Minutes of the 8th Lead Ammunition Group meeting

22 October 2013

Defra, Nobel House, London

Attendees
Mr John Batley
Mr Ian Coghill
Mr Stephen Crouch
Mr Peter Green
Prof Rhys Green
Dr John Harradine
Mr Jeff Knott
Dr James Kirkwood
Dr Alastair Leake
Prof Len Levy
Dr Debbie Pain
Mr John Swift (Chairman)
Mr Mark Tufnell
Sir Barney White-Spunner

Observing
Dr Kevin Hargin (Food Standards Agency)
Mrs Elaine Kendall (Defra)
Mr Ashley Smith (Defra)

Secretariat
Dr Matt Ellis (BASC)

1. Welcome and introductory remarks

1.1. The members of the Lead Ammunition Group, the Primary Evidence and Risk Assessment Sub-Group and observers introduced themselves.

1.2. The Chairman reported that he had now retired from BASC. Although BASC continue to cover his costs he is now acting independently, and he has stressed this point with BASC. No other conflicts of interest were declared.

2. Chairman’s report on general business and outstanding action points

2.1. The Group was informed that Lord de Mauley (Parliamentary Under Secretary of State for natural environment and science) was now the minister the Group would report to.

2.2. The Chairman gave a brief overview of the last 3.5 years leading up to the presentation of the draft risk assessments and stressed that the Group should now begin to focus in on the levels of risk, possible solutions and next steps. The importance of Green Leaves III to the process was stressed and members were urged to make time to read and understand the document.

2.3. The Chairman gave a brief overview of the need to identify the key risks to wildlife and livestock from the use of lead ammunition, the respective levels of those risks in the short, medium and long-term and possible solutions, as well as any perceived risks that the evidence indicates are not significant.

2.4. With regards to the human health risk assessment, the Chairman recalled the key question to the LAG asked by the FSA: What are the possible options for managing the risk to human health from the increased exposure to lead as a result of using lead ammunition, notably in terms of food safety? The Chairman noted that, contrary to the other two risk assessments, this acknowledged that a risk has already been identified, and so the key concern for the LAG is to identify ways of reducing this risk, for example through:

- assessing the sufficiency of existing best practice for the handling of game destined for the food chain
- existing trained hunter game meat hygiene requirements
- processing standards, retail labelling and consumer advice (beyond that released by the FSA last year)

2.5. **Action Point 6.2**. Progress report after one year will be submitted April 2013.

Carried forward

2.6. **Action Point 6.3**. The Primary Evidence and Risk Assessment Subgroup will compile a list of all new papers for inclusion on the PEL. These papers will be categorised according to geographical scope and relevance and tabled at the next meeting of the Lead Ammunition Group for approval prior to posting on the website.

Outstanding. This will be completed once all three risk assessments have been accepted by the LAG.

2.7. **Action Point 6.4**. The Chairman will speak to TA to get an update on the progress of Defra's attempt to pull together all the regulations, guidelines and Directives which are relevant to the Lead Ammunition Group.

Complete. The AMEC report has provided a clear overview of these requirements.

2.8. **Action Point 6.5**. LL to compile a list of knowledge gaps identified by the risk assessments being conducted by the PERA SG.

Complete. This forms a section in each of the draft risk assessments and does not need to be compiled separately.

2.9. **Action Point 6.10**. PERA SG to attempt to complete draft risk assessments by July 2012.

Delayed

2.10. **Action Point 6.11**. Chair to invite Risk Assessment authors to next meeting.

Complete

2.11. **Action Point 7.1**. Chairman to seek an extension with Defra/FSA to the April reporting deadline.

Complete

2.12. The Chairman reported on a joint meeting with Martin Spray (Chief Executive of the Wildfowl and Wetlands Trust) and Lord Jones (Liberal Democrats) who is an amateur ornithologist interested in the progress of the LAG.

