

Department for Environment, Food and Rural Affairs

Summary of badger control monitoring during 2017

December 2017

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Background

On 11 September 2017, Defra announced¹ that as part of the Government's 25-year strategy to eradicate bovine tuberculosis and protect the livelihoods of dairy and beef farmers, Natural England had licensed and authorised local farmers and landowners to carry out badger control operations across twenty-one areas in Cornwall, Cheshire, Devon, Dorset, Gloucestershire, Herefordshire, Somerset and Wiltshire in 2017.

Two areas are licenced to carry out supplementary badger disease control and are not reported here as the data has not yet been analysed. In the other nineteen areas, badger control operations, lasting at least six weeks, took place in each area, between 6 September and 28 October 2017. This document sets out the outcomes from the monitoring conducted in those areas.

Effectiveness

Estimates of the numbers of badgers to be removed from each cull area were made for the purpose of giving advice to Natural England (NE) for the setting of minimum and maximum numbers in the licences. The estimates, methodologies and rationale used were published in September 2017².

As in previous years NE followed the progress in each cull area closely. The levels of contractor shooting effort, number of traps set and badgers removed were recorded on a daily basis in all accessible land parcels. This provided NE with regular information on the quantity and spatial distribution of culling activity, which enabled a detailed assessment of progress that each cull company was making towards achieving the minimum and maximum numbers, and allow them to assess whether resources were being effectively deployed across all accessible land.

As set out in Defra's advice to NE (paragraphs 27-31), the daily data collected about the level of effort being applied across each area, and the locations of badgers removed was reviewed as the cull progressed to assess whether the badger populations were higher or lower than the estimates suggested.

Based on an assessment of the data on day 28 in ten of the new cull areas and day 26 in one of the areas, Defra advised NE to increase the minimum and maximum numbers in one of the areas and decrease the numbers in the other ten areas to better reflect the

¹ <https://www.gov.uk/government/publications/bovine-tb-authorisation-for-badger-control-in-2017>

² <https://www.gov.uk/government/publications/advice-to-natural-england-on-setting-minimum-and-maximum-numbers-of-badgers-to-be-controlled-in-2017>

evidence on the ground on badger abundance. Details of the calculations can be found in Annex A1.

There was no updating of the minimum and maximum numbers in the eight areas which began culling in 2015 or 2016, as these were estimated using sett surveys carried out in 2017.

All nineteen cull areas in 2017 achieved their minimum number and did not exceed their maximum number, see Table 1.

Table 1

Area	Minimum Number	Maximum Number	Badgers Removed	Of which:	
				<i>Removed by controlled shooting</i>	<i>Removed by cage trapping</i>
Area 3 – Dorset	184	404	257	189	68
Area 4 – Cornwall	43	292	213	118	95
Area 5 – Cornwall	93	403	358	254	104
Area 6 – Devon	719	1598	727	379	348
Area 7 – Devon	115	425	246	182	64
Area 8 – Dorset	754	1964	1166	937	229
Area 9 – Gloucestershire	1007	1906	1012	833	179
Area 10 – Herefordshire	218	487	394	332	62
Area 11 – Cheshire	647*	878*	736	411	325
Area 12 – Devon	1702*	2309*	1874	738	1136
Area 13 – Devon	1060*	1439*	1237	406	831
Area 14 – Devon	604*	820*	708	335	373
Area 15 – Devon	689*	935*	763	226	537
Area 16 – Dorset	2950*	4004*	3450	2352	1098
Area 17 – Somerset	872*	1184*	1123	607	516
Area 18 – Somerset	391*	531*	489	232	257
Area 19 – Wiltshire	1888*	2561*	2252	1715	537
Area 20 – Wiltshire	863*	1172*	1040	574	466
Area 21 – Wiltshire	1013*	1375*	1229	818	411

*Updated minimum and maximum numbers presented

More data on the nineteen areas can be found in Annex A2. NE will use the data on effort levels and numbers of badgers culled to inform its requirements for future badger control operations.

Accuracy of controlled shooting

Shooting accuracy was used as a proxy measure for ‘humaneness’ and was monitored using observations by NE staff of badgers being shot at by controlled shooting.

Summary of controlled shooting observations

NE has summarised its observations of controlled shooting in Annex B. NE staff observed 74 badgers being shot at using controlled shooting, of which eight appeared to be missed and one appeared to be hit but were not retrieved. In such cases there is some element of uncertainty as to whether these badgers were hit or missed. The Independent Expert Panel (IEP) was concerned that any non-retrieved badger might have been hit, and thus was at risk of experiencing marked pain. The non-retrieval rate observed in 2017 (12.2%, 95% confidence interval 6.2%-21.0%³) is similar to that observed during the culls in the last four years. Details of the NE observations of these nine badgers can be found in Annex B.

This level of accuracy compares favourably with a published study of controlled shooting of rabbits in Australia⁴ which is the only other study which uses this method of assessing the accuracy of controlled shooting. In that study, 21% of rabbits shot at were not retrieved of which 10% were considered misses and 11% were considered to have been hit.

Of the 74 observed badgers, all were from new cull areas.

As with 2016, in 2017 post-mortem examination (PME) of badgers culled by controlled shooting would only be carried out by exception. This year none were requested.

Safety of the operations

Operations in all nineteen areas were carried out to a high standard of public safety. All the badger control companies' contractors continued to receive training prior to the cull commencing in 2017, on the requirements of the Best Practice Guidance, lessons learned and safety training.

In relation to the use of firearms in all nineteen cull areas, no significant incidents affecting public safety were reported. Contractors continued to show high levels of discipline and adherence to the Best Practice Guidance.

Conclusions

The results from 2017 indicate that all nineteen badger control companies have delivered the level of badger removal required to be confident of disease control benefits and that the operations were carried out to a high standard of public safety.

³ Estimates of confidence intervals for proportions were produced using a "Modified Jeffries interval" (Brown and others, 2001).

⁴ Hampton et al., "A simple quantitative method for assessing animal welfare outcomes in terrestrial wildlife shooting: the European rabbit as a case study" *Animal Welfare* 2015, 24: 307-317

The levels of controlled shooting accuracy achieved in this year's operations were similar to those in the previous four years. The likelihood of suffering in badgers is comparable with the range of outcomes reported when other control activities, currently accepted by society, have been assessed. Licensed farmers and landowners will need to continue to ensure that their contractors receive rigorous training to maintain high standards of effectiveness, humaneness and safety.

Annexes

Annex	Title
A1	Updating of minimum and maximum numbers
A2	Data from for the nineteen cull areas
B	NE Compliance Monitoring Summary Report for 2017 Badger Control Licences



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