

Bovine Tuberculosis: The Government's approach to tackling the disease and consultation on a badger control policy

Summary of Consultation Responses

July 2011

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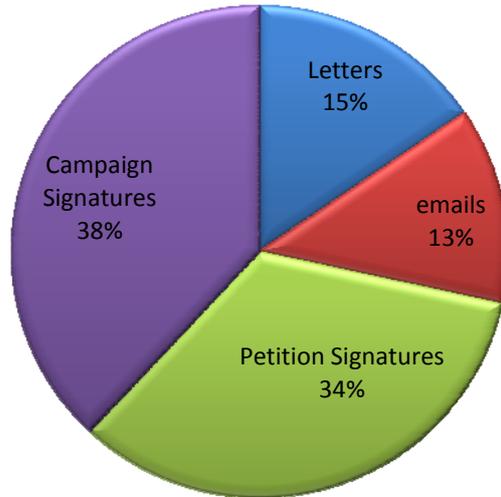
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Executive Summary

1. This document provides a summary of the responses to Defra's public consultation on Bovine Tuberculosis: the Government's approach to tackling the disease and consultation on a badger control policy. The consultation ran from 15th September 2010 to 8th December 2010.
2. Bovine TB is a pressing animal health problem. The Government's long term goal is to eradicate the disease in cattle, but this is likely to take several decades. A progressive approach is needed to tackling bovine TB which first aims to stop the disease getting worse and then to reduce the spread and prevalence of the disease to a point where eradication becomes an achievable goal. The farming industry, veterinary profession and Government need to work in partnership to achieve this.
3. The consultation document set out a number of policy options for badger control. The Government's preferred approach is to issue licences under the Protection of Badgers Act 1992 to enable farmers and landowners to cull and/or vaccinate badgers, at their own expense and subject to strict licence criteria. Under this proposal, they would be able to use vaccination either on its own or in combination with culling. This approach would empower farmers to take control of reducing the risks of transmission from the wildlife reservoir at the local level.
4. Under the preferred approach farmers and landowners would be expected to cover the costs of culling and/or vaccination themselves. Government would put in place arrangements to issue licences in response to applications meeting the criteria, and would take responsibility for monitoring the effectiveness, humaneness and impact of badger control measures.
5. This report does not seek to offer an opinion on the comments received. The responses received will help inform the Government's approach to tackling the reservoir of bovine TB in badgers in areas with high and persistent levels of TB in cattle.



6. **59,540** responses were received in total, distributed as follows

- 9,218** letters;
- 7,685** emails;
- 20,017** petition signatures and
- 22,620** campaign signatures.

7. The table below provides a breakdown of the responses received based on the different policy options presented.

Option		%
Yes to culling	Yes to vaccination	31
Yes to culling	No to vaccination	0 ¹
No to culling	Yes to vaccination	61
No to culling	No to vaccination	8

8. Campaigns have been differentiated from petitions as individual responses received on templates rather than a signature on a petition. Campaigns were received from wildlife and farming groups. The majority of responses from members of the public were short letters or emails concentrating on whether or not they agreed with the proposed policy. Substantive responses were received from key stakeholder organisations.

¹ Yes to culling, no to vaccination percentage was 0.015% due to rounding this is represented as 0%

9. The main points highlighted in responses received were:

- There is a need to address the reservoir of the disease in badgers;
- The Government's preferred approach could potentially reduce bovine TB;
- The Government's preferred approach is the best way to address the disease in badgers;
- The results from the Independent Scientific Group on Cattle TB had been ignored;
- The proposed approach had moved away from that used in the Randomised Badger Culling trial (RBCT);
- The inclusion of the culling method shooting free-ranging badgers was welcomed in addition to cage trapping and shooting;
- Concerns about the effectiveness and humaneness of shooting free ranging badgers as a culling method;
- Farmers may not be able to achieve the coordinated and simultaneous approach required for culling;
- There are not enough resources to carry out adequate monitoring;
- Concerns that ineffective or incomplete culling would make incidence of bTB worse and that culling licences would not be enforceable;
- That more should be done to encourage and support the use of vaccination;
- That there should be more stringent cattle to cattle control measures;
- Concerns over security and personal safety for those participating;
- Concerns over security and safety of the general public.

Aim and scope of the consultation

10. The consultation considered six policy options for the control of bovine TB in badgers.

Option 1	To continue with the current policy – culling is not permitted except in exceptional circumstances or if there is new scientific evidence.
Option 2	Introduce a policy of culling badgers, managed and delivered by Government, or contractors acting on behalf of Government.
Option 3	Introduce a policy of vaccinating badgers, managed and delivered by Government, or contractors acting on behalf of Government.
Option 4	The farming industry delivers culling in line with a set of strict criteria developed by Government in consultation with the industry. Natural England would assess and issue licences to those applicants meeting the criteria.
Option 5	Farmers and landowners encouraged to make greater use of vaccination to tackle TB, using the newly available injectable badger vaccine. It is already possible to apply to Natural England for licences to trap and vaccinate badgers.
Option 6	Issuing licences under the Protection of Badgers Act 1992 for industry to cull badgers, subject to a specific set of licence criteria. Farmers will also be able to apply for licences to vaccinate badgers. Under this option they will be able to use vaccination either on its own or in combination with culling.