2.13. The Chairman reported on a meeting with Len Levy and Huw Irranca-Davies and Tom Harris (Former Shadow Minister for Environment, Food and Rural Affairs) to discuss the progress of the Group. All felt that it was important that the LAG be allowed to complete its work.

2.14. The Chairman reported that the All-Party Parliamentary Group on Shooting and Conservation had received a progress report on the LAG.

[note: Rhys Green, Debbie Pain and Ian Coghill joined the meeting at this point]

3. PERASG Chairman’s introduction to the work of the Subgroup

3.1.The Chairman of the Subgroup introduced the members of the Subgroup and stressed that they are nominees from their stakeholder groups, not representatives. As such they are not representing organisational interests, rather, the science.

3.2. The Terms of Reference for the Subgroup were reviewed. The Chairman of the LAG reiterated that these ToR were agreed by the LAG at the outset of the process.

3.3. It was stressed that the Subgroup deals only with the production of the risk assessments, and not risk management, which is the job of the LAG.

3.4. It was reported that the group will use data from studies outside the UK where the data is felt to be robust and applicable.

3.5. The Subgroup Chairman reported that there were draft consensus reports, on behalf of all members of the Subgroup for:

- Risks to human health from the ingestion of lead from ammunition.
- Risks to human health through livestock feeding in areas of lead shot deposition.

The risk assessment on the risks to wildlife from ingested lead from ammunition has been completed as a 3rd draft by the authors and will now be discussed by the Subgroup to try and reach consensus.

3.6. The Chairman of the LAG thanked the Chairman and members of the Subgroup for their work.

3.7. The LAG Chairman reiterated that the reports that the LAG eventually bases recommendations on should be capable of peer-review.

4. Presentation of the Risk Assessment for Human Health

4.1. The Group received a presentation on the risks to human health from the ingestion of lead from ammunition.

4.2. The difference between inorganic lead (i.e. metallic lead and lead salts) and organic lead (predominantly organolead, as previously used as an anti-knock agent in petrol) was clarified.

4.3. There was discussion over how much lead contaminated land there is the UK. There were conflicting views with some evidence of significantly elevated levels of lead in urban soils. It was reported that the British Geological Survey has recently completed a study measuring “normal background concentrations” (NBC’s) of contaminants in English soils. NBCs are the upper 95% confidence limit of the 95th percentile of levels of lead in the soil that are widespread today.

4.4. A knowledge gap was identified in the understanding of the effect of range on the fragmentation of lead shot.

4.5. It was clarified that although significant fragmentation of lead bullets can occur without the bullet striking a bone, the view was expressed that the greatest degree of fragmentation (eg up to 30cm from the wound channel) does require a major bone strike (such as the scapula).

4.6. It was clarified that although the EU maximum allowable levels of lead in foodstuffs are variable (by food type), that greater levels of lead contamination were only permissible in rarely eaten foods, or foods that were eaten in small quantities (for example herbs).

4.7. There was discussion over the relevance of the Pain et al. (2010) paper on lead levels in game meat, given that it is 4 years old and was felt by some to be reliant on small sample sizes (approximately 20 for most species, but from approximately 60 to almost 200 for three species where VMD data were available). However, it was argued that as there was no significant variation among gamebird species in lead contamination and standard errors for the estimate of the mean lead concentration in the meat was low (indicating a likely high degree of precision in the estimates) and that the Veterinary Medicines Directorate (VMD) conducts an annual monitoring programme on lead in game meat, that there was no need to repeat the study. It was further noted that the estimates produced by the VMD were generally higher than those produced by Pain et al., presumably because large fragments of metallic lead were not removed in the VMD studies prior to testing, whereas Pain et al. removed large fragments to simulate normal culinary practice.

4.8. There was a lengthy discussion of the results on SATs tests that are included in the risk assessment. It was accepted that these are difficult to compare with the results for other outcomes because only outcomes with and without a high level of gamebird consumption (3 gamebird meals per week or none) were evaluated. In addition, there is no BMR for SATs tests because it was published too late for EFSA (2010) to consider.

