



Department  
for Environment  
Food & Rural Affairs

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## **Defra response**

# **Pilot Badger Culls in Somerset and Gloucestershire: Report by the Independent Expert Panel**

**April 2014**

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# Introduction

We welcome the report of the Independent Expert Panel, and thank the panel members for the considerable time and effort that they have devoted to advising on the design of the monitoring protocols and considering the detailed output of the monitoring that was carried out during the pilot culls.

# Monitoring

This monitoring carried out by the Animal Health and Veterinary Laboratories Agency (AHVLA) was the most detailed and comprehensive study carried out on the shooting of wildlife to date. The data gathered enabled a sophisticated analysis of effectiveness and humaneness. We are reassured by the Panel's conclusion that the monitoring and analyses of data were of a high quality.

We recognise that the fieldwork carried out by AHVLA staff was under challenging conditions, including the risk of interference by those seeking to prevent the culls, and are grateful for their contributions.

It should also be recognised that the cull company contractors were operating under challenging circumstances, and as this was the first time they had carried out controlled shooting of badgers, there was a need for them to adapt quickly to the pressures of working in the face of a sustained campaign of harassment and intimidation, and under the time pressures imposed by the 6-week period. Despite these circumstances the pilots showed that badger culling can be carried out safely.

# Conclusions

As in any complex operation there are always lessons to be learned and the Panel's report offers useful insights to be taken into account in planning for this year's culls.

The Panel has given detailed consideration to the data generated during the pilots. On effectiveness:

- We recognise that even with a combination of cage trapping and controlled shooting, the desired 70% level of control was not achieved in the first year. However, this is only the start of a 4-year culling programme.
- We also note that progress in removal levels during the RBCTs was variable each year, and we need to focus on the longer term outcome.

- We also learned that the methodologies available for estimating populations are imprecise, and we need to deploy a number of combined approaches for arriving at an overall assessment of effectiveness.

The panel has also concluded that standards of accuracy of shooting need to be increased to ensure that controlled shooting is as humane as possible. We have to recognise that shooting under the circumstances experienced in the field cannot be expected to deliver the same level of precision as that achieved in more controlled environments (for example, in slaughterhouses or laboratories).

We also need to place shooting of badgers in context with the shooting of other wildlife species that is considered normal practice and is not subject to the same level of scrutiny and control. The observations and post-mortems show that, when shot accurately, death is rapid and we are confident that this was the case with the vast majority of badgers culled.

However, we recognise that there were a number of circumstances where shots were apparently missed, and we are uncertain of the outcome. We need to reduce the number of these events and will work with cull companies to ensure that training and assessment of contractors is enhanced to ensure that accuracy is improved.

## **The IEP recommendations and Government response**

We have set out our response to each of the Panel's recommendations. In implementing these recommendations we have to balance the need to continue monitoring the effectiveness of the cull and accuracy of shooting with the costs of carrying out detailed fieldwork and post-mortem examinations.

Monitoring effectiveness and humaneness of the cull will continue in an appropriate and cost-effective way, building on the quality of the research carried out in the pilots. We will work with Natural England to require better data collection by the cull companies to evaluate progress and improve effectiveness, for example by better targeting areas where badgers remain, and take steps to ensure sufficient effort is deployed to cull all the known badger groups in defined areas. Similarly, we will implement monitoring of the accuracy of controlled shooting that will be sufficiently rigorous to identify issues of concern so that timely interventions can be made if necessary.

The purpose of the pilots was to test our assumptions about safety, efficacy and humaneness of controlled shooting. This has now been completed through the high-quality information generated that will enable us to plan how we proceed in controlling this wildlife reservoir of bovine TB effectively, humanely and safely. We will work with Natural England to put measures in place to address the recommendations made by the Panel.

The IEP report has been published on GOV.UK.