11. The Government's preferred approach was option 6 – to issue licences under the Protection of Badgers Act 1992 for farmers/landowners to cull badgers, subject to a set of specific licence criteria. Under existing arrangements farmers and landowners would also be able to apply for licences to vaccinate badgers. Under the proposed policy, they would be able to use vaccination either on its own or in combination with culling. This approach would empower farmers to take control of the wildlife reservoir at a local level and decide for themselves which control measures to use. The approach would encourage farmers and landowners to fully consider the role of vaccination in support of a cull and increase the chance of successful disease control. A policy of enabling both control methods to be used could also lead to greater participation from a wider range of farmers who may have different views on the most appropriate tool to use on their land. It would also mean that taxpayers would not be paying for significant additional disease control measures.

12. Farmers and landowners would be expected to cover the costs of culling and/or vaccination themselves. The Government would put in place arrangements to issue licences in response to applications meeting the criteria, and would be responsible for monitoring the effectiveness, humaneness and impact of the control measures.

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13. Animal health and welfare is a devolved responsibility. The consultation therefore related to the management of bovine TB in England only.
14. The consultation sought views on the Government's preferred option and asked the following questions:

Question 1: Comments are invited on the options, costs and assumptions made in the Impact Assessment.

Question 2: Do you agree with the preferred option?

Question 3: Do you agree that this approach, of issuing licenses to farmers/landowners, is the most appropriate way to operate a badger control policy?

Question 4: Do you agree with the proposed licensing criteria for culling and vaccination?

Question 5: Do you agree that the proposed methods of culling are effective and humane?

Question 6: Do you agree with the proposed use of vaccination, particularly its focus on mitigating the perturbation effects of culling?

Question 7: Should anything further be done to encourage the use of vaccination?

Question 8: Do you agree with the proposed monitoring?

Methodology

15. The consultation took place between 15th September and 8th December 2010. It was open to any member of the public or organisation to respond. Details of key stakeholders who were invited to respond can be found in Annex A.
16. Responses were received in a number of formats including letter, e-mail, postcard and petition. The content of responses ranged from very detailed arguments covering all elements of the proposal through to a single sentence stating either support or opposition to the proposed policy.
17. This document summarises the responses, and records the key concerns and themes arising.

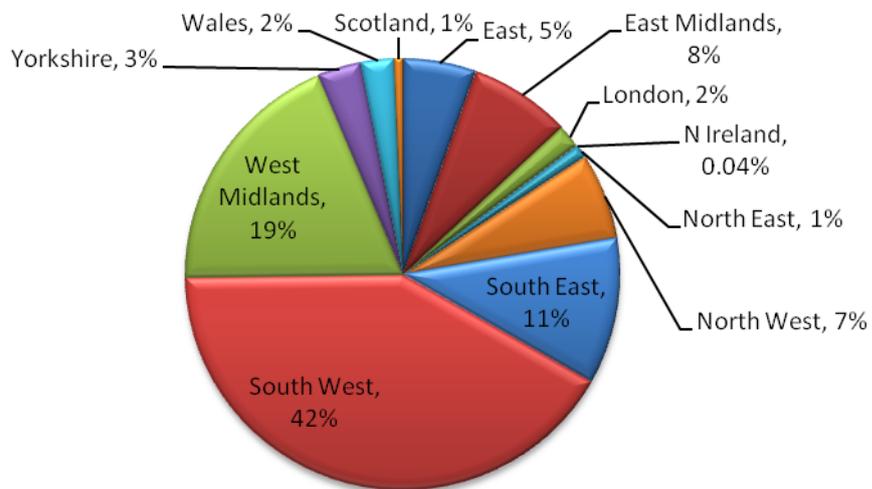
Headlines

18. There were 59,540 responses



9,218 letters, **7,685** emails, **20,017** petition signatures and **22,620** campaign signatures.

19. The regional breakdown of responses is summarised in the pie chart below. This is based on 11,194 respondents who specified their location in their response.



Analysis by question

20. Not all respondents answered all questions and many chose to make general comments on the proposed option and the issues identified with it. In general, those opposed to culling provided more detail on each question while those agreeing with the Government's proposal simply noted their support.

Question 1 – Comments invited on the options, costs and assumptions made in the Impact Assessment

21. Some respondents did not agree with the estimated benefits from culling in reducing bovine TB. They stated that the benefits of culling had been over-estimated while the negative effects caused by perturbation had been greatly under-estimated.

