



Bovine TB: Why badger culling is not the answer

FROM THE PUBLIC AFFAIRS DEPARTMENT

Key facts...

- ★ The current badger culling policy to control bovine TB was introduced by the Government in 2011. Three of the seven culls to date have not achieved their targets of numbers of badgers to be killed.
- ★ The Government have subsequently relaxed the parameters that culls need to meet before being licensed, moving further away from the recommendations of a meeting of independent scientific experts convened in April 2011.
- ★ The Government's own Independent Expert Panel stated that at least 7% of badgers were killed inhumanely in 2014; the Government disbanded the Panel in 2015 but data indicated this figure has not changed.
- ★ New research shows that close contact between badgers and cattle is rare so the likelihood of direct transmission of the disease is low but indirect transmission remains possible through the soil and dung; this calls into question the very reason to cull.
- ★ Costs per badger from culling are over £5,000 compared to under £700 per badger vaccinated.
- ★ Defra's Chief Veterinary Officer recommended that "*consideration should be given to monitoring the disease status of badgers as well as badger populations within cull areas*"¹ as yet no culled badger has been tested for TB.
- ★ The Republic of Ireland is reviewing its 30 year policy on culling in 2017 and is focusing on badger vaccination.

Introduction

The Government introduced a new policy on bovine TB (bTB) and badger control in England² in 2011, by offering farmers and landowners the opportunity to conduct badger culling within licensed zones across substantial areas of the west and south west of England. Under this policy two pilot culls were approved in 2013, a third being added in 2015. This policy was reviewed in 2014 under the Government 25 year strategy on bovine TB free status for England which divided the country into three zones of Low Risk, Edge and High Risk. The High Risk zone covers an area of south west England, up the Welsh border to Cheshire and east to Derbyshire, Wiltshire and Dorset with an enclave in East Sussex³. Disease management in these areas could include culling. In December 2015 the Government relaxed the criteria for culling by introducing three new changes to the licensing criteria, despite seven out of ten responses to the consultation opposing these changes. The changes included reducing the land area required to 100 km² and removing the minimum amount of land being required for the cull (from 70% of total available land). By February 2016, Natural England had received 29 new applications or expressions of interest from areas wishing to cull badgers from the High Risk zone. 939 responses were received following the consultation on these proposed culls, citing concerns on public safety, tourism and business. The Government ignored these concerns when, in August 2016, leaked information showed

¹ Chief Veterinary Officer's advice on the outcome of the 2015 badger culls:
<https://www.gov.uk/government/publications/bovine-tb-chief-veterinary-officers-advice-on-the-outcome-of-the-2015-badger-culls>

²https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69463/pb13691-bovinetb-policy-state-ment.pdf

³ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/300447/pb14088-bovine-tb-strategy-140328.pdf

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that five new areas had been approved for culling for autumn 2016⁴.

The science

The Government in England (and indeed the Government in Wales which has a no culling and no vaccination policy) rely on the results of the Government appointed Independent Scientific Review Group (ISG). Their Randomised Badger Culling Trial (RBCT), conducted from 1998 to 2006, found overall benefits from culling were modest with an average reduction of just 12-16% in the incidence of infection over a period of several years and concluded that '*badger culling can make no meaningful contribution to cattle TB control in Britain.*'⁵. The ISG agreed that any proposed criteria for badger culling to reduce the incidence of bovine TB needed to include:

1. boundaries impermeable to badgers
2. be conducted over an area at least 150 km² and perhaps as much as 500 km²
3. be conducted simultaneously - the ISG found that the rise in TB in badgers that had been repeatedly culled was particularly pronounced in four culls that were undertaken piecemeal over a period of several months rather than a single operation⁶; the 16% reduction in bovine TB was found on culls carried out over only 8-11 days
4. a commitment to culling for a period of at least four years
5. to remove 70% of the animals but not to cause local extinctions which would contravene the Bern Convention criteria and assumed to be over 80% of the population

The policy was further informed during a meeting of scientific experts convened by DEFRA in April 2011⁷, which concluded that any culling should be conducted in a coordinated, sustained and simultaneous way over a short time period in order to minimise the potential impacts of perturbation (badgers moving from inside the cull area to other areas and vice-versa). The meeting noted that the more any culling policy deviates from the conditions of the RBCT, the more likely that the effects of that policy will differ. The Government's policy was based on the key conclusions from this meeting, but the first pilot culls in 2013 tested this policy when they were extended beyond the six weeks. The Government has since proceeded to move further away from these scientific conditions by the change in licensing criteria adopted in 2015 which changed criteria 2, 3 and 5 above.

New scientific research published in August 2016⁸, supporting earlier work in Ireland published in 2013⁹, now questions the route by which bovine TB may be transmitted from badger to cattle and vice-versa. This research shows that badgers tend to avoid areas where cattle are present, making the risk of transmitting the disease by direct contact very low. This implies that bovine TB may be typically spread indirectly through contamination of badgers' and cattle's shared environment. This calls into question, if the environment is contaminated, not just the importance of culling badgers whilst leaving the disease in the environment but spreading the disease between cattle and pasture and from cattle by spreading slurry.