IEP Report Section	Independent Expert Panel Recommendations	Government Response
7.1.	As noted above (para 5.4.6) a minority of contractors were initially unwilling to be accompanied by observers. If observers are deployed in future culls it must be explained to contractors before the cull starts that part of the requirement for being a contractor is that he/she would be joined by an observer and that evasive action on the part of the contractor in enabling an observer to join them would violate that requirement.	<p><b>Accepted</b></p> <p>All contractors are expected to co-operate with the need for monitoring or compliance checks.</p>
7.2.	The findings reported in paragraphs 5.3.15 – 5.3.17 suggest that shooting accuracy (as judged by reference to the anatomical target area given in Best Practice Guidance) was low. However, NFU and the contractors recognised that chest and shoulder shots were more effective and humane and this has been confirmed by post-mortem examinations. Consequently, we recommend that shots should be aimed at the middle of the chest when high velocity rifle bullets are used. The Best Practice Guidance should be amended accordingly with advice from AHVLA as to the size and shape of the target area.	<p><b>Accepted.</b></p> <p>Defra will work with Natural England and AHVLA to amend the Best Practice Guidance to clarify guidance about the target area.</p>
7.3.	It seems likely that the Best Practice assessment used before the cull started did not detect all the contractors who were poor shots in the field. Since it is clear that the shooting assessment alone is not a sufficient measure of competence in the field, Cull Companies and Natural England as the Licensing Authority must have robust systems in place to monitor contractor performance, identify inefficient individuals quickly and remove them from the cull. We suggest that contractors should be selected and initially licensed using the current criteria, but that early in any future culls individuals should be observed in the field by an independent assessor on at least one occasion (possibly as part of compliance monitoring by NE), possibly using the Deer Stalking Certificate Level 2 <sup>1</sup> portfolio model. Once assessment had been carried out and performance of the contractor deemed to be satisfactory, the licence would be confirmed.	<p><b>Accepted.</b> Defra will work with Natural England, NFU, Cull Companies and AHVLA to:</p> <ul style="list-style-type: none"> <li>• Ensure that cull companies implement robust monitoring of contractor performance, and take action to manage poor performance.</li> <li>• Enhance contractor selection, training and assessment. Consideration will be given to how the Deer Stalking Certificate approach might be applied to the badger cull.</li> <li>• Implement a mechanism for independent assessment of shooting early in the cull.</li> </ul>

<sup>1</sup> <http://www.dmq.org.uk/>

7.4.	Following the pilot cull AHVLA observers reported that the standard of sett assessment, baiting and pre-baiting varied considerably amongst contractors. In future, greater emphasis should be given to selecting contractors with adequate field craft. It should also be emphasised that cull effectiveness would be improved if Best Practice Guidance on sett assessment, baiting and pre-baiting was followed and training improved.	<b>Accepted.</b> Defra will work with Natural England, NFU and Cull Companies to enhance contractor training in field craft in advance of the cull and will help cull companies access the expertise they need to ensure training is comprehensive and field-based.
7.5.	A condition of the TB Area Control Licences as issued for this first year of the pilot culls was that no badger should be taken or killed in the Control Area until Natural England had specified in writing that there was access to at least 70% of the total land area. It is now clear that a likely contributory reason for the low effectiveness of the pilot culls was that less than 70% of land in each area was covered by cage trapping or shooting. This needs to be rectified in any subsequent culling operation, either in these pilot areas or in the event of roll-out.	<b>Accepted.</b> Defra will work with Natural England, the NFU and cull companies to: <ul style="list-style-type: none"> <li>• Set more stringent operational planning requirements by cull companies to ensure that deployment of contractors is coordinated on accessible land and distributed to reduce the badger population across the entire control area.</li> <li>• Set more stringent data and reporting requirements to ensure that cull companies gather appropriate performance data and that this is provided to Natural England on a regular basis so it can ensure that all land parcels are appropriately covered by cage trapping and shooting.</li> </ul>
7.6.	Future licences should specify both that (a) the Licensing Authority must be satisfied that at least 70% of the land comprising the relevant Control Area is accessible for control prior to badger removal commencing, and (b) 70% of the Control Area is covered by cage trapping and/or shooting during the period of control. The Licensing Authority should put in place procedures to monitor compliance with these conditions during the period of the cull.	<b>Accepted.</b> <b>See response to 7.5 above.</b> Natural England proposes to put in place measures to ensure that progress across the accessible land during the culling period can be monitored to ensure that all accessible land is adequately covered by shooting and cage trapping.  Cull companies will be required to provide the specific information needed to allow Natural England to carry out an assessment of progress.