“With reference to the Impact Assessment, we question the basic assumption that a “badger control policy” will reverse the rising trend of increased BtB in cattle. The results of the RBCT published in many peer-reviewed papers show that rigorous prevention of cattle to cattle transmission is likely to be more effective than controlling badgers.” - National Trust

22. Many considered that the Government's preferred approach is too different from previous studies undertaken and it is not possible to replicate results. There were comments that it should not be assumed that the reduction in bTB incidence achieved in the RBCT could be replicated because farmer-led culling using shooting free-ranging badgers as the primary culling method is less controlled than the trapping methodology used in the RBCT.

“We note that Defra's prediction of a 16% overall reduction in cattle TB over a nine year period is extrapolated directly from RBCT findings. This extrapolation assumes that Defra's proposed culling method would achieve the same outcomes as those of proactive culling as conducted in the RBCT. We have repeatedly cautioned that the outcomes of the RBCT reflected the methods used, most recently noting that “the effects described here relate only to culling as conducted in the RBCT, i.e. deployment of cage traps by highly trained staff in coordinated, large scale, simultaneous operations, repeated annually for five years and then halted”. It should not be assumed that farmer led culling, conducted primarily by shooting free ranging badgers, would achieve the same outcomes as RBCT proactive culling.”- Independent Scientific Group on Cattle TB (ISG)

“Badger culling has never been previously undertaken in the way proposed and therefore it is impossible to know whether it will replicate the results in the ISG report.” - Badger Trust

23. Some respondents agreed with the potential reduction in bovine TB that could be achieved by the Government's preferred approach.

“Overall, from the first cull to five years after the last cull (to July 2010) there was a 28.3% reduction in TB confirmed cattle herd incidence. Confirmed bovine TB herd incidence on the land 2km outside the culling area was comparable with that in survey-only areas.

The NFU believe that this 28.3% is hugely significant to farmers and it is clear that culling badgers will lead to a much larger reduction in bovine TB confirmed cattle herd incidence than would be possible through cattle controls alone. We believe that it will be possible to significantly improve upon this figure through increasing the scale and size of any cull area as well as by providing improved periods of maintenance control and offering more effective alternative control methods to those used in the RBCT.” National Farmers Union

“We welcome the fact that the Government has identified what we believe to be the key conclusion from the RBCT work. That is that “badger culling, done on a sufficient scale, in a wide-spread, coordinated and efficient way and over a sustained period of time, would reduce the incidence of bovine TB in cattle in high incidence areas.”- Tenants Farmers Association

24. Some respondents felt that farmers would drop out if the costs escalated beyond those set out in the Impact Assessment.
25. Many commented that the costs of shooting free-ranging badgers were vastly under estimated. There was a strong feeling that farmers would favour greater use of shooting free-ranging badgers as it is less expensive than shooting cage-trapped badgers. Many commented that if predominantly using shooting free ranging badgers as the culling method it would be difficult to achieve simultaneous and coordinated culling on 70% participation of the areas over the required period of 4 years.
26. Several respondents made reference to the Game Conservancy Trust’s (GCT) report to Defra in 2006² and were concerned that shooting free-ranging badgers was a task for specialists not farmers and would incur greater costs than outlined in the Impact Assessment.

“...the Defra estimated cost of culling by shooting free-ranging badgers of £200/km²/year is a considerable underestimate for the first year of culling because of the number of expert, licensed marksmen required to achieve the removal rates proposed. Also in subsequent cull years the costs will rise again because initial badger densities will be lower and badgers would be increasingly wary and secretive, both reducing the rate of encounter. Thus, the cost of shooting free-ranging badgers using professional operators is likely to be much higher than Defra estimated.”- Badger Trust

“...there are clearly uncertainties about the role that free shooting might perform and the costs of control and we would question why so much reliance has apparently been placed on this aspect of the cost benefit assessment.” - RSPCA

² Shooting as a potential tool in badger population control

27. Of those in support of the Government's proposal, many felt that the full costs of a herd breakdown (including social costs e.g. farmer stress) had not been fully considered.
28. It was suggested that the Government should provide financial assistance to compensate neighbouring landowners for the increased risk in bTB breakdowns.
29. Cost sharing was suggested for a co-ordinated vaccination programme with farmers and land owners. It was suggested that the vaccination only option would be cheaper to monitor.
30. There was also a view that vaccination on a short term basis would not be cost effective and that there is currently no evidence that it is deliverable and/or effective.
31. Some thought that vaccination would avoid costs incurred by disruption by activists, carcase disposal and resources for training/licensing of firearms.
32. It was widely considered that Natural England would not have sufficient funding to licence and monitor the policy effectively. Some believed that a more realistic estimate of monitoring costs would have significantly increased the costs of culling.

Question 2 – Do you agree with the Government's preferred option (option 6)?

33. Many respondents felt the results from the RBCT and the Independent Scientific Group's (ISG)³ conclusion that culling badgers would not make a meaningful contribution to tackling bovine TB in Britain had been ignored.