Finally there is research on humaneness of the cull from the Government's Independent Expert Panel (IEP) which reported in 2013 that between 7.4% and 22.8% of badgers shot at were still alive after 5 minutes, and at risk of experiencing marked pain, so failing the test for humaneness¹⁰. In addition, Compliance Reports from Natural England's badger cull monitors in west Somerset and west Gloucestershire found in a third of observed incidents, badgers were shot in the wrong body area

⁴ <http://www.bbc.co.uk/news/uk-england-devon-37158418>

⁵ ISG Final Report 'Bovine TB: The Scientific Evidence' June 2007.

⁶ ISG Final Report 'Bovine TB: The Scientific Evidence' June 2007 para 4.27

⁷ <http://archive.defra.gov.uk/foodfarm/farmanimal/diseases/atoz/tb/documents/bovinetb-scientificexperts-110404.pdf>

⁸ <http://onlinelibrary.wiley.com/doi/10.1111/ele.12654/full>

⁹ <http://www.sciencedirect.com/science/article/pii/S0168159113000361>

¹⁰ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/300382/independent-expert-panel-report.pdf

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including the head, or were wounded and had to be shot a second time - these animals would likely have experienced significant suffering. The Government no longer collects data on humaneness but a small number of badgers were examined post mortem each year and monitors estimated that 9.5% of badgers were shot and not retrieved¹¹.

How have the culls gone?

The aim of the culls is to reduce badger populations within the zones by at least 70% over a 6 week culling period in the first year, and maintaining the population at or below the new reduced level for a minimum of 4 years. This would in turn result in an average net reduction of 16% in the number of new confirmed cattle herd TB incidents across the culled area and adjacent ring over a nine year period. These figures are based on the outcomes of the Randomised Badger Culling Trial¹².

To date three culls did not meet their targets and three did. The CVO agreed in 2014 that both pilot culls could continue though he admitted that in Gloucestershire the benefits of reducing the disease in cattle over the four years may not be realised¹³. His advice in 2015 was to continue though the level of badger removal needed to be confirmed from sett surveys in early 2016¹⁴. These surveys have yet to be made public. The table below summarises the culls to date and the numbers culled:

	2013 Target	2013 Actual	2014 Target	2014 Actual	2015 target	2015 Actual
Gloucester	2860 revised to 1650	- 708 killed at end of 6 weeks - 921 at end of 11 weeks & 2 days - 39% of population	615-1091	- 274 (166 shot, 108 cage) - 21.3% inhumane	265-679	432 (279 shot, 153 trapped)
Somerset	2080 revised to 1015	- 850 killed at end of 6 weeks - 940 at end of 9 weeks - 64% of population	316-785	- 341 (147 shot, 194 caged) - 10.8% inhumane	55-524	279 (148 shot, 131 trapped)
Dorset					615-835	756 (316 shot, 440 trapped)

What impact have the culls had?

The culls are part of a four year programme to reduce incidence of the disease by 16% if all the parameters of the cull are met, so severe caution should be applied to any interpretation of data relating disease incidence at this stage. However the CVO has admitted that there is a need to address the issue of disease spread through perturbation (badgers moving from the cull area into another area and vice-versa) and if any further cull areas are agreed, policy should be informed by monitoring disease in the badgers as well as their population¹¹. As far as we are aware, there has been no monitoring of the disease in badgers in the existing cull areas as no tests for TB incidence in culled badgers examined post mortem has occurred.

¹¹ <https://www.gov.uk/government/publications/bovine-tb-summary-of-badger-control-monitoring-during-2015>

¹² http://webarchive.nationalarchives.gov.uk/20090330154646/www.defra.gov.uk/animalh/tb/isg/pdf/final_report.pdf

¹³ <https://www.gov.uk/government/publications/bovine-tb-chief-veterinary-officers-advice-on-outcome-of-year-2-of-the-badger-culls>

¹⁴ <https://www.gov.uk/government/publications/bovine-tb-chief-veterinary-officers-advice-on-the-outcome-of-the-2015-badger-culls>

In Wales where a proposed culling programme was cancelled in 2010 and replaced by an intensive vaccination programme, latest figures show 94.6% of herds are TB free and number of new incidences of 17% reduction on previous year¹⁵.

Costs

While official figures showing the total costs of three years culling, to both taxpayers and farmers have never been published, the first two years of the two pilot culls in Somerset and Gloucester cost the Government over £14 million, which included policing costs, or £5,766 per badger killed. This compares to an estimated cost of £662 per badger vaccinated in Wales. In 2016, the Minister admitted that full costs of the 2015 cull had not been worked out but policing costs for the three areas were £1,803,247 compared to £1,392,000 for two cull areas in 2014¹⁶. These do not account for the costs to farmers of conducting the cull which have never been released. They also do not account for the work done to complete the badger population estimates that the CVO has said must be done before any further cull.

