Sheffield and Rotherham Wildlife Trust

DRAFT Response to the Government’s Consultation on Bovine TB: consultation on proposals to introduce licensed badger control to prevent the spread of bovine tuberculosis in the Low Risk Area (England)

Defra would particularly welcome views on the following specific issues:

A: The principle of controlling the risk from badgers with TB in the LRA.
B: The principle of a government-led badger control operation where required.
C: The principle of taking a precautionary case-by-case approach, dependent on the local conditions and situation, including as regards the number of years in which culling is carried out.
D: The principle of using culling or vaccination or a combination of the two to control risks from badgers with TB in the LRA.
E: In relation to cases where culling is deployed, the principle of lowering the badger population of the affected area sufficiently to reduce the risk of infection of cattle from badgers (whether through direct or indirect contact), and ideally substantially reduce or even eliminate it.
F: On the proposed revisions to the Guidance to Natural England on licensed badger control. Draft revised Guidance can be found at Annex B. See the new section on Low Risk Area Badger Disease Control. The new section header and other revisions to the Guidance have been highlighted in yellow for ease of reference.
G: Any additional comments or approaches which you feel are relevant but not captured by the questions above.

A: The principle of controlling the risk from badgers with TB in the LRA.

Sheffield & Rotherham Wildlife Trust appreciates that bovine tuberculosis (bTB) has a devastating impact on farmers, however we believe that in order to eradicate bTB from the countryside, we must focus on bTB in cattle, where the disease predominantly persists. We believe that badger culling is ineffective in fighting the disease and, worse still, risks making the problem even worse through the perturbation effect. The Government are proposing to put in place badger control in the Low Risk Area (LRA), which includes Sheffield & Rotherham, only when all other cattle and biosecurity measures have been put in place (2.3). Who will regulate this? Will the evidence of compliance be made public?
This is a cattle-to-cattle issue

Evidence shows that badgers are not the primary culprits in the spread of bTB in cattle: the primary route of infection is via cattle-to-cattle contact\(^1\). In paragraph 2.8, the consultation document states that bTB outbreaks in the LRA are **mostly due to movements of TB-infected cattle that escape detection**. Therefore, the emphasis of government policy to control the risk of bTB should be on cattle.

Furthermore, research into badger movements on farmland by Woodroffe et al. \(2016\) showed that badgers very rarely come into contact with cattle\(^2\). Therefore, cattle-to-badger and badger-to-cattle transmission is most likely to occur by contamination of the shared environment, i.e. the farmland.

Farmers

We understand that bTB can have a devastating emotional and financial impact on the lives of farmers. We want to work with them to find solutions that work for everyone. The Wildlife Trusts work with over 2,000 farmers every year to help them manage land for wildlife. Some Trusts own cattle and run working farms. Here at Sheffield & Rotherham Wildlife Trust we work with a number of local farmers who conservation graze cattle on our Nature Reserves such as Blacka Moor and Woodhouse Washlands. We understand the impact that bTB can have on farmers and we want to find long-term solutions that work for wildlife and people.

Research has found that bTB bacteria can survive for months either on fields or in slurry. To tackle this key route of the spread of bTB, farmers are legally obliged to adhere to strict biosecurity procedures, particularly a strict testing regime. **Ensuring that these measures are adhered to should be the priority of any government bTB control policy in the LRA.** Defra must provide as much support as possible to farmers to make sure this happens. This approach could radically limit the spread of bTB between cattle and badgers. The residual disease in wildlife could then be managed by a comprehensive badger vaccination scheme.

B: The principle of a government-led badger control operation where required.

The Wildlife Trusts have opposed the badger cull since 2004 on the basis of a lack of scientific evidence, lack of humaneness, ineffectiveness and that the cull is expensive and poor value for money.

Scientific principles and the LRA

The proposal to extend the cull to the LRA contradicts the scientific principles set out in the RBCT\(^3\). This comprehensive field study showed that culling led badgers to roam more widely, increasing transmission within their own population and infecting cattle over wider areas. This study also demonstrated that efficient, well-coordinated culling has the potential to reduce bTB inside large cull zones, but this comes at the cost of increased TB on adjoining land, otherwise known as perturbation. Small, patchy or inefficient culls can worsen the problem. Neither form of culling can eradicate the disease, because both increase TB within the badger population and

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3 The conclusions of the RBCT are available to download, contained within the Final Report of the Independent Scientific Group on Cattle TB - ‘Bovine TB: The scientific evidence.’
spread infection to new areas. **Therefore, a policy to cull badgers in pockets of the LRA, with no strategic approach, is a dangerous waste of public money.**

In paragraph 2.6 of the consultation document, it is stated that the risk of disease spread between badgers and cattle is lower in the LRA. In the next point the document reads that rapid geographical spread of infection is likely to occur when social groups are disrupted or at lower densities (2.7). These two points contradict each other and reinforce the findings of the RBCT: that disrupting badger populations results in more bTB in cattle, not less. The Government propose badger culling despite stating themselves that it could risk making the situation worse.