"The scientific evidence used by Defra in the consultation papers to support the proposal is highly selective – Defra has largely ignored the scientific evidence in the ISG report that concludes that (i) "badger culling cannot meaningfully contribute to the future control of bovine TB in cattle" ; and (ii) "we consider it likely that licensing farmers (or their appointees) to cull badgers would not only fail to achieve a beneficial effect, but would entail a substantial risk of increasing the incidence of cattle TB and spreading the disease in space, whether licences were issued to individual farmers or to groups". - Badger Trust

34. A number questioned the use of scientific evidence and suggested that the consultation document deliberately mis-represented the scientific evidence to support culling.
35. The majority of those who were opposed to the Government's preferred option stated that they did not believe that the proposal was evidence-based, that it was inhumane, and it would be ineffective as a long term control measure.

³ The Independent Scientific Group on Cattle TB (ISG) oversaw the Randomised Badger Culling Trial.

36. Some respondents preferred Option 3 – to introduce a policy of vaccinating badgers, managed and delivered by Government, or contractors acting on behalf of Government.

“We believe that vaccinating badgers is the best option because there is no perturbation effect, and therefore it would not cause an increase in cattle herd breakdowns. Whilst not immediate in its impact, over time, the existing science suggests it could make a significant contribution to the reduction of bTB transmission in badgers.” - The Wildlife Trusts

37. Of those who were in favour of the Government’s preferred option most believed that at the current time this was the best way to address the disease in the wildlife reservoir.

“The NFU is supportive of the Government’s proposed policy option 6 as set out in the consultation and related documents. We believe that in combination with a package of measures, this approach delivered by farmers will ensure that there will be a co-ordinated approach to disease control in badgers. Feedback from members has ensured that we can be confident that the industry would be willing to participate in a professional badger control operation.”- National Farmers Union

“The NBA supports Option Six in the Proposals because it is the best option to achieve success and land holders must have freedom of choice between culling and any vaccination.” - National Beef Association

38. Some respondents agreed that the RBCT had demonstrated that badgers contribute to the spread of bTB and that the wildlife reservoir must be addressed.

39. Many respondents consider the main problem is cattle to cattle transmission, and that more stringent cattle controls including stricter penalties for overdue tests and stricter biosecurity requirements should be introduced.

“The only sustainable option for the long term eradication of bovine TB is to vaccinate badgers by injection initially and by using oral bait when developed and licensed and to vaccinate cattle using the vaccine which is expected to be available in 2012. In the meantime there must be improvements in the methods of detecting TB in cattle, including better pre-movement testing and the introduction of post-movement testing, quicker removal of TB infected cattle, better farm husbandry and bio-security and rigorous enforcement of testing, husbandry and bio-security rules.” - Badger Trust

40. Of those opposed to the Government’s preferred option many disagreed on ethical and welfare grounds.

41. There was a consensus that culling predominantly by shooting free-ranging badgers would result in an increase in perturbation leading to an increase in herd breakdowns. This opinion was based on the assertion that shooting free-ranging badgers would be an ineffective method of control and that in practice farmers would not carry out the systematic, sustained and

simultaneous cull that the RBCT proved was necessary to have a beneficial effect on cattle TB. A lack of hard boundaries and a robust means of ensuring compliance with licence criteria were key weaknesses raised with the Government's preferred option.

42. Many noted that limited access to land, for example excluding land owned by the Forestry Commission or Wildlife Trusts, could also undermine the success of culling. A Government led approach would avoid land access problems.
43. There was some concern that practices such as badger baiting, which is currently illegal, would gain some sort of legitimacy if culling was licensed.
44. Several respondents raised the risk of local disappearance of a protected species that would be in contravention of the Bern Convention⁴, and argued this would not be acceptable to achieve a negligible impact on bTB reduction.

"The Bern Convention permits the killing of protected species for disease prevention where no other satisfactory solution exists. We do not object to the killing of small numbers of animals under these circumstances, as long as four tests are met:

i/ that the seriousness of the problem has been established;

ii/ that non-lethal measures have been assessed and found not practicable;

iii/ that killing is effective in addressing the problem;

iv/ that killing will not adversely affect the conservation status of the target or other non-target species.

In this case, other satisfactory, non-lethal solutions, in the form of vaccination, exist. We also note that the possibility exists of killing a significant proportion of local badger populations under the Government's proposals, indeed the closer culling gets to achieving local extinction of badgers, the better it is for disease control purposes." - RSPB

Question 3 – Do you agree that option 6, of issuing licences to farmers/landowners, is the most appropriate way to operate a badger control policy?

45. Many respondents were sceptical as to whether farmers would be able to meet the licence requirements. There were comments that farmers should not be permitted to cull badgers and could not achieve the coordinated and simultaneous approach to culling that would be necessary to achieve the desired outcome.

