



Badger Trust Tackling Bovine TB Together

Towards Sustainable, Scientific and
Effective bTB Solutions

Executive Summary and Recommendations
January 2024

Introduction

Bovine TB is primarily a respiratory infection, and whilst some level of infection can remain in the environment, its main route of transmission is direct contact with an infected individual of the same species. For cattle, this main transmission route is the inhalation of affected aerosols from other cattle. Bovine TB remains a persistent concern for British cattle farming, and cattle-cattle transmission has been recognised overwhelmingly as the primary driver of bTB outbreaks in cattle herds. All cattle movements are at risk from many different infectious diseases, bTB is one of these.

One of the UK's biggest selling points is its animal health and welfare standards, and since Brexit, it is important that we continue to maintain these standards. We must consider the UK as a single epidemiological unit and recognise that bTB is everybody's responsibility. We need to work collaboratively together, across the devolved nations, to empower and strengthen everyone involved in tackling this complex disease.

Throughout the report, we have highlighted that in order to bring about significant reductions in bTB in cattle, a variety of cattle measures are needed nationwide. We have highlighted many gaps, both in the practices and in the ideology perpetuated around the primary transmission route and spread of bTB. Many of these top-down approaches need strong leadership to make a change. We hope, by highlighting these gaps and opportunities, to make a significant impact on the reduction of bTB in cattle, that we can focus on the primary transmission and risk pathways to cattle, and can immediately halt the end of the destructive, and ineffective cull of badgers. This includes the cattle-epidemiology-led culling of badgers, which as we have shown, will have no beneficial impact on reducing bTB in cattle.

In the report, Badger Trust provides an evidence-based overview of the impact of badger culling on disease control in cattle, the environment, the economy and animal welfare. We bring together the voices of those impacted by ineffective disease management, recognising that bTB is about more than badgers. We recommend how the devolved governments, farmers, veterinarians, and nature-based organisations can collectively work together towards a future free from bTB where native wildlife and farming practices can co-exist sustainably.

Our aim is to open a dialogue on the control of bTB between stakeholders and across disciplines and how we might best approach this disease together. By setting out a holistic review of the policy and science to date, we hope to take an important step towards depolarising what is one of the most contentious and political animal health issues Britain continues to face.

Read the full report

Request a pdf copy of the full Badger Trust report, **'Tackling Bovine TB Together: Towards Sustainable, Scientific and Effective bTB Solutions'** and the preamble from eminent scientist and expert Professor David Macdonald, **'A Commentary on Current Policy'**. Download from badgertrust.org.uk or email hello@badgertrust.org.uk



Part I The History of bTB in Britain

In Part I of the report, we trace the management of the disease in Britain and show that bTB was once effectively managed via cattle biosecurity. Through a review of the scientific and policy literature, we show that previous badger culling trials were unsuccessful in reducing the rates of bTB in cattle.

The results of the 1998-2005 Randomised Badger Control Trial led to the recommendation for cattle-based measures to be pursued instead of badger culling. However, despite this scientific advice, the government introduced badger culling in 2013, and it has continued to be implemented in greater levels of land coverage ever since.

By 2022, over 210,000 badgers had been eradicated, yet there remains no evidence to support its contribution towards declining rates of bTB in cattle. Indeed, bTB rates were falling steadily before the introduction of badger culling, and a recent analysis of government figures revealed that badger culling was not causing reduced instances of bTB in cattle.

Key points

- bTB is most commonly transmitted cattle-to-cattle, and not from badgers-cattle.
- bTB was first identified in the United Kingdom in the 1800s; since then cattle-based measures have been the most effective mechanism for disease reduction in cattle.
- Badger culling was originally opposed by government-appointed scientific advisors because it was unlikely to be effective in protecting cattle and could potentially make bTB prevalence worse.
- Intensive badger culling began in England in 2013. By 2023, over 210,000 badgers had been killed, up to half the estimated population across England and Wales. This included 58 active cull areas, covering approximately 1/3 of land in England. And yet, scientific, effective, and humane alternatives for bTB eradication are available.
- Scientific advances have shown that bTB is infrequent in the badger population.
- Drawing a definitive conclusion that culling badgers alone has any beneficial effect on disease reduction in cattle from any of the available data is currently made impossible, given the complexity of the factors involved.



