on some groups are possible at current exposure levels and these were good reasons for considering the need for reduced exposure to lead.

EFSA had concluded that some groups might possibly at risk: such as those with higher than normal levels of exposure through eating a lot of game meat, especially children and the developing foetus in pregnant women. She expressed her view that overall efforts should continue to reduce exposure to lead.

The Joint WHO/FAO Expert Committee on Food Additives (JECFA) had discussed lead in June 2010 and its full opinion was expected to be published in 2011. In the meantime summary conclusions have been published and JECFA has withdrawn its previously established PTWI. EFSA and JECFA have now both discontinued use of the concept of Provisional Tolerable Weekly Intakes (PTWIs) and the measure has been withdrawn in respect of lead on the grounds that it is no longer considered to be health-protective. She concluded that adverse effects on some groups are possible at current exposure levels and these were good reasons for considering the need for reduced exposure to lead.

The Group agreed that the framework of concepts that Dr Benford had described were pertinent to the risk assessments the Group was expecting to undertake, especially the distinction between threshold and non-threshold substances. Given the uncertainty of the way in which data on lead in game meat were gathered and the influence of local methods and standards affecting the source material, the Group determined that there was a need for data relevant to the UK.

LAG 5th meeting

At its fifth meeting on 5 November 2010 the Group were informed that Defra would be unable to continue providing secretariat support and that Dr Tapper (GWCT) was retiring and would be leaving the Group and the Primary Evidence Subgroup. The

Group decided however that its work should proceed and that Dr Tapper's place would be taken by Dr Alastair Leake (also from GWCT).

The Group was also to become aware that Mr Gane was to leave CLA and that Dr Avery was to leave RSPB in April 2011.

The Group determined notwithstanding that the role of the Primary Evidence Subgroup, having completed the task of gathering the primary evidence into a report, should be expanded to cover the writing of risk assessments derived from that evidence base. The Group agreed the inclusion of Prof. Rhys Green (a distinguished conservation scientist) and Mr Peter Green (a distinguished veterinarian). Dr Leake would replace Dr Tapper. The Group tasked the Subgroup with starting work under Prof. Levy's chairmanship on risk assessment and report back to the next meeting. The Subgroup was to be known as the Primary Evidence and Risk Assessment Subgroup or PERA Subgroup.

The PERA Subgroup

The PERA Subgroup subsequently met on 26 November and allocated its work programme. Dr Pain and Prof. Green were tasked to draft a risk assessment on human health aspects. Dr Harradine and Dr Leake were to do likewise for wildlife. Mr Peter Green was to draft a risk assessment on livestock lead poisoning, including venison.

At the time of writing this report Prof. Levy informs me that Dr Pain and Prof Green have completed the drafting of their human health risk assessment and have provided him with a copy which he is reviewing. His progress is being delayed, however, by family health problems. As soon as the authors have made any amendments in light of his comments the draft report will be circulated to the rest of the Subgroup.

Meanwhile work on the wildlife risk assessment has completed preparation work and Dr Harradine and Dr Leake have commenced drafting. A number of important questions remain unanswered however and the feeling is that there is some way to go.

It is understood that in spite of several requests for information on progress nothing further has been heard from Mr Peter Green. It is known, however, that Mr Green did indicate early in the year that an impending operation could delay his participation in the SG work a few months.

My stipulation to Prof. Levy has been that as soon as he has completed his review of the human health risk assessment it should be circulated to other members of the Subgroup so that an internal peer review can be undertaken. Only when that has been done, and the Subgroup is in agreement or any areas of disagreement or uncertainty have been identified, will the Group reconvene to discuss next steps i.e. the possible need for discussion of process for risk management. It is not for the main Group, consisting in the main of relative non-scientists, to receive an incomplete or contentious piece of work. I am relaxed about the three risk assessments proceeding at different speeds.

Future Prospects

Looking ahead I can make no firm predictions about when, once the whole PERA Subgroup have had sight of a completed draft human health risk assessment, how long the other members of the Subgroup will require to complete an internal peer review. It is understood that it may be agreed that further peer review by external specialists will be undertaken before the work is completed and submitted to the Group.

Only when that has been done can the Group give consideration to the third (risk management) stage of the process which will involve working out how best to identify management and mitigation options for any significant risks identified.

It is understandable that the human health risk assessment has taken time: apart from the inherent complexity of the work and the need to get it right, the FSAS research has to be allowed to reach its conclusions without external influence. Those conclusions will be pertinent to any risk assessment agreed by the Group. The Group may well therefore have to await the publication of the FSAS research conclusions.

The Group has also been mindful of other policy, technology and awareness raising development processes in this country and internationally in other countries, especially at the EU level and USA. Although in some instances falling outside the Group's priority focus (evidence collation → risk assessment → risk management and mitigation advice relevant to England) they have nonetheless to be borne in mind.

The strands of public policy, all of which also involve Defra or FSA officials and scientists, have concerned lead and lead compounds entering the environment or food chains as the result of industrial processes (REACH mentioned above) or through water catchments (Water Framework Directives) or as waste products. These discussions extend to lead and other chemical substances, especially the heavy metals; lead use in ammunition being a relatively small component. The principal actors in these discussions, almost exclusively environmental and food scientists, centre around European Commission organs for food safety (DG Health and Consumers i.e. SANCO), environment (DG Environment covering Water Framework) and industrial and commercial practice (DG Enterprise and Industry) which has the role of working to strengthen Europe's industry and promote the transition to a green economy.