**Humaneness**

Natural England should only award licences for badger culling when they are satisfied that licensees can carry out the cull as safely and humanely as possible (according to requirement 21 of the new draft license agreement). However controlled shooting of free-ranging badgers is included as a method for culling in this proposal. The British Veterinary Association (The BVA) have announced that the pilot culls did not demonstrate conclusively that controlled shooting could be carried out effectively and humanely\(^4\) This puts into serious question whether culls can be carried out humanely via this method.

**Effectiveness of the culls so far**

**Despite the ongoing rolling out of their badger cull policy, the government has seen no definitive benefits from three years of industry-led culling in England.** Primary analyses conducted by the Animal and Plant Health Agency (APHA) staff suggests that TB in cattle isn’t significantly lower in two culled areas than in areas where there is no badger cull\(^5\). A third site, where culling started later, seems to have experienced more cattle TB in the first year of culling than in the three preceding years.

A secondary analysis, also conducted by APHA staff and led by Lucy Brunton, on a smaller dataset, suggests that culling might be reducing TB inside cull zones and increasing it on adjoining land, as in trial culls, but these results were fragile enough that its authors cautioned it would be unwise to use these findings to develop generalizable inferences about the effectiveness of the policy\(^6\).

Furthermore, because no control zone studies were established, no systematic badger post mortems were organised and no detailed scientific monitoring established, it is impossible to now determine whether culling or other measures in the Government’s 25-year strategy are having which effects on bTB incidences in cattle. The recommended cull period has not been completed\(^7\), changes\(^8\) were made to the target numbers of badgers\(^9\) and the means of culling

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\(^9\) [http://www.wildlifetrusts.org/pilot-culls](http://www.wildlifetrusts.org/pilot-culls)
has been changed. It would be a more cost-effective and logical approach to invest in badger vaccination where there are outbreaks of bTB in the LRA.

**Value for money**

If a programme of badger control is to be government-led, then it should be able to demonstrate unquestionable value for money according to principles on state spending set out by the National Audit Office (NAO). The Wildlife Trusts argue that this simply is not the case. The culls cost UK taxpayers over £5 million in 2016 alone[^1].

This contrasts starkly with the costs for vaccination. Whilst any badger control, including vaccination, should always be a last resort, the latest figures[^11] show that on average it costs a Wildlife Trust just £82 to vaccinate an animal[^12], as compared to the cull which cost £6,800 per badger between 2012-2014[^12]. The Government spent almost £450,000 on communications equipment alone to support the culls between 2016-2017[^13]. This money could have been invested in cattle vaccine research or used to vaccinate nearly 5,500 badgers.

This is in contrast with the government’s HRA Value for Money (VfM) analysis which estimates that each new cull area in the HRA will deliver benefits of approximately £1.09million over eleven years (5.6)^[14]. This is rooted in the assumption that the cull is effective. The VfM for each year after the initial pilot year in 2013 was based around this assumption and that is despite any evidence that the badger cull was having a positive impact on bTB being published. On the other hand, there is evidence that badger vaccination reduces spread of bTB, and as previously stated, it is much better value for money. Therefore, if all biosecurity measures have been applied and clear evidence points to the need for badger control, the government should adopt a policy of badger vaccination over culling in the LRA hotspots.

**C: The principle of taking a precautionary case-by-case approach, dependent on the local conditions and situation, including as regards the number of years in which culling is carried out.**

**A move away from the scientific principles**

The government set out to cull badgers using an argument based in scientific evidence resulting from the RBCT. These proposals represent a move away from this scientific evidence. The majority of culling operations during the RBCT occurred over a period of eight to eleven consecutive nights. On four occasions culling took place sector by sector over several months but this method was associated with a greater rise in TB prevalence in badgers. To move away completely from this tried and tested method, is deeply concerning.

There is no mention in the consultation document of pilot schemes, or plans to carefully monitor and record the impact of small-scale, un-restricted culling on bTB incidence and badger populations in the immediate area or in the 2km buffer zone. The proposals outlined in this consultation removes the vast majority of mechanisms designed to ensure the intensive, sustained removal of badgers as recommended by the RBCT.

