



## Committee for Agriculture and Rural Development: Review of Bovine Tuberculosis

*A response from RSPB Northern Ireland*

The RSPB is calling on Government to base its policy on combating bovine TB on sound science. Measures should focus on cattle testing, biosecurity and the development and deployment of vaccines. Detailed scientific trials suggest that the culling of badgers is a high-risk, impractical, unsustainable approach to reducing bovine TB in cattle. If asked the RSPB will oppose access to its reserves for culling badgers but, if part of a co-ordinated programme, will allow access for badger vaccination.

### Summary

- *Bovine Tuberculosis (bTB) is a significant and costly disease for the cattle industry*
- *Effective measures must be found to reduce the incidence of bTB in cattle*
- *Livestock farming plays a critical role in managing important habitats*
- *Cattle to cattle transmission remains a significant pathway for transmission of bTB in Northern Ireland*
- *Several studies have shown reactive culling of badgers is ineffective and can actually increase bTB infection levels in cattle*
- *The final report of the Independent Scientific Group on Cattle TB concluded that 'the rising incidence of disease can be reversed, and geographical spread contained, by the rigid application of cattle-based control measures alone*
- *The RSPB is opposed the coalition government decision to trial cull areas in SW England in autumn 2012*
- *The RSPB welcomed the 20<sup>th</sup> March 2012 decision by the Welsh Assembly Government to pursue a badger vaccination programme instead of a widespread cull*
- *We believe that badger vaccination provides a satisfactory alternative solution to culling that does not risk making the situation worse. Detailed field trials of an injectable badger vaccine showed that it reduces the number of badgers testing positive to bTB by 74%*
- *will continue to press Government to work with farmers to ensure appropriate cattle testing and biosecurity measures are carried out on farms, and to maintain funding for vaccine development (both for oral badger vaccine and cattle vaccine)*

### Background

Bovine Tuberculosis (bTB) is a significant and serious disease for the cattle industry. It is clear that badgers can play a part in the transmission of this disease but cattle to cattle infection is also important. It is important that effective measures are found to address the disease reservoir in badgers or to break the cycle of infection if this disease is to be controlled and eventually eradicated. However, by no means is culling badgers the only option for doing so.

## Main points

The RSPB is sympathetic to the impact that bTB and the current control measures has on cattle farming in parts of the UK. It causes considerable distress for farmers to lose their herds as well as having financial impacts for individuals and the taxpayer. Livestock farming plays a critical role in managing important habitats and the RSPB owns, manages and uses cattle on our nature reserves.

Cattle to cattle transmission remains an important pathway for disease transmission (Goodchild and Clifton-Hadley, 2001). Cattle-to-cattle transmission may result from several routes:

- **Contact with infected contiguous herds:** Northern Ireland has a high dependence on the beef sector and 99% of herds have contiguous neighbours owning cattle, most of which have experienced TB infection at some time over a three year period. McCann (2002) found that 63.6% of cattle farms in Northern Ireland grazed herds contiguously in fields with inadequate barriers to “nosing”
- **Purchase and subsequent importation of infected cattle:** Cattle movements can be an important source of *M. Bovis* introduction into disease-free herds. The importance of cattle movements became clear in the wake of the foot and mouth disease outbreak in 2001 (Figure 1), when large numbers of cattle were purchased and moved in order to restock culled animals (Gopal *et al.*, 2006). Disease data for live badgers in Northern Ireland are limited to four PhD projects by Feore (1994), Sadlier (1999), McCann (2002) and George (2011), but combined figures from these studies suggest that incidence of the disease in badgers may be dependent on cattle prevalence. Feore (1994) found no culture-positive badgers but Sadlier (1999) found that 7.7% tested culture-positive. By 2002, after the Foot and Mouth outbreak, 13.8% of badgers were culture-positive (McCann, 2002) but this had fallen by 2010 to 6.6% (George, 2011). Woodroffe *et al.* (2006b) also found that bTB prevalence in badgers almost tripled after the foot-and-mouth outbreak. This raises the question of whether *M. bovis* is self-sustained within the badger population or whether it only persists due to failure to eradicate the disease in cattle
- **Transmission within housing:** A number of studies have shown that cattle-to-cattle transmission within housing is possible, but the quality of housing is the determining factor in the risk of disease transmission (Phillips *et al.*, 2003). Close contact between cattle feeding from shared troughs and in neighbouring cubicles may increase transmission of infectious bacilli and facilitate establishment of the disease in susceptible animals (Goodchild and Clifton-Hadley, 2001). Poorly ventilated housing, with low sunlight and high humidity, is ideal for transmission of *M. bovis* (Phillips *et al.*, 2003)