Part II Ethics of Badger Culling as a Form of bTB Control

Throughout Part II we look at the ethics of badger culling as a form of bTB control and argue that badgers are not only essential for ecosystem health, but they are also iconic species that hold significant value for British natural and cultural heritage. We explain how badgers are a species that have endured a long history of persecution, with rates of badger baiting so high as to warrant the introduction of the Protection of Badgers Act 1992.

The role of badgers in the transmission of bTB has been long debated and scientific advancements, including Whole Genome Sequencing, have shown that cattle-cattle transmission is the most common pathway through which bTB spreads.

We specifically highlight that badger culling contravenes several of Britain's nature protection commitments, including The Bern Convention, the UN Sustainability Goals, the Kunming-Montreal Global Biodiversity Framework, and the International Consensus for Ethical Wildlife Controls. We demonstrate that badger culling is unscientific, ineffective and inhumane.

Badger Trust argues, therefore, that the economic and ethical costs of the cull are disproportionate to the role badgers play in spreading bTB to cattle and the impact of disease reduction from culling.

Key points

- Badger welfare is significantly compromised by culling, which has not been adequately addressed by bTB policy.
- UK law recognises vertebrate animals as sentient beings and with this legislation comes the responsibility that relevant government policies must take into account animal sentience. Culls in this capacity, can therefore not be humane.
- Badgers are highly social mammals, and it is not known how the stress of culling impacts the welfare of surviving social group members. Nor is it known how the removal of an ecosystem engineer impacts the well-being of other native species. Thus, lethal control of badgers has not been adequately monitored concerning all animal welfare implications.
- In the UK, there are significant threats to badger populations, including wildlife-vehicle collisions, badger baiting, housing and development, and culling. In a changing climate, both flooding and drought will further add to the risks faced by badgers, alongside our other native species.
- It is a common misconception that badgers play a significant role in the decline of vulnerable species such as European hedgehogs (*Erinaceus europaeus*) and ground-nesting birds. Most sources agree that human-induced changing landscapes and a lack of suitable habitat and resources are the main reasons for these declines in native species.
- Badgers are protected under the Protection of Badgers Act 1992 making it illegal to

harm or interfere with a badger or their sett without a licence, whether with intent or by negligence. Additional legal protections are sometimes provided to badgers by the Wildlife and Countryside Act 1981, the Animal Welfare Act 2006, and the Hunting Act 2004. Badgers are also listed in Appendix III of the Convention on the Conservation of European Wildlife and Natural Habitats. Despite these measures, illegal badger persecution is a large and ongoing issue in parts of the UK.

- A YouGov survey showed that only 15% of the public supports the cull. Therefore, banning the cull (including epidemiological culling) is likely to be widely supported by the general public who want to see greater environmental and animal welfare protections, and more cost-effective disease reduction strategies amidst the cost-of-living crisis.
- The most recent population estimates of badger numbers in England and Wales were recorded pre-cull and thought to be around 485,000 badgers (ranging from 391,000–581,000). Thus, culling over 210,000 badgers in the past decade could have had a significant impact on the population health and resilience of Britain's badger populations.



Part III Attitudes to bTB Control

In Part III we consider the various attitudes towards bTB control from different stakeholders. We began by comparing bTB control strategies from the devolved nations of Britain and highlighted that England remains the only country in Great Britain to cull badgers. Scotland is largely bTB-free by restricting cattle movements into the country, and Wales has controlled bTB by focusing on mandated cattle biosecurity and testing measures. Both Scotland and Wales have healthy badger populations.