⁴ [The Convention on the Conservation of European Wildlife and Natural Habitats](#)

“In their final report, the ISG evaluated various forms of badger management as potential strategies for the control of cattle TB and considered a variety of culling approaches. This included the possible option of culling badgers under licence. (ISG para 10.35) Their conclusion was that, given various difficulties, they considered it “likely that licensing farmers (or their appointees) to cull badgers would not only fail to achieve a beneficial effect, but would entail a substantial risk of increasing the incidence of cattle TB and spreading the disease in space...” In our view this still appears likely to be the case.” RSPCA

“Anything less than expertly and simultaneously implemented culling, which is maintained in extensive contiguous areas over multiple years, will result in a perturbation effect in the badger population, and therefore an increase in cattle TB.”- The Wildlife Trusts

46. Some respondents considered there was a significant risk that some farmers would abandon culling if the incidence of bovine TB increased initially, due to the perturbation effect. There were concerns that farmers would also withdraw from the cull due to economic pressures, escalating costs and disruption from pressure groups.
47. It was considered that non-compliance with licence conditions should attract penalties, and that there needed to be strict enforcement of licence conditions.
48. There was support for contingency plans to be in place should farmers not cull for four consecutive years, or if licensees did not meet licence conditions. This should include measures to ensure culling continues if there is any change of land ownership within licensed areas. Financial incentives or bonds were suggested to ensure commitment for the full four year duration.

“It is important that commitments to cull can be enforced and that there are provisions in place should a licensee decide prematurely to abandon the culling process. Licence commitments must be enforceable and enforced, and licensees must be educated as to the potential effects of culling. Furthermore, contingency plans must be in place if culling is abandoned or a cull has to be stopped because a licensee fails to achieve the conditions of their licence.” - Royal College of Veterinary Surgeons

“...some farmers/landowners withdrawing because of the huge costs, change of farm ownership or realizing that the benefits of TB reduction were less than anticipated, especially in the early years.” - Badger Trust

49. Those respondents in support of the preferred option favoured groups of farmers being licensed providing there was an effective structure and management system in place to ensure quality assurance. It was considered that this would achieve better results, provide cost savings and ensure anonymity of individual farmers to help protect against reprisals from activists.

“...the NFU’s view is that a group of farmers could come together and incorporate as a legal entity. We believe that this entity would then be able to apply for a licence to be granted under the POBA 1992 to cull and take badgers. This structure could also be used to ensure compliance with the licence conditions, or any terms or conditions that the members need to comply with, and to promote and incentivise best practice. It would also allow the group members to trade as a group and to have the opportunity to hire contractors.” - National Farmers Union

“ Not merely because they are the people whose livelihoods are intimately involved but also because they are the people on the ground who know the situation locally.” – Country Land and Business Association

50. Many respondents stressed the importance of developing an exit strategy if culling proved to be ineffective.

Question 4 – Do you agree with the proposed licensing criteria for culling and vaccination?

51. There was support for the licence criteria to be stricter than proposed and for systems to be in place to ensure compliance. Responses reflected a widely-held view that the criteria would not be enforced or monitored sufficiently to protect animal welfare.
52. There was concern that the proposed criteria did not address any requirement for culling to be simultaneous, and did not provide specific mechanisms to ensure culling would be sustained over at least four years. Some respondents also made reference to the need for licensed areas to be circular.

“...if licensees begin culling badgers but then stop after a year or two it appears that the result may well be an increase in cattle herd breakdowns so the criteria about a commitment for a period of at least 4 years is important.” - RSPCA

“The notable exception is an explicit statement that simultaneous culling would be a licensing requirement. It was one of the proposed criteria of the ISG and was accepted by Sir David King as an essential element of any ‘competent’ culling programme.” - RSPCA

“There is reference to a minimum size of 150km² but no indication that this should be continuous and ideally close to circular. Areas that are not circular will have a larger edge to core ratio that will need to be mitigated by either a larger core area or a hard boundary such as the coast: in many areas of high TB incidence, hard boundaries do not exist.” - RSPB

53. Some respondents raised concerns about the lack of hard geographical boundaries which would mean that the perturbation effect may be significant, leading to an overall detrimental effect on cattle TB in the licensed areas. This could also potentially impact on non-participating farmers in the 2km ring surrounding the culled areas.

54. Other respondents called for greater flexibility of definitions of barriers and buffers to include A-roads and rivers. For vaccination to be used as a buffer it was considered that financial incentives would be required.

“Vaccination may have a role to play in creating buffer zones around highly infected areas, which could be used to assist in controlling the spread of bTB. The development of such buffer-zones, however, may require the Government to incentivise the process so as to ensure a high enough level of participation.” - Royal College of Veterinary Surgeons

55. Some respondents preferred licensed areas to be larger than 150km² noting the larger the area the smaller the effect of perturbation. Others suggested that consideration should also be given to areas smaller than 150km² that have strong boundaries.
56. Some respondents commented that more detail is required on how changes in business structures/land occupation during the four year period of the licence would be dealt with.

Question 5 – Do you agree that the proposed methods of culling are effective and humane?

57. Many respondents were opposed to shooting free-ranging badgers as a culling method. Respondents referred to the lack of scientific evidence on either the effectiveness or humaneness of this method. Many stated that the anatomy and behaviour of badgers would make it impossible to ensure a quick and humane death and that many badgers would be wounded.