10.6.3.	<p>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.</p>	<p><b>Accepted.</b> Defra will work with Natural England, NFU and Cull Companies to apply lessons learned from the first year of culling and the detail of the Independent Panel Report to put in place measures to enhance effectiveness and humaneness. Defra and Natural England will work together to implement an appropriate level of monitoring to assess how standards are being raised.</p>
10.6.4.	<p>To minimise the likelihood of biased effectiveness estimates arising from violation of the population closure assumption, culls should be conducted over as short a period as possible.</p>	<p><b>Accepted.</b> Defra will work with Natural England to apply lessons learned to minimise the culling period whilst allowing cull companies an adequate opportunity to achieve the required level of badger control.</p>
10.6.5.	<p>As regards humaneness, 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 so as to avoid non-lethal wounding and misses, and minimising the number of badgers that are able to take refuge in cover or in a sett after being wounded. Section 10.7 (below) contains specific recommendations aimed at achieving these goals.</p>	<p><b>Accepted.</b> Defra will work with Natural England, AHVLA, NFU and Cull Companies to enhance the Best Practice Guidance, training and assessments of contractors to improve the overall quality of marksmanship. Appropriate monitoring of shooting and carcasses will be carried out to assess quality of marksmanship.</p>

10.6.6.	Point estimates of populations, which have been used to set targets for the pilot culls, are inherently uncertain and variable. If shooting alone is used to control badgers across a 150 km <sup>2</sup> area over a 6-week period, pre-cull targets may not be necessary, since we have high confidence that shooting alone over a 6-week period would be insufficient to remove >95% of the badger population.	<p><b>Accepted.</b> Estimating badger populations, even to modest levels of precision and accuracy, has proven to be extremely difficult to achieve even using extensive sett surveys combined with cutting-edge techniques to estimate the number of badgers per sett. We now know that population estimates may give a false sense of precision for the purpose of setting targets.</p> <p>We note that this recommendation refers to the use of shooting alone. We expect the continued use of both controlled shooting and cage trapping.</p>
10.6.7.	If shooting is combined with other forms of badger culling over a 6-week period, then initial population estimates and targets should be used to safeguard against >95% removal, although the imprecision and potential inaccuracy of these estimates and targets should be recognised.	<p><b>Accepted.</b> Whilst accepting that population estimate methodologies are imprecise, we recognise the need to safeguard against culling being detrimental to the survival of the badger population concerned (which is what setting a maximum number had been intended to do). The evidence suggests that such an outcome would be extremely unlikely.</p> <p>Defra will work with Natural England and AHVLA to make initial population estimates using best available data, for planning purposes, and these will also help provide safeguards. Methods to monitor the cull areas for the remaining presence of badgers will also continue to be used.</p>
10.6.8.	Steps need to be taken to ensure that data provided by contractors are fit for use in any assessments relating to population size, effectiveness or humaneness.	<p><b>Accepted.</b> Defra will work with Cull Companies, NFU and Natural England to ensure that data provided by contractors and cull companies are more consistently accurate and fit for the purpose of assessing progress, efficacy and humaneness.</p>