4.9. It was asked what effort had been made to control for the use of non-lead ammunition in the shooting of game species. In answer it was stated that no effort had been made to control for this as it was known that pheasant was the most commonly consumed game species, and it was thought unlikely that a significant proportion of pheasant were shot with non-lead. In addition, Pain et al. (2010) found nearly all shot recovered from UK wild-shot gamebirds were composed primarily of lead. It was pointed out that recent studies showed that the majority (70%) of wild-shot ducks purchased from game dealers had also been shot with lead ammunition.

4.10. The LAG Chairman urged caution in the use of the BASC survey on game meat consumption as this survey was specifically aimed at promoting game meat consumption in the north-west of England. There was a belief that members may have deliberately over-stated their game meat consumption in an effort to promote and protect game shooting. Therefore this study may overestimate typical consumption.

4.11. It was clarified that blood lead levels provide a relatively short-term indication of lead exposure. Although blood lead can decrease to normal levels within a relatively short period of time following a single exposure, this lead is generally incorporated into body tissues (such as the bones, liver and kidneys). Lead accumulates in bones over time and is generally only slowly released.

4.12. It was clarified that the BMD (Benchmark Dose) is the dose of lead required to cause an increase in blood lead associated with a pre-specified change in response, termed the Benchmark Response (BMR).The BMRs used were defined by EFSA and selected by PERASG because such

changes were considered by EFSA to have significant consequences for human health on a population basis. It was clarified that the BMDL, the lower one-sided 95% confidence bound of the BMD, was not used by PERASG because evaluating uncertainty is technically difficult. Had PERASG used BMDL instead of BMD then the game consumption required to produce pre-specified health impact would have been much lower than the values given by PERASG. Hence, the approach used by PERASG is much less precautionary than that used by EFSA (2010).

4.13. There was discussion over what were realistic levels of game consumption. It was identified that there was little robust data available on this, and no further sources of data were identified.

4.14. The peer review process was explained:

- The authors submit a paper to the journal editor
- The editor decides on whether or not to consider the paper further. If so, it is sent to anonymous referees to comment on. If not, it is rejected.
- The referees provide feedback on whether or not the paper should be accepted, and what, if any changes are required before publication. The paper may be rejected at this stage.
- The comments are sent back to the authors to address, before being resubmitted.
- If the editor judges that the comments have been adequately addressed then the paper will be published. Otherwise the author will be asked to revise the paper again or it will be rejected.

5. Presentation of the Risk Assessment for Livestock

5.1. The Group received a presentation on the risks to human health through livestock feeding in areas of lead shot deposition.

6. Presentation on the progress of the Risk Assessment for Wildlife

6.1. The Group received a presentation on the progress of the risk assessment on the risks to wildlife from ingested lead from ammunition.

6.2. It was questioned what specific issues were causing difficulties with the wildlife risk assessment. The following concerns were outlined:

- There were differences in the interpretation of the amount of weight to apply to the evidence
- It was felt that the draft risk assessment had not sufficiently addressed the step-by-step evidence for the source-pathway-receptor linkages, and had instead focused too much on assessing the evidence on a publication by publication basis.

- It was felt that there was significantly more information available that should be included in the next draft of the risk assessment. It was pointed out that these were additional to the original references included in the Primary Evidence List.

6.3. It was agreed that the wildlife risk assessment should be provided to the LAG no later than 5 December 2013, to allow consideration before the next meeting of the LAG (19 December). It would be preferable for the LAG to receive a consensus wildlife risk assessment, but if this cannot be achieved by 5 December then minority reports should be submitted.

6.4. Defra said that ministers have been expecting LAG to report for some time and that it appears this is likely to be early in 2014. If their recommendations need to be acted upon, it is important to give sufficient time to consider this before Parliament is dissolved in spring 2015 before the next election. Departments enter into a period of purdah when no business can be done once this has happened so the beginning of 2015 is the latest a report could be submitted for consideration.

