

## Natural England Humaneness Monitoring Summary of Controlled Shooting in Year 2 (2014) of the Licensed Badger Control Areas



*Natural England Report to Defra & the Chief Veterinary Officer*

### Introduction

In August 2013, licensed culling of badgers commenced in two locations (West Somerset (WS) and West Gloucestershire (WG)) as part of Government's policy on Bovine TB and badger control in England (published in December 2011). Two culling methods were permitted namely controlled shooting and cage trapping and dispatch. To evaluate the effectiveness, safety and humaneness of controlled shooting, Defra appointed an Independent Expert Panel (IEP) for Year 1 of these 4-year licences in 2013. The Animal & Plant Health Agency (APHA) was tasked with collecting the field data on controlled shooting. Natural England's role (as the Licensing Authority) was to monitor compliance with licence conditions and Best Practice Guidance.

Following completion of Year 1 of the Pilots, the IEP submitted its report ('Pilot Badger Culls in Somerset and Gloucestershire') and had the following comments and recommendations relating specifically to humaneness:

- 10.6.3. *"If culling is continued in the pilot areas, or in the event of roll-out to additional areas, standards of effectiveness and humaneness must be improved. Continuation of monitoring, of both effectiveness and humaneness, is necessary to demonstrate that improvements have been achieved. In addition, such monitoring should be independently audited".*
- 10.6.5. *"....steps should be taken to reduce the number of badgers that may take more than 5 min to die after being shot at. This means improving the accuracy of shooting to avoid non-lethal wounding and misses, and minimising the number of badgers able to take refuge in cover or in a sett after being wounded".*

In light of these recommendations, the Chief Veterinary Officer required the continuation of monitoring and recommended that at least 60 separate shooting events of badgers would need to be observed in the field during controlled shooting to inform a decision on the humaneness of controlled shooting of badgers in Year 2.

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Based on the efforts of the APHA in Year 1 (218 monitoring events to achieve 88 Shooting Events), Natural England, acting as the independent monitor, was requested to conduct approximately 180 Humaneness Monitoring visits to collect the necessary data.

To improve accuracy of shots, all existing Contractors attended refresher training and all new Contractors (plus a proportion of existing Contractors) were put through a field-based assessment and shooting test.

## **Methods**

### **Field Monitoring**

Natural England deployed 13 Monitors to conduct Humaneness Monitoring of Contractors licenced to carry out Controlled Shooting in the WS and WG badger control licence areas. Five were assigned to WS and 6 to WG; the remaining 2 alternated between each area.

Monitors were equipped with suitable viewing equipment to observe events; remaining close enough to the Contractor to enable a clear view of the target species prior to and post shot. Observations that were recorded in the field included numbers of badgers shot at and retrieved, numbers of badgers shot at but not retrieved and number of shots taken for each badger.

Where Monitors observed a shot, and regardless of its outcome, they recorded badger reaction to the shot.

## **Results**

### **Monitoring Events**

Natural England Monitors conducted a total of 190 Humaneness Monitoring visits across both areas (86 in WS and 104 in WG) during the 6-week period.

Of the 73 Contractors who participated in controlled shooting (30 in WS and 43 in WG), Natural England conducted Humaneness Monitoring visits on 63 of these (24 in WS and 39 in WG). This represented 86% of the controlled shooting Contractors for both areas (80% in WS and 91% in WG). The aim was to monitor as many Contractors as possible during the 6 weeks but not all.

### **Shooting Events**

Natural England Monitors recorded data on 63 Shooting Events (39 in WS and 24 in WG) during the 6-week period, which required 3.02 visits per Shooting Event.

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The outcome of Shooting Events for the two areas combined is presented in Table 1. Fifty-seven badgers were shot at and retrieved, with 52 of these receiving a single shot and 5 receiving multiple shots. Six badgers were shot at but not retrieved.