The Welsh policy includes more rigorous testing of cattle (in terms of frequency of testing and application of combination tests), and the linkage of mandated policy, compensation eligibility, and pre-movement testing. Wales also effectively monitors disease in wildlife populations and implements targeted measures such as badger vaccination to the populations where disease rates are evidenced. In England, cattle testing is less frequent and less rigorous, and wildlife disease is not routinely monitored. Neither is policy compliance related to compensation eligibility. We also highlight a slight increase in rates in the LRAs of England and recommend that this needs to be addressed with mandated biosecurity and testing measures.

We also investigate the attitudes of farmers towards bTB disease and bTB eradication strategies. Our online survey revealed that farmers feel frustrated by the lack of progress made in bTB reduction, yet much blame for the disease is placed on badgers and their protected legal status. Most importantly for policymakers, our results indicate a common misconception amongst farmers regarding the epidemiology of bTB transmission. Overwhelmingly, participant farmers incorrectly ranked cattle movement and shared grazing as a lower disease risk than the risk posed by wildlife, and very few farmers implemented biosecurity at scale enough to prevent disease from spreading.

We also highlight the important role that private vets can play in building positive farmer relationships and providing tailored biosecurity plans. Private vets can, however, feel frustrated and stressed by national regulations and there is a need for private vets to be allowed a stronger leadership role in managing bTB and to find solutions that enable more collaborative working with government vets.

Nature-based NGOs also have a role to play in the narrative and discourse used when discussing bTB policies. Using evidence-based, inclusive language, nature-based NGOs can work together with other stakeholders to find solutions to bTB that uphold non-lethal wildlife control and nature protection.

Alongside each of our findings, we have provided policy recommendations, such as support for enhanced testing and further uptake of on-farm biosecurity measures. We highly encourage the formation of a cross-disciplinary coalition of stakeholders, to ease the tensions currently surrounding the politicised nature of badger protection and to open communication channels between farmers, the veterinary sector, the public, policymakers, and animal welfare and environmental non-governmental organisations.

Key points: Case Studies

- Scotland is Officially TB Free, and England and Wales have both implemented strategies towards achieving TB Free status, by 2038 and 2041 respectively.
- There are no substantial differences between bTB rates in England compared to Wales. In 2022, 94.7% of Welsh cattle herds were free from bTB and 95.6% of English cattle herds.
- Wales do not cull badgers, and Welsh herds are subject to stricter controls to cattle via country-wide annual testing, restrictions to cattle movement, and mandated farm biosecurity.
- The infrequency of testing in England outside of the HRA or Edge areas likely results in inaccurate figures. Due to inaccuracy and high false negative rate of SICCT, the true number of infected cattle in England may be as much as 50% higher than recorded.
- Geographically inconsistent and evolving policies in England have caused confusion for farmers surrounding regulations.
- Epidemiological evidence has not informed badger culling in England, as wildlife surveillance in both England and Wales has failed to find a significant reservoir of bTB in badger populations to constitute a significant risk to livestock.
- As badgers only account for a very small proportion of bTB transmission to cattle, efforts to reduce bTB through vaccinating badgers alone are unlikely to be effective without equal or greater focus on improving farm biosecurity and reducing cattle-cattle transmission rates.
- The UK governments need to reward high animal welfare in their policy decisions around bTB, so that we can continue to be a world-leading provider of high-welfare food in a competitive way.

Key points: Farmer Survey

- The financial costs associated with a herd breakdown can be crippling to farmers and lead to devastating emotional strain.
- In 2023, Badger Trust conducted an online farmer survey which revealed an underlying misconception amongst farmers regarding the transmission risks for bovine tuberculosis, with wildlife thought to be the most likely route of transmission over cattle-to-cattle infection.
- Policymakers must urgently commit to greater transparency and honesty when communicating the nature and significance of the disease risks to cattle in order to reduce misunderstanding and remove barriers to effective disease control.
- Intensive educational outreach efforts are needed to better equip farmers with the knowledge of bTB epidemiology.

- Our survey results confirmed that farmers were both aware and frustrated with the insufficient reliability of cattle testing in England and “the government's overreliance on the standard test”.
- Policymakers must support the psychological health of farmers during and beyond the transition to more rigorous cattle testing. Mental health support and financial assistance for increased testing and implementation of biosecurity measures are vital.
- We recommend an integrated approach to the depoliticisation of the badger via a coalition group of stakeholders to open the dialogue between groups and shift the rhetoric towards sustainable coexistence.