<p>10.6.9.</p>	<p>The cull-sample-matching approach represents the most reliable way in which to assess the effectiveness of any future culling operations. However, the uncertainty of population and effectiveness estimates increases as the proportion of the population genotyped decreases. Therefore, in any future culling operations, in the pilot areas or elsewhere, hair trapping and genotyping effort should be at least as great as in the pilot culls.</p>	<p><b>Noted.</b></p> <p>We note the conclusions of the IEP that the cull sample matching methodology is the most reliable way for determining the proportional reduction in a population. However, it is an expensive Government intervention involving pre-cull fieldwork every year and is potentially affected by interference with hair-traps by those seeking to prevent the culls.</p> <p>Defra will work with Natural England and AHVLA to adopt more cost-effective methodologies to assess effectiveness of culling, that do not rely solely on measurement of population numbers. We will aim to take a more cost-effective approach to monitor progress of the cull. Rather than focusing primarily on pre-cull numerical targets based on population estimates which we now know are subject to considerable uncertainty, we will focus on more useful indicators of progress of the cull. We propose focusing on the effort deployed by cull companies in each unit of land within the cull area, to enable regular assessments of whether the cull companies are making sufficient progress during the cull.</p> <p>Defra will work with Natural England to require better data collection by the cull companies to evaluate progress and improve targeting to areas where badgers remain, and take steps to ensure sufficient effort is deployed to cull all the known badger groups in defined areas. Focusing on effort will enable us to ensure that a high level of intensive effort has been deployed over a short period of time and to a sufficiently uniform degree across the whole culling area.</p>
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10.6.10.	If the pilot culls proceed in the current areas, or if they are rolled out more widely, there needs to be closer monitoring of adherence of the contractors to all the conditions under which culling licences were granted, including the area of land covered by culling activities, to ensure that all compliant land is covered appropriately by culling effort.	<b>Accepted.</b> Defra will work with Natural England to review how monitoring to enforce requirements of licence conditions should be carried out.
10.6.11.	In the event of changes being made to training and Best Practice Guidance on shooting, field observations by competent individuals and post-mortem examinations should continue throughout the culling period in order to assess the effects of these changes. If no changes to Best Practice Guidance are made, field observations should continue nevertheless to ensure adherence to good practice and licence conditions.	<b>Accepted.</b> Monitoring of shooting will continue at an appropriate level to assess effectiveness of the enhancements we make to Best Practice Guidance on shooting.  The monitoring carried out during the pilot culls was an expensive Government intervention designed to gather detailed information. In designing the approach to continued monitoring, we will focus monitoring on the key factors identified by the IEP, deploying field observations and carcass inspection/post mortem examination to identify issues of concern so that timely interventions can be made if necessary.
10.7.2.	Lack of data prevented us from evaluating the effectiveness and humaneness of shotguns. If shotguns are to be used in future culling, monitoring should be put in place to confirm their effectiveness and humaneness.	<b>Accepted.</b> If shotguns are used under existing licences, shooting will be closely monitored.
10.7.3.	We do not recommend any increase in the specified distance from which badgers may be shot.	<b>Accepted.</b> We have agreed with Natural England that no changes will be made to the Best Practice Guidance in relation to maximum distances for shooting.
10.7.4.	We do not recommend any reduction in the minimum distance from a sett at which badgers should be shot. However, Natural England may wish to review the minimum distance criterion with a view to reducing the number of wounded badgers that find refuge in a sett.	<b>Accepted.</b> Defra will work with Natural England to clarify the Best Practice Guidance with respect to minimum distances of shooting from setts.
10.7.5.	In view of the post-mortem data collected during the pilot culls, Best Practice Guidance on the optimal target area for shooting badgers should be reviewed.	<b>Accepted.</b> Defra will work with Natural England and AHVLA to amend the Best Practice Guidance to clarify the optimal target area for shooting badgers.

10.7.6.	Thermal imaging equipment should be used more widely, to assist in locating shot badgers. This measure would reduce the likelihood of badgers being hit but not retrieved, and hence of being at risk of marked suffering.	<b>Accepted.</b> Defra will work with Natural England, NFU and cull companies to encourage wider use of thermal imaging equipment.
10.7.7.	During training of contractors, greater emphasis should be placed on field craft, including sett assessment, pre-baiting and baiting, and it should be strongly emphasised that these must be done in accordance with Best Practice Guidance.	<b>Accepted.</b> Defra will work with Natural England, NFU, Cull Companies and AHVLA to enhance contractor training in field craft and baiting, and help ensure that contractors have access to expertise to achieve this.
10.7.8.	To improve standards of effectiveness and humaneness, only shooters who have demonstrated a high standard of marksmanship in the field, and who have a good knowledge of badger behaviour, should be licensed.	<b>Accepted.</b> Defra will work with Natural England, NFU, Cull Companies and AHVLA to enhance how contractors are trained, assessed and selected for badger culling. We will also work to ensure that systems to monitor their performance are in place and actively used during the cull.
10.7.9.	To ensure that culling takes place over a minimum of 70% of the land within each Control Area, Natural England (as the licensing authority) should adopt procedures to allow it to be confident that this 70% level is covered by cage trapping and/or shooting during the period of control.	<p><b>Accepted.</b> Defra will work with Natural England, the NFU and cull companies to:</p> <ul style="list-style-type: none"> <li>• Set more stringent operational planning requirements by cull companies to ensure that deployment of contractors is coordinated on accessible land and distributed to reduce the badger population across the entire control area.</li> <li>• Set more stringent data and reporting requirements to ensure that cull companies gather appropriate performance data and that this is provided to Natural England on a regular basis so it can ensure that all land parcels are appropriately covered by cage trapping and shooting.</li> </ul>