<b>Total number of Shooting Events (for WS &amp; WG combined)</b>	<b>63</b>
• Number of badgers shot at and retrieved	57
<i>(i) number of badgers receiving single shots = 52</i>	
<i>(ii) number of badgers receiving multiple shots = 5</i>	
• Number of badgers shot at but not retrieved	6

**Table 1. Number of Shooting Events and their outcome for WS & WG combined**

The outcome of Shooting Events for WS is presented in Table 2. A total of 39 Shooting Events were recorded. Thirty-six badgers were shot at and retrieved, with 34 of these receiving a single shot and 2 receiving multiple shots. Three badgers were shot at but not retrieved.

<b>Total number of Shooting Events (for WS)</b>	<b>39</b>
• Number of badgers shot at and retrieved	36
<i>(i) number of badgers receiving single shots = 34</i>	
<i>(ii) number of badgers receiving multiple shots = 2</i>	
• Number of badgers shot at but not retrieved	3

**Table 2. Number of Shooting Events and their outcome for WS**

The outcome of Shooting Events for WG is presented in Table 3. A total of 24 Shooting Events were recorded. Twenty-one badgers were shot at and retrieved, with 18 of these receiving a single shot and 3 receiving multiple shots. Three badgers were shot at but not retrieved.

<b>Total number of Shooting Events (for WG)</b>	<b>24</b>
• Number of badgers shot at and retrieved	21
<i>(i) number of badgers receiving single shots = 18</i>	
<i>(ii) number of badgers receiving multiple shots = 3</i>	
• Number of badgers shot at but not retrieved	3

**Table 3. Number of Shooting Events and their outcome for WG**

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### Badgers Shot at and Retrieved

For those badgers that were shot at and retrieved, Natural England Monitors recorded badger reaction to the shot into 4 distinct categories namely 'Dropped to the Shot', 'Reacted to the shot, moved a short distance and dropped', 'Reacted to shot, follow-up shot taken and dropped' and 'Reacted to the shot, moved a short distance, follow-up shot/shots taken and dropped to shot/s'. Table 4 presents these results and shows that of the 57 badgers shot at and retrieved, 51 (90%) dropped instantly to the shot, 3 (5%) moved a short distance after the shot and dropped and 3 (5%) reacted to the shot in such a way that follow-up shots were deemed necessary.

Badger reaction to shot	WS	WG	Combined
Dropped to the shot	34	17	51
Reacted to shot, moved a short distance and dropped	1	2	3
Reacted to shot, follow-up shot taken and dropped	-	2	2
Reacted to shot, moved a short distance, follow-up shot/s taken and dropped to shot/s	1	-	1
<b>Total badgers 'shot at &amp; retrieved'</b>	<b>36</b>	<b>21</b>	<b>57</b>

**Table 4. Monitor observations of badger reaction to being shot**

There were 5 incidences (7.9%) over the two areas where Natural England Monitors recorded multiple shots on badgers from those that were shot at and retrieved. One of these received 3 shots, with the remainder receiving 2. Table 5 below categorises these multiple shots:

Multiple (follow-up) shots	WS	WG	Combined
Animal dropped to shot – precautionary follow-up shot taken	1	1	2
Animal reacted to shot – follow-up shot taken	-	2	2
Animal moved a certain distance following first shot – follow-up shot/s necessary	1	-	1

**Table 5. Categorisation of follow-up shots on badgers**

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### Badgers Shot at but Not Retrieved

For those badgers that were shot at but not retrieved, Natural England Monitors recorded badger reaction to the shot/s. In these circumstances, Contractors adhered to the follow-up protocol to try to ascertain the reason for a shot at but not retrieved outcome. Table 6 presents the data for all 6 events in both areas (3 in WS and 3 in WG).