Key points: Vets

- Veterinary professionals are considered a trusted source that are key to addressing bTB in cattle.
- The farmer-vet relationship is crucial for sharing knowledge of bTB solutions, and effective implementation.
- Expanding the opportunities for private vets to investigate disease pathways could enable more effective and efficient infection control and disease prevention.
- Addressing bTB impacts the well-being of veterinary professionals as they navigate between broad-scale policy and working closely with individual affected animals and farms.
- Strong collaborative efforts between government and private vets, including efficient data sharing, have been shown to build stronger relationships and have better outcomes.

Key points: Nature-based NGOs

- Using more inclusive dialogue to engage with all stakeholders, including those of opposing views, can contribute towards collaborative solutions.
- Investment in rural communities for educational outreach can address the polarisation of opinions around badgers and other wildlife.
- Using evidence-based narratives and investing in multi-stakeholder research can provide more effective solutions to problems and encourage uptake of alternative methods.

Part IV The Economic Costs and Cattle Welfare of Disease Reduction

In Part IV we analyse the economic and disease reduction benefits of cattle-based measures and the non-lethal control of wildlife. The financial costs of the current bovine tuberculosis control strategy implemented by DEFRA are insufficient to cover the true costs involved in bTB management. Furthermore, as the current strategy is failing to bring the disease reduction benefits desired, the bill continues indefinitely

By drawing on a range of scientific studies, we demonstrate the importance of implementing policies that cover the entire farm network. The new Livestock Information System (to replace the cattle tracing system) must be used more effectively to identify farms acting as bTB "hubs" that could be targeted with additional disease prevention measures. We also want to see this system linked up with the devolved nations, so that there is a combined effort in bTB security strategy. We recognise that infected cattle are a hidden reservoir of the disease without adequate testing measures in place, and discuss the advantages to be gained by the urgent need for the government to adopt new cattle testing technologies (namely the Actiphage and Enferplex tests), alongside the rollout of a cattle vaccine, and increased farm uptake of biosecurity on farms.

We support the notion that farmers can help to 'control the controllable', through on-farm biosecurity measures as highlighted by the BCVA and CHeCS programme when farmers are given the correct information and support. The results of our survey show that some farmers believe that biosecurity measures are not overly effective and that wildlife is the main driver of bTB. Thus there was a key need for knowledge transfer between vets and farmers around bTB transmission pathways and mitigation methods. The CHeCS scheme supports this by offering accredited bTB training to vets so that the relationship between farmers and vets on the bTB narrative can be strengthened. We hope that this programme will reach scale enough to enable the majority of farmers to have access to this information and service across all areas, including those in the LRAs.

Overall, we not only highlight the strengths of a non-lethal wildlife control policy for solutions to bTB, but we emphasise the need for leadership by policymakers to make policy more consistently upheld and easier to follow.

Key points

- An average of £30 million a year is issued as compensation to farmers when they suffer the loss of cattle from bTB herd breakdowns. The compensation costs have not changed significantly since before the cull.
- The badger cull has cost at least £58,776,156 from 2013-2022 according to official figures.