The Group is also aware of the platform initiative instigated by the International Council for Game and Wildlife Conservation (CIC) in conjunction with the World Forum on the Future of Sport Shooting Activities (WFSA) resulting from the CIC's 2008 assessment and resolutions at http://www.cic-wildlife.org.

The Group is also aware of the specific risk assessment of lead ammunition, conducted for AFEMS (Association of European Manufacturers of Sporting Ammunition) by International Lead Association – Europe, under the REACH regulations.

Conclusions

The conclusions to be drawn at this stage are of an interim nature and must refer back to the Group's specified aims which are:

- *To advise Defra/FSA on what the significant risks to wildlife from the use of lead ammunition are and what levels of risk these pose in the short, medium and long term. Also any perceived risks which the evidence indicates are not significant.*
    - This aim relates explicitly to wildlife risks.
    - The Group is not yet in the position to answer either part of this question but expects to be able to do so when its PERA Subgroup has completed its risk assessment and the main Group has adopted it.
    - The Group took note of the findings of the Defra research into compliance with the existing lead shot regulations for wildfowl and wetlands in England and the Group and expects to take them into account at the risk management stage.

- *To advise Defra/FSA on possible options for managing the risk to human health from increased exposure to lead resulting from the use of lead ammunition notably in terms of food safety (including game shot with lead ammunition and spent lead shot deposited on agricultural land).*
    - This aim relates explicitly to human health.
    - The Group can only consider options for managing risks when the risks have been properly assessed. Hence as above, the Group is not yet in the position to answer this question but expects to be able to do so when its PERA Subgroup has completed its risk assessment and the main Group has adopted it.
    - The conclusions of the FSAS research contract will be relevant and will have to be taken into account. This is unlikely to be concluded for several months.
    - The Group has not so far been made aware of any significant risks to human health beyond those identified as possibilities requiring investigation by the EFSA report.
    - We can say from evidence supplied by FSA (see above) that the number of reported cases of lead intoxication of farm livestock as the result lead shot being deposited on agricultural land is small.

- *To advise Defra/FSA of any significant knowledge gaps that may hinder the identification or assessment of risks, the development of technical solutions or the development of government policy.*
    - A clearer picture of knowledge gaps will emerge when the risk assessments and the conclusions of the FSAS research in connection with human health are known.

- At this stage the Group has identified the likely need for better data on game meat consumption and the quantities involved.

- *To advise Defra/FSA on any communication issues, and possible solutions, concerning the relaying of balanced information on issues surrounding the use of lead ammunition to the media, general public and stakeholders.*
    - The Group has been conscious of the widely differing and in some instances polarised and publicly expressed points of view on the questions under consideration. Such views have not affected the work of the Group or PERA Subgroup.
    - The presence of the Defra and FSA officials in the LAG process was a moderating influence also providing a sense of urgency. Their withdrawal, along with the loss of Dr Avery (from RSPB representing a wildlife stakeholder interest), Dr Tapper (from GWCT representing a game and science stakeholder interest) and Mr Gane (from CLA representing the landowning and farming stakeholder interest) has given an impression of reduced urgency and disinterest.
    - The consequence, if that is the case, is that public policy concerning lead and lead products will continue to develop, and decisions will be taken that affect lead ammunition that risk not taking full account of wider public and shooting stakeholder interests. As my final conclusion below suggests, I am confident that engagement on these questions will return.

- *To advise DEFRA/FSA of any significant impacts of possible advice or solutions on shooting activity and associated recreational, wildlife management, economic and employment impacts.*
    - The Group has been assiduous in not discussing solutions before the risks have been properly assessed and management and mitigation options for any significant risks identified have been properly considered.
    - The shooting sports stakeholder interests will however have taken note that other policy setting discussions are ongoing. They will heed the importance of ensuring that Defra/FSA and especially their environmental and food scientists who decide these matters are aware of the impacts of consequential restriction on lead ammunition use that would follow their scientific judgments, in terms especially of detriment to recreation, wildlife management, animal welfare, rural economy and employment.

Although, finally, the Group has not met since November 2010 it can be predicted that the emergence of the Subgroup's risk assessment on human health (and the others following) once agreed by the wide range of stakeholder interests represented on the Group, will stimulate renewed engagement.

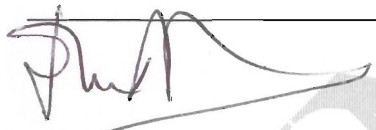
Furthermore the above mentioned public policy discussions, especially those taking place at EU level, will place a real value on informed stakeholder engagement with processes that otherwise will be driven and decided by specialist scientists and technicians.

Acknowledgements

DEFRA stipulated at the outset that no financial support was being offered, either to organisations or individuals. The Group and Subgroup have neither asked for any nor been offered any funding during the course of their work. All the participating organisations and individuals deserve robust thanks and appreciation for their time and contributions and freely given – not to mention bearing the costs that inevitably fall on their organisations.

The Group owes special thanks to Ms Lucy Munro (Defra) for her painstaking services as secretary and to Mr Lee Selvester (BASC) for faultlessly running the website.

The Group and Subgroup will continue to make meaningful progress to the best of its collective abilities, although it is noted that financial or practical support from Defra or FSA will significantly assist this.



John Swift

June 2011