Monitor Observation	WS	WG	Combined
Contractor pulled the shot. Visual bullet strike to the ground observed. Badger fled with no abnormality to gait.	2	2	4
As shot was taken badger moved at right angles to Contractor. Visual bullet strike to the ground observed. Badger fled with no abnormality to gait.	-	1	1
Monitor not in position to observe shot. Contractor reported clear miss and badger fled with no abnormality to gait.	1	-	1
<b>Total</b>	<b>3</b>	<b>3</b>	<b>6</b>

**Table 6. Monitor observations of Shooting Events where badgers were shot at but not retrieved**

### Monitor Observations and Post Mortem Data

In all cases where a Monitor recorded a Shooting Event of 'shot at and retrieved', an accompanying post mortem of the resultant carcass was conducted by the APHA. Table 7 below presents the summary of the data for Monitor Observations and corresponding post mortem findings for both areas. Of the 57 Shooting Events, 53 badgers (93%) were found to have major firearm injury to the thorax on post mortem. Three badgers (5%) had minor/moderate firearm injury to the thorax at post mortem and one badger carcass (2%) was uninterpretable due to post mortem degradation of the carcass. This animal received multiple shots in quick succession with no further movement observed after approximately 15 seconds. On the 49 occasions (86%) where Monitors observed badgers dropping to the shot (with no precautionary or necessary follow-up shot taken), 47 (96%) of the carcasses revealed major firearm injury to the thorax at post mortem, with the remaining 2 (4%) having minor/moderate injury. Three badgers were observed to react to the shot and move a short distance before dropping. All 3 had major firearm injury to the thorax on post

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mortem. Of the badgers (5) that received follow-up shots (whether precautionary or required), 3 had major firearm injury to the thorax on post mortem, 1 had minor/moderate and 1 was uninterpretable (as explained above).

Full details for Monitor Observations and corresponding post mortems can be viewed within Appendix C1.

Monitor Observation	Corresponding PM	Nos of occurrences		
		WS	WG	Combined
Dropped to the shot	Major firearm injury identified in Thorax	32	15	47
Dropped to the shot	No major firearm injury (minor/moderate damage) identified in Thorax	1	1	2
Dropped to shot but precautionary follow-up shot taken	Major firearm injury identified in Thorax	1	1	2
Reacted to shot and precautionary follow-up shot taken	Major firearm injury identified in Thorax	-	1	1
Reacted to shot and precautionary follow-up shot taken	No major firearm injury (minor/moderate damage) identified in Thorax	-	1	1
Reacted to shot, ran a short distance and dropped.	Major firearm injury identified in Thorax	1	2	3
Dropped to the shot, got up, ran a short distance, follow-up shot taken and dropped to the shot, precautionary third shot taken – no further movement	Uninterpretable due to post mortem change	1	-	1

**Table 7: Monitor observations of Shooting Events and correspond post mortem findings**

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### Follow-up Actions

Requests for follow-up action were submitted for several reasons namely:

- PM results

These requests were received from the APHA as a result of post mortem findings which revealed (i) an absence of severe injury in the recommended target area, and/or (ii) evidence of multiple hits.

- Contractor reporting

These requests were generated internally by Natural England following interpretation of the NFU raw data where Contractors had declared multiple shots on carcasses but the post mortem findings did not corroborate this. Possible explanations could be that the post mortem did not detect multiple hits on the carcass or that the follow-up shot taken by the Contractor did not connect with the badger.

- Monitor Observations

These requests were received from Monitors following Humaneness Monitoring visits where a Shooting Events was recorded as 'shot at but not retrieved' or multiple shots were recorded on 'shot at and retrieved'.

Table 8 below shows the number of follow-ups that were dealt with for both areas and the reason for the request.

Source of Follow-up request	WS	WG	Combined
PM results	10	23	33
Contractor reporting	5	8	13
Monitor Observations	3	3	6
<b>Total follow-ups</b>	<b>18</b>	<b>34</b>	<b>52</b>

**Table 8: Numbers and categories of Follow-up Actions**

For all Follow-ups relating to PM results or Contractor Reporting, the Contractor was telephoned for an explanation of the actual event.

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For all Follow-ups relating to the outcome of Humaneness Monitoring visits, Monitor records of Shooting Events were used to inform decisions on the most appropriate course of action.

All Follow-up requests were resolved satisfactorily and assigned into one of the categories below:

- Satisfied with explanation provided
- Request that further Humaneness Monitoring visit be conducted
- Request that next carcase/s undergo post mortem
- Cull Company notification
- Contractor suspension

Full details of Follow-up requests and their corresponding actions/resolutions can be viewed within Appendix C2.