6.5. Subgroup members were thanked for their presentations and invited to leave the meeting so that the LAG could discuss next steps.

7. Decisions by the main committee

7.1. It was agreed that the next meeting of the LAG will the 19 December 2013 in conference rooms A & B of Nobel House, London. A venue has yet to be decided. Debbie Pain cannot attend the meeting, so Dr Ruth Cromie will attend in her place.

7.2. It was reiterated that if the PERASG cannot provide a consensus report for the next meeting of the LAG then minority reports should be provided.

7.3. The Group discussed posting the risk assessments on the LAG website. There were mixed feelings with some members feeling that, in the interests of transparency, the risk assessments should be posted as soon as they are finalised, and others suggesting that the decision should be postponed until the next meeting of the LAG. The FSA suggested that it would be counter-productive to release the risk assessments until they had been agreed upon by the LAG and recommendations for risk management could be included. As such it was agreed that the risk assessments will be held until at least 19 December, at which time their release will be discussed again. Until such time the risk assessments are provided, on a strictly privileged basis, to the members of the LAG, who can seek views on the documents by experts from their stakeholder groups.

7.4. It was agreed that the Group had seen sufficient evidence of potential risks to begin considering possible mitigation measures.

Action Point 8.1: All to consider mitigation measures for the risks identified in the two completed risk assessments.

7.5. It was suggested that having identified the main risk areas and potential mitigation options the Group could tabulate the residual risk remaining after mitigation. However, it was agreed that for now the Group would focus on identifying the key risks and potential mitigation options.

7.6. The Chairman reminded the Group that all media enquiries should be passed to him.

8. General discussion

8.1. It was requested that if there were any further specific questions on the risk assessments that they be sent to the Chairman of LAG and the Chairman of PERASG.

8.2. The difference between peer-review and second opinion were discussed. It was agreed that the group would probably seek second opinions on risk assessments, a less formal version of the peer-review process. It was suggested, but no consensus reached, that two areas of the human health risk assessment in particular would benefit from second opinion:

- Data on the typical levels of game consumption in the UK. It was felt that the PACEC study overestimated the quantity of game available to eat in the UK, and that the FSA should have more accurate data in the form of the quantity of game passing through Approved Game Handling Establishments.
- Data on lead in food stuffs other than game

This will be discussed further at the next meeting of the LAG.

8.3. There was discussion over whether risk assessment authors should propose risk management options for their risk assessments. It was felt that although they were likely to be in a good position to provide possible options, that they were not obliged to, and nor are they likely to be the only experts that could provide options. As such members of the LAG are free to consult the risk assessment authors, but they will not be used exclusively.

8.4. There was discussion over how the LAG could contextualise the risk from ingestion of ammunition lead. For example, how does it compare to the risk from the increase in systolic blood pressure from excessive consumption of salt or alcohol, or the increased risk of cancer from consumption of red meat? It was agreed that other risks are not the remit of the LAG, which has been asked to deal specifically with risks from lead. Members of the Group were encouraged to read widely about these issues, but it was made clear that the Subgroup would not be in a position to provide this sort of evidence for them.

9. Any other business

9.1. No other business was discussed.

10. Action points carried forward

Action Point 6.2. Progress report after one year will be submitted April 2013.

Carried forward

Action Point 6.3. The Primary Evidence and Risk Assessment Subgroup will compile a list of all new papers for inclusion on the PEL. These papers will be categorised according to geographical scope and relevance and tabled at the next meeting of the Lead Ammunition Group for approval prior to posting on the website.

Outstanding. This will be completed once all three risk assessments have been accepted by the LAG.

Action Point 6.10. PERA SG to attempt to complete draft risk assessments by July 2012.

Delayed

Action Point 8.1. All to consider mitigation measures for the risks identified in the two completed risk assessments.