[^11]: Figures newly compiled from 2015 Wildlife Trust vaccination schemes
[^12]: These figures were provided in response to a Freedom of Information (FOI) request, which is available in full on the Gov.uk website. NB: The exact figure is £6785.
This proposal also raises concerns about the lack of targets (or a cap) for the number of badgers to be removed. The level of flexibility (4.4) that Defra proposes to build into this new approach is deeply worrying and demonstrates a disregard for the evidence and for the future of this protected species, which the government are required by law to protect. To say that the length of time the cull may continue for in each area is likely to be different than the standard set for the HRA, and needs to be decided on a case-by-case approach raises several questions: how can Natural England know whether the 70% minimum badgers removed target has been met, and whether the 90% maximum badgers been exceeded? This approach also neglects to mention how the effectiveness of the culls will be monitored.

Culling for prolonged periods and removing too few badgers serves to increase the risk of perturbation and therefore increase the risk of disease to cattle. Incomplete removal of badgers during localised culling operations appears to have at best no effect and at worst may cause an increase in cattle herd breakdowns. The RBCT states that repeated culling would sustain perturbation... in both proactive and reactive areas.

Natural England’s ability to oversee licenses

Severe budget cuts for ecological expertise call into question whether there are enough people in Natural England to be able to manage, monitor or review the new approach. This raises concerns with regards to the accountability of the companies undertaking the cull and how closely Natural England could regulate and keep a record of those skilled enough to carry it out. This could risk contravening requirement 21 of the draft licence – applicants must satisfy Natural England that they are able to deliver the cull as safely and humanely as possible.

These new guidelines give Natural England complete discretion to ensure licence holders are lowering the population of the affected area sufficiently (4.3). Given that the culls have consistently breached existing, tighter licence conditions by failing to meet minimum targets – particularly in Gloucestershire – with no repercussion, we have no confidence in NE’s discretion or in its ability to terminate ineffective culling operations15.

We would prefer to see investment by Natural England in promoting and securing the Government’s biosecurity measures on farms as a priority (see TB Hub).

D: The principle of using culling or vaccination or a combination of the two to control risks from badgers with TB in the LRA.

Much of the evidence used in the rationale for this proposal is flawed. Sheffield & Rotherham Wildlife Trust implores the Government to ensure that badger control is a last resort once all biosecurity measures have been systematically applied - and then prioritise a comprehensive badger vaccination scheme over a badger cull. Please refer to http://www.tbhub.co.uk/biosecurity/protect-herd-tb-review-science/

In paragraph 2.6 of the consultation, the document states that the risk of disease spread between badgers and cattle is lower in the LRA. The paper goes on to state that rapid geographical spread of infection is likely to occur when social groups are disrupted or at lower densities (2.7). It follows that a badger cull would disrupt the smaller badger populations in the LRA and make the groups less stable. The evidence demonstrates that vaccination does not

cause disruption to badger social groups and so would not worsen the situation, unlike badger culling.

There is robust, scientific evidence to prove that badger vaccination reduces the transmission of bTB in badgers. Chambers et al. (2011) demonstrated that vaccinating captive badgers with Bacillus Calmette-Guérin (BCG) reduced the progression, severity and excretion of *Mycobacterium bovis* infection after the badgers were exposed to the infection. Furthermore, in field trials, BCG reduced the incidence of positive serological test (blood test) results by 73.8%. Lesellier et al. (2011) also demonstrated that BCG vaccine reduces the severity of the disease in badgers and reduces the excretion of the bacteria from an infected individual, thereby reducing onward infection. In a clinical trial, the BCG vaccine reduced the risk of vaccinated badgers testing positive to a test of progressed infection by 76% and reduced the risk of testing positive to any of the available live tests of infection by 54%.

**E: In relation to cases where culling is deployed, the principle of lowering the badger population of the affected area sufficiently to reduce the risk of infection of cattle from badgers (whether through direct or indirect contact), and ideally substantially reduce or even eliminate it.**

The wording of this question is deeply concerning. We would like a clear statement on what Natural England determines as sufficient removal of badgers. We would like to see how Natural England plan to ensure that badger populations are not removed from an area entirely. This proposal should also include more emphasis on requirements for biosecurity on farms: how farmers may limit, and ideally eliminate, the risk of spread of bTB from cattle to badgers and vice versa.