- The financial costs of the current bovine tuberculosis control strategy implemented by DEFRA are insufficient to cover the true costs involved in bTB management. Furthermore, as the current strategy is failing to bring the disease reduction benefits desired, the bill continues indefinitely.
- Deployment of a successful cattle vaccine and testing protocol must be rolled out alongside additional animal movement identification and movement tracking, with mandatory biosecurity measures. This needs to be done alongside educational workshops for farmers and cattle buyers.
- Significantly increase resources into validating and approving more accurate tests such as the actiphage test and the Enferplex antibody test as soon as possible. These tests could be critical to better and earlier detection of infected animals.
- Cattle movements are not adequately controlled on a national scale to restrict disease spread. The National Cattle Tracing System, soon to be replaced with the Livestock Information System (LIS), needs to be better used to identify high risk farms and set strategic control measures accordingly.
- Redirect costs from culling badgers to the implementation of annual combination testing and associated farmer support. The government could then better support farmers to protect their herds from the main cause of bTB transmission, cattle-to-cattle infection.
- Direct resources into developing a scalable, cost-effective badger BCG vaccine programme, that could be used to prevent reinfection to badgers, after the cattle transmission path is resolved.
- Effective biosecurity measures can reduce outbreaks and the impact of other diseases, including foot and mouth disease, bovine viral diarrhoea, leptospirosis, mastitis and infectious bovine rhinotracheitis.
- Avoiding slurry spreading on pasture, and increasing storage duration from two to six months for manure and slurry, respectively, could reduce infection risk.
- The CHeCS Herd Accreditation and TB Entry Level Membership programmes are likely underutilised and could benefit from being taken up more widely by cattle farmers. The 'no regrets measures', as part of the entry-level scheme, focuses on the major risk factors of bTB to cattle herds. Developed with the BCVA, we welcome the proactive design of the course to improve input from private vets and encourage farmers and vets to have these infectious disease management conversations together.
- Good practices of biosecurity and maintenance of welfare standards are linked to reduced antimicrobial usage and the associated costs.
- Poor welfare standards create ideal conditions for bTB to thrive and rapidly spread between cattle. By avoiding overcrowding, ensuring good ventilation, providing a good diet and hygiene standards, and reducing stress, animals are less likely to succumb to illness or disease, and latent infections are less likely to become active and spread.

Conclusions

Since 2013, badger culling has been part of a series of government measures to tackle bTB eradication in cattle in England. Epidemiological and statistical evaluation of badger culling and trends in bTB transmission, however, has shown that badger culling is frequently neither scientifically supported nor an effective method of controlling bTB in cattle. Repeatedly, cattle-based measures have proven most effective in reducing bTB transmission.

Through empathy and respect, we want to support farmers in having a platform to work together with nature and conservation bodies in finding solutions to the bTB endemic together, with a government that supports that ambition. Only by working together, can England tackle bTB effectively, which can in turn only be achieved by protecting cattle, wildlife, and the environment sustainably.

Badger Trust advocates for a policy environment that supports farmers, vets, governments, and nature and conservation bodies to work together to create a sustainable future. We are committed to an open dialogue with the UK government, local and national policymakers, and politicians from all major parties.



Recommendations at a glance

Effective bTB solutions require proficient government leadership via mandated measures that remove confusion for farmers, support private vets, provide an honest narrative of effective methods, and offer comprehensive support to eradicate bTB from cattle. All stakeholders involved have a role to play in depolarising the narrative around bTB and working towards open communication. Only by working together can Britain tackle bTB effectively, which can in turn only be achieved by protecting cattle, wildlife, and the environment sustainably.

One of the UK's biggest selling points is its animal health and welfare standards and, since Brexit, it is important that we continue to maintain these standards. We must consider Britain as a single epidemiological unit, as disease does not respect political boundaries, and recognise that bTB is everybody's responsibility. By using a joined-up approach, we can work collaboratively together, across the devolved nations, to empower and strengthen everyone involved in tackling this complex disease.

Below, we make our stakeholder recommendations for consideration as we move forward in **tackling bTB together**.

Policymakers

- Policymakers need to make a unified effort to tackle bovine tuberculosis by **adopting a non-cull strategy towards badgers that is already being effectively implemented in neighbouring countries**. This needs to be combined with an honest and evidence-based narrative about the limited role of badgers and other wildlife in the spread of bTB in cattle.
- Urgently establish a **cross-sector coalition group** that includes vets, the farming industry, NGOs, and other relevant stakeholders to dispel inaccurate information regarding bTB risk pathways and the most effective best practice disease prevention strategies.
- Task the coalition group of stakeholders with **supporting a shift in the anti-badger rhetoric** towards a rhetoric of sustainable coexistence, in line with national and global biodiversity and sustainability goals. Resources need to be provided that support farmers and landowners to protect the health and welfare of both badgers and livestock and to assist in transparent communications between diverse groups such as the farming industry and nature-based NGOs.
- Invest in **educational outreach** efforts to better equip farmers with the knowledge of bTB epidemiology so that farmers are aware of **the significance of cattle-cattle transmission**.
- Provide sufficient funds to cover **appropriate farmer compensation schemes** for bTB testing and eradication, providing both **financial and mental health support**.
- **Compensation schemes** need to be linked to **biosecurity and husbandry** measures in place on farms to reward best practices.