The high cost of culling makes a mockery of Government claims made in 2014, that *“It [culling by controlled shooting] will also be far less costly [than vaccinating badgers], with badger vaccination costing £662 per badger or £3900 per square km in Wales in 2012”*.¹⁷

While this cost is high, it is considerably lower than the estimates for the cost of the pilot culls on a per-badger basis. A centrally coordinated comprehensive badger vaccination policy in high-risk areas for bTB in England, involving all stakeholder groups, represents a far more progressive policy option than culling.

Policy by other Governments in the British Isles

The Republic of Ireland has been culling badgers for 32 years, killing over 60,000 badgers. In 2014 the Government started a four year vaccination programme and will review this in 2017, looking at phasing out culling in favour of vaccination¹⁸. They have already purchased TB vaccines from Canada to ensure they have enough to continue. In Wales the Government announced a reversal of its policy from culling to vaccination from May 2012 and in four years have vaccinated 5,210 badgers¹⁹. The programme stopped in 2016 due to the shortage of vaccines. In Northern Ireland the Government started a trap and vaccinate badger programme in 2014 changing it in 2015 but only killing any badgers that tested positive for bTB. Work is ongoing to assess the impacts of this work, but the RSPCA remains cautious as we are not aware of an effective test that can be used in this way. This targeted programme was welcomed by Northern Irish welfare groups²⁰. There are no plans to cull badgers in Scotland where bTB levels are low.

Summary and Recommendations

The RSPCA has concerns that:

- The changes made by Defra to the culling criteria in 2015 mean that the culls have now moved so far away from the original recommendations of the expert scientific meeting that it is impossible to know the impact on bovine TB incidence or badger populations of the current policy.
- The policy tightrope that the cull has always had, namely that culling less than 70% of the badger population would not have the desired impact on the disease but more than 70% and it risks eradicating the badger population in that area, has been broken as less than 70% of badgers were culled in three of the seven cull episodes to date.

¹⁵ <http://gov.wales/docs/drah/publications/160615-tb-dashboard.pdf>

¹⁶ <http://www.parliament.uk/business/publications/written-questions-answers-statements/written-question/Commons/2016-02-19/27249/>

¹⁷ Letter from Defra to Angela Smith MP

¹⁸ <http://www.discoverwildlife.com/news/irish-badger-cull-end>

¹⁹ <http://gov.wales/topics/environmentcountryside/ahw/disease/bovinetuberculosis/intensive-action-area/badger-vaccination-iaa/?lang=en>

²⁰ <http://www.bbc.co.uk/news/uk-northern-ireland-33370942>

- The Government's independent panel reported that the 2013 cull was inhumane with 7-24% of badgers still alive after 5 minutes. The Government then scrapped the panel but reports from Natural England monitors in 2014 and 2015 show that a similar number (9%) of badgers were shot at and escaped.
- There is a financial incentive for the cull operators to use free shooting over cage trapping but this increases the potential for inhumaneness - in 2015 just over half the badgers killed were shot by free shooting.
- New scientific evidence has questioned whether bovine TB is transmitted, as previously thought, by direct contact between the badger and cattle as such events are rare. However bovine TB may remain in the soil, dung or urine to be passed between cattle and badgers. It would be better to tackle the disease in this reservoir rather than kill the badger.
- Around half bovine TB cases are the result of transmission from cattle to cattle. Therefore any policy on bovine TB needs to focus on cattle husbandry and welfare, controlling cattle movements and removing the potential for the disease to spread through the environment. Measures should be looked at to limit this such as cattle slurry spreading and controlling the disease when cattle are housed indoors in close proximity in the winter.
- Badger culling is not sustainable. The announcement that an area of north Cornwall (believed to be around Port Isaac) will be licensed for a cull highlights this as this area was subject to badger culls in the 1970s and 80s and as part of the RBCT. If bovine TB continues to be a problem in this area, it would appear that previous culls have failed to address this.
- The costs of the culls far outweigh the costs of vaccination, notwithstanding that the Government does not actually pay for the cost of the culls themselves.
- Other Governments are reversing their policies on culling - both Ireland and Wales are now prioritising vaccination.
- No research has been done on numbers of badgers culled in the pilot culls that have bTB.

The RSPCA recommends that the Government reconsiders its bovine TB eradication policy by:

- **Placing more emphasis on the importance of cattle welfare and husbandry with more rigorous testing regimes and better movement controls to reduce the risks of cattle to cattle transmission;**
- **Ensuring that scientific information is properly considered and interpreted and that specialist expert opinion is appropriately reviewed, introducing a centrally coordinated comprehensive badger vaccination policy, once vaccines become more widely available, in high-risk areas for bTB in England, involving all stakeholder groups, which represents a far more progressive policy option than culling.**