“Shooting free ranging badgers is inherently dangerous and inhumane. It will be impossible to ensure a clean humane outright kill with such shooting. Badgers are likely to be very difficult to shoot because they are low slung, very easily disturbed and frightened, move quickly and do not look into spotlights so are difficult to see. Also they have thick layers of sub-cutaneous fat and therefore are much more likely to be wounded rather than killed outright. Wounded badgers will suffer greatly, particularly if they are able to escape from a second shot for example by disappearing into their setts.” - Badger Trust

“The impacts of shooting free ranging badgers on perturbation has not been assessed or compared to cage trapping. The proportion of badgers that will be injured but not killed outright is not known but may be higher than that reported for deer and foxes if shooting takes place at setts where an injured animal will immediately seek cover.” - RSPB

58. Many expressed concern over the safety of landowners and members of the public arising from activists and protesters, and a possible increase in wildlife crime. There was particular concern about safety on public footpaths and bridleways passing through a licensed area.

“Furthermore shooting free-ranging badgers at dusk or during the night is inherently dangerous. With many shooters operating over a cull area there are obvious dangers to members of the public, other shooters and other wildlife and pets.”- Badger Trust

59. A small number of respondents offered an opinion on cage-trapping badgers with some expressing concern that caged badgers might be sold to baiters.
60. Many respondents were concerned that to achieve the necessary removal rate significant man hours would be needed for shooting free-ranging badgers and this may result in some participants opting out of the cull due to resource or time constraints. Many argued that cage trapping and shooting would need to be carried out in conjunction with shooting free-ranging badgers.
61. Of those in favour of culling the inclusion of shooting free-ranging badgers as a culling method was welcomed. Many thought the use of spotlights and or image intensifiers would increase the effectiveness of this method.

“We agree that free shooting is also acceptable provided that it is carried out in a controlled manner. On its own, we do not believe that free shooting would be able to guarantee a high enough culling efficiency and therefore it should be used in conjunction with cage trapping and shooting.” – BVA / BCVA

62. Some respondents thought the policy should also permit the gassing of setts identified as being infected with bovine TB. There was support for more research on the Polymerase Chain Reaction (PCR) test as a suitable diagnostic test to identify infected setts. There was also a call for more research into gassing techniques with further research into humane types of gas. There was also a call for research into using ‘stop restraints’.

Question 6 – Do you agree with the proposed use of vaccination, particularly its focus on mitigating the perturbation effects of culling?

63. The vast majority of respondents answered this question in terms of whether or not they supported vaccination on its own, rather than alongside culling. Only a minority directly addressed the proposed role of vaccination to mitigate the effects of perturbation.
64. The majority of those that did not agree with the proposed use of vaccination disagreed because they were opposed to any form of culling badgers that would be associated with vaccination. They considered that more reliable data on the effectiveness of vaccination was required and that financial incentives were needed before vaccination could be seen as a practical option.

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65. Many noted that the use of vaccination as proposed was untried and untested. As effects of vaccination can be slow, vaccination could not be expected to mitigate against the rapid perturbation effect that would occur with culling.

“The NFU do not agree that where there is a 2km area at the edge of a potential control area and which has cattle, that it would be suitable to use the badger vaccine to mitigate perturbation. We believe that to protect those cattle in the area it would be sensible to extend a control area to encompass the land on which the cattle are situated. The control area would then be extended to either a hard boundary or an area of low cattle density or alternative buffer.” - National Farmers Union

“There is no evidence that a combination of vaccination and culling will be beneficial or mitigate the perturbation effects of culling.”- Badger Trust

66. It was commented that it would not be possible to assess the efficacy of culling and vaccination if carried out together. It was agreed that vaccinating prior to culling commencement would start to allow herd immunity to develop. It was raised that there was no way of ensuring that vaccinated badgers would not be culled.

“...if culling and vaccination commenced at the same time vaccination would only limit the number of new infections among badgers; it would not reduce the propensity of already infected badgers to encounter more cattle herds. This would limit the mitigating effect of vaccination in the early stages of culling, when detrimental effects are most severe. In contrast, if vaccination commenced some years before culling, lower transmission combined with natural mortality of infected badgers would be expected to reduce the prevalence of infection, so that the expanded ranging prompted when culling commenced might not substantially increase transmission to cattle.” - Independent Scientific Group on Cattle TB (ISG)

“For vaccination to be most effective it would be advisable for vaccination to take place in the ring around culling before culling starts, to help develop herd immunity in the badger population.” - RSPB

67. Respondents thought that vaccination would have limited impact in areas of high bTB incidence. It was noted that there is insufficient evidence that vaccination of badgers reduces herd breakdowns in order to encourage farmers to invest in it. A lack of confidence in the farming sector and the cost to administer vaccination meant that it was not an attractive/practical option for farmers.