- Invest more resources into the more **rapid development and roll-out of a cattle vaccine and diva testing**. Lack of trust in the government's ability to develop and successfully implement a cattle vaccine is in need of urgent attention. Policymakers ought to be more transparent with the details of the cattle vaccination development. Only through a complete and comprehensive vaccination and testing programme will the entire farm network be protected from the devastating impacts of bTB in cattle.
- Significantly increase resources into **validating and approving more accurate tests such as the Actiphage test and the Enferplex tests** as soon as possible. These tests could be critical to better and earlier detection of infected animals.
- It is highly likely that improvements in cattle testing would create an initial rise in bTB cases as more infected cattle are positively identified. Thus, policymakers should prepare farmers for this likely outcome and **implement measures to assist farmers with the financial and psychological impact** of the testing and cattle removal process.
- **Better enforce timely bTB cattle tests** otherwise risking the movement of undetected cattle.
- Ensure an **effectively robust Livestock Information System to identify farms acting as bTB "hubs"** that could be targeted with additional disease prevention measures to protect the farm network. Ideally, this will be a combined effort in the bTB security strategy with the devolved nations.
- Better support British farmers to **integrate bTB control measures into their animal welfare and environmental sustainability practices and legislation**.
- **Direct resources into developing a viable badger vaccination programme that can be upscaled effectively** (either via injectable or oral BadgerBCG vaccine), to prevent reinfection to badgers after the cattle transmission path is resolved.
- Roll out **effective badger epidemiological surveillance** so that badger vaccination can be deployed in high risk areas.

Farming Industry

- **Write to their MPs and MSs requesting further investment in biosecurity support** and an effective cattle vaccine and testing protocol.
- Support and encourage participation in the **CHeCS Herd Accreditation scheme and the TB Entry Level Membership programmes**.
- **Enhance biosecurity measures** that are relevant to the scale and needs of each farm.
- **Consider if husbandry methods are appropriate for the scale of farming**, and reducing disease transmission and susceptibility.

Vets

- Provide **sector-wide support with the appropriate skills investment** to enable accurate veterinary support and advice to support the farming industry, regardless of the area of the country and bTB risk status, for example:
 - Encourage more vets to become Accredited TB Advisors to help improve farmer-vet relations and veterinary expertise in bTB, including those in LRAs.
- Ensure strengthened collaborative working between government vets and private vets, with **private vets taking more of a lead role in tackling bTB**.

Nature-based NGOs

- **Be proactive in using inclusive, evidence-based narratives** to openly engage with diverse groups of stakeholders.
- **Collaborate** with government agencies, farmers, veterinary professionals, and other NGOs to create integrated strategies for bTB management that are science-based and sustainable.
- **Invest in rural community development** to address the polarisation of opinions surrounding the protection of the badger.
- **Fund and encourage wildlife-proof measures on farms** that encourage best practices for biosecurity and disease management, such as using electric fencing and raised troughs.
- **Clearly identify their position on badger culling and bTB policy** to their members and supporters to open the dialogue between stakeholders.

We are not experts in farming practices and have based our recommendations on available research and recommendations made by others before us. We urge readers to remember that these measures will not only help prevent bTB but a host of other costly and preventative pathogens that negatively impact farmer livelihoods and welfare.

The cattle versus badger rhetoric has gone on for too long as a divisive distraction to the complex issues behind the disease and the lack of clear policies and leadership in place.

Only by bridging the gap in narratives around bTB will we really be able to find solutions to **tackling bTB together**.



Tackling Bovine TB Together





Badger Trust

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