**Estimates of proportion of badger population culled**

Defra has repeatedly defined an effective cull as one which reduces badger numbers by at least 70% (e.g. Draft guidance to Natural England para 9.d.i). However, in the new draft guidelines for badger culling in the LRA, it merely states that culling should lower the badger population of the affected area sufficiently. We are deeply concerned to learn that despite the difficulties Defra have had in previous years in understanding the size of badger populations in cull zones, that they would plan to apply such vague guidelines in the LRA.

In 2016 Defra was forced to revise its cull targets for all seven new culling areas when some cull companies easily killed more than double their target while others killed barely a half. Where companies killed fewer than expected, it is impossible to be sure whether badger populations were low or culling effort inadequate. Likewise, where more badgers than expected were killed, there is no assurance that the risk of spread of bTB from cattle to badgers and vice versa has been reduced.

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19 Carter et al., 2012. BCG Vaccination Reduces Risk of Tuberculosis Infection in Vaccinated Badgers and Unvaccinated Badger Cubs. *PLOS One*, **7**: e49833

it is clear that the initial population estimates were too low, but impossible to estimate the true population size. These concerns arise because Defra attempted to estimate badger numbers without conducting any field surveys in the cull zones\(^\text{21}\); hence there were no data to assess, for example, whether culling effort targeted all the setts in the accessible area. Without reliable estimates of initial population size, any estimate of population size reduction is likewise unreliable. Unfortunately, now that culls have commenced in these areas the initial badger population size is unknowable.

In 2017, only two of the eleven new cull zones met the minimum number of badgers stipulated in the authorisation for the license\(^\text{22}\). As in 2016, it became apparent from daily returns and field observations by Natural England and the APHA, that there was a much wider range of badger abundance across the eleven new culling areas than suggested by the national sett survey: some badger cull companies were removing more badgers than expected and some were removing fewer.

**Monitoring and loss of badger populations**

Monitoring of the local badger populations in the LRA is included in the draft guidance for badger control in the LRA: *The duration of a Low Risk Area Badger Disease Control licence will be determined by Natural England’s assessment of all the available evidence, including monitoring of the badger population...* However, Sheffield & Rotherham Wildlife Trust would like a stronger commitment to investment in achieving an accurate population estimate before culling is considered.

Then, if culling does commence, there must be regular records of the numbers of badgers culled each year monitored against the original population size, so that the impact of these culls on badger populations is as clear as possible. We believe that Natural England should take responsibility for this and should be held to account if they are not able to provide this information when asked for it.

The RBCT\(^\text{Error! Bookmark not defined.}\) also states that culling needs to *not be detrimental to the survival of the population concerned* within the meaning of Article 9 of the Bern Convention on the Conservation of European Wildlife and Natural Habitats\(^\text{23}\). For that purpose, Natural England must set a maximum number of badgers to be removed from the licence area\(^\text{24}\).

**There is the extremely concerning possibility that this programme will systematically eradicate a native species that in law is strongly protected under the Badger Act. This could also set a dangerous precedent for other species.**

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\(^\text{23}\) https://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/104


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**F:** *On the proposed revisions to the Guidance to Natural England on licensed badger control. Draft revised Guidance can be found at Annex B. See the new section on Low Risk Area Badger Disease Control. The new section header and other revisions to the Guidance have been highlighted in yellow for ease of reference.*

In terms of the guidelines for these proposed culls in the LRA, the level of ambiguity is particularly alarming. For instance, in paragraph 19.c. the draft guidance talks about the level of
accessible land available for the cull. The level of this accessible land will be determined on a case-by-case basis. It is vital that land is directly accessible for the purpose of conducting sett surveys to accurately assess the size and distribution of local badger populations, and therefore set meaningful targets; and also to ensure an intensive and sustained culling effort throughout the cull zone. It is not clear how this could be achieved if a significant proportion of land is not directly accessible.

This response has previously alluded to the importance of robust biosecurity measures, however the guidance describes reasonable measures which are practicable, proportionate and appropriate (para 19.d), however this should be the upmost priority for Natural England. There should be regulation in place to ensure those participating in the cull are adhering to these robust measures before any badger control is even considered.

In summary, Sheffield & Rotherham Wildlife Trust is very concerned that the government are looking to significantly expand their badger cull programme across the whole of England, and will give responsibility to industry cull operators, without clear goals or guidance for how to deliver this. We are deeply alarmed at the apparent disregard for one of our last remaining large mammals, and dismayed to see a plan with so little grounding in scientific evidence and without any realistic hope of achieving the aims of the 25 year bTB eradication strategy.

G: Any additional comments or approaches which you feel are relevant but not captured by the questions above.