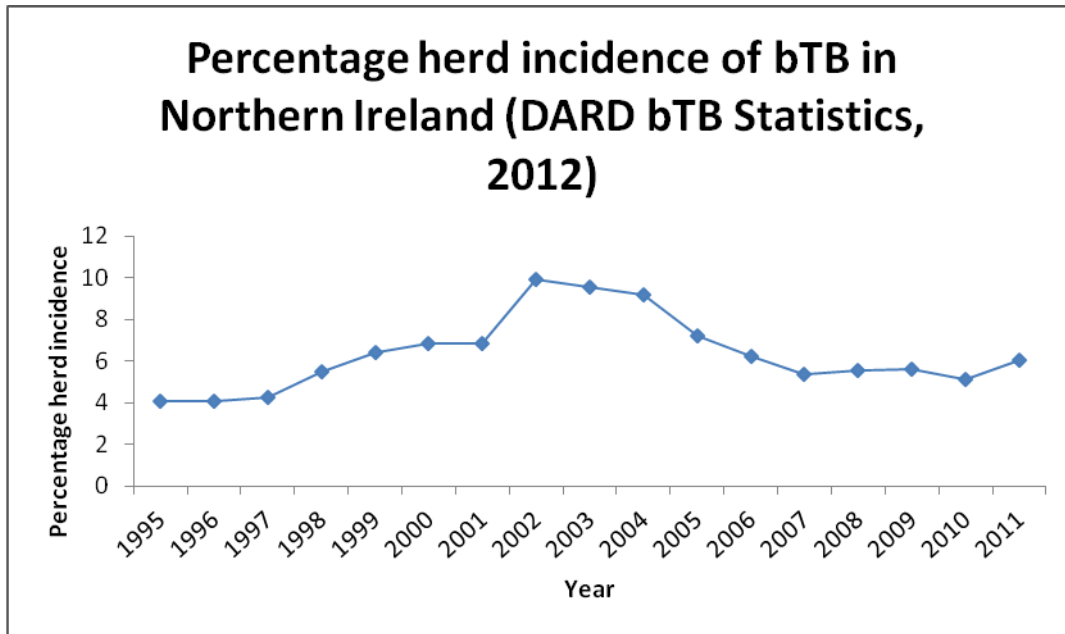


Figure 1: percentage herd incidence of bTB in cattle herds increased dramatically in response to restocking of cattle after the Foot and Mouth outbreak in 2001.

Biosecurity measures to reduce the contact between badgers and cattle also have an important role to play in disease control. We welcome the initiative from DARD to look at cattle and wildlife risk factors in County Down. In assessing the need for biosecurity measures on farms in Northern Ireland we hope that the findings of a detailed research project in England (Judge et al 2011) and the measures that have been introduced in the TB intensive action area in West Wales are fully evaluated.

The results of a detailed, ten year study on the effects of badger culling showed that localised, reactive culling is ineffective and can actually increase bTB infection levels in cattle. Culling of badgers results in considerable disruption to the social organisation and behaviour of individuals, inward dispersal in search of new home ranges, breakdown of the discrete group territories associated with medium to high-density populations (Carter *et al.*, 2007), increased roaming (Woodroffe *et al.*, 2006a), changes in biometrics and age structure (Tuytens *et al.*, 2000), and it can increase *M. bovis* prevalence in the remaining badger population (Jenkins *et al.*, 2007).

These impacts on badger social structures are referred to as perturbation. The study did show that a well co-ordinated, simultaneous cull of badgers over a substantial area (at least 150 square kilometres) over a protracted period (at least four years) would in theory reduce bTB in cattle in and around the cull area by about 16% (Defra 2011). However, it would only be effective in areas with boundaries impermeable to badger recolonisation (Donnelly *et al.*, 2003). As appropriate natural boundaries only occur on a local scale, prevention of recolonisation on a wider scale is not currently practical and Bourne et al (2007) concluded that badger culling is not likely to represent an effective method of controlling bTB in Britain.

Jenkins *et al.* (2010) have followed the effects of culling on cattle TB since culling ended in 2007. They found that detectable benefits of culling inside the cull zones persisted for several years after culling ended, however, they concluded that the cost of culling far out-weighs the modest reduction in cattle TB. This study also highlighted the potentially divisive impacts of badger culling because although culling produced a small reduction in the incidence of bovine TB overall it actually increased TB for those farmers just outside the culling zone.

The final report of the Independent Scientific Group on Cattle TB concluded that 'the rising incidence of disease can be reversed, and geographical spread contained, by the rigid application of cattle-based control measures alone.' (Bourne et al 2007)

In December 2011, the coalition Government announced its decision to progress two pilot culls in SW England in autumn 2012. Depending on the results of these pilots, a series of area based culls could be licensed in following years. The RSPB is opposed to these proposals because they are based on a high-risk, untested method (shooting free ranging badgers) and they risk making TB worse. In addition, the two pilots will not produce a scientifically sound trial of the proposed cull and Natural England will not be able to set cull levels that ensure that local extinctions of badgers do not occur. This risks contravening the Bern Convention on the Conservation of European Wildlife.

The RSPB welcomed the 20<sup>th</sup> March 2012 decision by the Welsh Assembly Government to pursue a badger vaccination programme instead of a widespread cull. This decision was made after a review of the scientific evidence, deeming a cull inappropriate and not cost effective in the long term.

We believe that badger vaccination provides a satisfactory alternative solution to culling that does not risk making the situation worse. Detailed field trials of an injectable badger vaccine showed that it reduces the number of badgers testing positive to bTB by 74% (Chambers et al 2010). This vaccine is available now and we believe that the Government should be doing more to support and encourage its use. This position appears to be shared by the centre-right think tank the Bow Group which has called on the coalition Government to scrap badger cull plans (Bow Group 2012).

We will continue to press Government to work with farmers to ensure appropriate cattle testing and biosecurity measures are carried out on farms, and to maintain funding for vaccine development (both for oral badger vaccine and cattle vaccine). We will assist where possible with appropriate and co-ordinated vaccination programmes, but will oppose access to our nature reserves for culling badgers.

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