*“We do agree that the control of bTB in badgers should include a policy of vaccination in addition to culling. However, it is important to understand the current limitations of vaccination in badgers, in particular its practical application, true efficacy and the fact that its use in endemic areas where the prevalence of TB in badgers is high, is likely to be of limited benefit.”
– BVA / BCVA*

Question 7 – Should anything further be done to encourage the use of vaccination?

68. Of those in favour of culling there was some support for use of a badger vaccine but several felt that vaccination could not be the sole component of a successful control programme. Many respondents agreed the focus was on the need for further research to develop an oral badger vaccine that would be easier and cheaper to administer than the current injectable BGC vaccine. It was thought that the current injectable BGC badger vaccine is too expensive, impractical and unreliable to provide immediate TB control.

“It is not believed that in its current form that there is a widespread use for vaccination. It is essential that Government fund further research into the efficacy of the injectable Badger BCG and also consider its effects in badgers which are already infected with bovine TB and the disease consequences in the cattle population.” - National Farmers Union

“The College lends its strong support to the vaccination of badgers and considers that this should form an integral part of any long-term approach chosen by the Government to tackle bTB. However, the evidence shows that vaccination does not work in the previously infected animal, therefore the greater the prevalence of the disease the less effective the programme will be.

Whilst vaccination is generally a proven and effective way of controlling and preventing the spread of disease, its effectiveness varies with the efficacy of the vaccine and the conditions under which it is stored and delivered. Vaccination therefore only forms a part of any successful approach to tackling a disease.” - Royal College of Veterinary Surgeons

69. Those respondents opposed to culling mainly agreed that badger vaccination is a necessary part of the toolbox to tackle bovine TB in cattle, with more research required to measure the contribution that badger vaccination could make.
70. There was strong support for the development of an oral badger vaccine as it would be easy to administer and cause less distress to badgers. It was felt that it is the only sustainable, long term option as it does not cause perturbation. Many wanted to see it introduced in conjunction with tighter cattle controls and alongside development of a cattle vaccine.

“A cattle vaccine against bTB should be developed as a matter of priority and all legislative hurdles overcome to enable this to become the long term solution to bTB.” - The Wildlife Trusts

71. It was suggested that the money saved from reduced compensation payments from having fewer herd breakdowns after a successful vaccination programme could help pay for its implementation.

“The Government will save money through reduced compensation payments that would result from a targeted and co-ordinated programme of vaccination. We therefore believe that the Government should share the costs of implementing a co-ordinated vaccination programme with farmers and landowners.” - RSPB

72. Many respondents expressed disappointment about the scaling back of the Badger Vaccine Deployment Project. This project involves training lay vaccinators to use Badger BCG vaccine in the field. The project aims to increase confidence within the farming sector in the use of the vaccine whilst looking at the practicalities of the vaccination process. Respondents believed the project could provide evidence that vaccinating badgers will reduce incidence of TB in cattle.
73. Concerns were expressed about the lack of trained vaccinators without which there could not be widespread use of vaccination.

“Currently the cost of participating in vaccination training is cost prohibitive and extensive. The only course available is through the Government agency FERA and is carried out over 5 days. It is considered expensive at £810 per participant, particularly when there is no guarantee that vaccination will work. Further costs of £2,000 are also required to maintain licence accreditation and it is the NFU’s belief that this is unnecessary.” - National Farmers Union

Question 8 – Do you agree with the proposed monitoring?

74. The majority of those opposed to culling believed that the proposed monitoring arrangements were unworkable. Many questioned whether in the current financial climate Defra would be able to commit the necessary investment to ensure rigorous and robust monitoring. It was raised that without robust monitoring levels of non compliance would be high. More detail on penalties for non compliance was requested and how this process will be managed.

“... It is imperative that licensees keep detailed records and that these are made available for inspection or are submitted to the relevant authority. Such records should cover issues such as when their operatives are going out shooting, how many badgers are shot and where, where and how many cages are set and where badgers have been vaccinated. This will allow a thorough audit of the control measures in licensed areas to be performed and will allow cross-checks to be made against badger carcasses and, in the case of vaccinations, against how many doses of vaccine have been used.” - Royal College of Veterinary Surgeons

75. Respondents also provided additional suggestions for monitoring that included tracking changes in the attitudes of farmers/landowners, vets and the public, and specific monitoring Sites of Special Scientific Interest (SSSIs) and Special Protection Areas (SPAs).

“...tracking changes in the attitudes of farmers/landowners, vets and the public is also vital. We suspect that, in the absence of state aid for management of the wildlife reservoir of BtB, and specifically vaccinating and killing badgers, that enthusiasm for the project will wane.”- National Trust

76. Several respondents were concerned about whether local extinction of a badger population would be caused and how this will be monitored in order for the UK to meet its obligations under the Bern Convention.

“Monitoring badger populations will be very important. Whether culling might, contrary to the Bern Convention, be detrimental to the survival of a population is a real concern.” - RSPCA

77. Many believed that it would not be possible to determine whether or not culling was humane.
78. There were conflicting views on whether it would be necessary to conduct post-mortem examinations on badgers to identify whether or not they were infected with bovine TB.

“We agree that it is not necessary to monitor the incidence of TB in badger carcasses as the science already states that significant proportions of the population are infected.” - National Farmers Union

79. Concerns were raised as to whether it was possible to monitor how successful culling would be in reducing bovine TB as there are many contributing factors in controlling the disease.

“Defra will continue to monitor the incidence of TB in cattle within and immediately outside the cull area. However, because this is not a scientifically controlled cull there will be no way of determining from this monitoring whether any effect on the incidence of bovine TB is due to culling of badgers or any changes to cattle controls carried out at the same time.” – Badger Trust

The way forward

80. The responses received will help inform the Government’s approach to tackling the reservoir of bovine TB in badgers in areas with high and persistent levels of TB in cattle.

Annex A

List of Stakeholders Invited To Respond

- ADAS
 - ADAS (Wales)
 - Agriculture and Horticulture Development Board
 - Animal Health
 - Association of Chief Police Officers
 - Association of Veterinarians in Industry
 - Association of Veterinary Teaching and Research Work
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- Badger Trust
 - Badger Trust Cymru
 - Bay Veterinary Group
 - Beef Shorthorn Cattle Society
 - Brecon Beacons National Park Authority
 - British Alpaca Society
 - British Association of Shooting and Conservation
 - British Belgian Blue Cattle Society
 - British Blonde Society
 - British Camelids Trust (BCT)
 - British Cattle Veterinary Association (BCVA)
 - British Charolais Cattle Society
 - British Deer Farmers Association
 - British Deer Society
 - British Friesian Breeders Club
 - British Limousin Cattle Society
 - British Llama Society
 - British Pest Control Association
 - British Simmental Society
 - British Veterinary Association (BVA)
 - British Veterinary Camelid Society (BVCS)
 - British Wildlife Management
 - British Wildlife Rehabilitation Council
 - Brown Swiss Cattle Society
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- Cabinet Office Better Regulation Executive
 - Centre for Ecology and Hydrology
 - Central Association of Agricultural Valuers (CAAV)
 - Centre for Business Relationships, Accountability, Sustainability and Society
 - Church Liaison Office
 - Country Land and Business Association (CLA)
 - Countryside Alliance

Department for Environment, Food and Rural Affairs

- Dairy Shorthorn Society
- Deer Initiative
- Department of Agriculture and Rural Development Northern Ireland (DARDNI)
- Department of Culture, Media and Sport
- Department of Health
- Devon (Red Ruby) Cattle Breeders' Society
- Dexter Cattle Society

- Environment Agency

- Farm Animal Welfare Council
- Farm Crisis Network Farmers' Union
- Food and Environment Research Agency
- Forestry Commission
- Food Standards Agency

- Game Conservancy Trust
- Guernsey Cattle Society

- Hereford Cattle Society
- Holstein UK

- Institute of Biological, Environmental and Rural Sciences (IBERS)
- Institute of Rural Health

- Jersey Cattle Society

- Lantra, Sector Skills Council for the environmental and land-based sector
- League Against Cruel Sports
- Livestock Auctioneers Association
- Local Government Regulation –Formerly LACORS

- Milk Development Council (MDC)
- Murray Grey Cattle Society
- MOD Estate Management

- National Animal Welfare Trust
- National Association of Agricultural Contractors
- National Beef Association
- National Dairy Council
- National Environment Research Council
- National Farmers Union
- National Farmers Union (Scotland)
- National Farmers Union (Wales)

Department for Environment, Food and Rural Affairs

- National Gamekeepers Association
- National Sheep Association
- National Trust
- National Trust (Scotland)
- National Trust (Wales)
- Natural England

- Organic Centre

- Pembrokeshire Coast National Park Authority

- Regional Development Agency
- Royal College of Veterinary Surgeons
- Royal (Dick) School of Veterinary Studies (University of Edinburgh)
- Royal Society for the Prevention of Cruelty to Animals
- Royal Society for the Prevention of Cruelty to Animals (Wales)
- Royal Society of Wildlife Trusts
- Royal Veterinary College (London)
- Royal Welsh Agricultural Society

- Salers Cattle Society
- Scottish Executive Environment and Rural Affairs Department (SEERAD)
- Society of Practising Veterinary Surgeons
- South Devon Society

- TB Eradication Group for England
- Tenant Farmers Association
- The Deer Initiative
- The Rural Stress Information Network

- Universities Federation for Animal Welfare
- University of Bristol Veterinary School
- University of Cambridge Veterinary School
- University of Glasgow Faculty of Veterinary Science
- University of Liverpool Faculty of Veterinary Science
- University of Nottingham School of Veterinary Medicines & Science

- Veterinary Medicines Directorate

- Welsh Assembly Government
- Wildlife Trusts
- Women in Agriculture
- Women's Food & Farming Union