

Bovine TB: Fact, Fantasy & Politics

Why a badger cull won't work

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Background

It might sound a bit of a cliché to say that my involvement in the badger TB issue has been a long journey, but the subject has occupied most of my working life. **This is my brief personal story with my conclusions from over 35 years of key related research.** But before I start, I should reassure readers that I have no political axe to grind and no vested interest in any aspect of this issue. I am an active conservationist as well as a keen shooter. I have no connection with the farming industry or the veterinary profession, nor am I a member of any of the organisations that have grouped together under the umbrella **Team Badger**. My judgement is made purely on the scientific evidence and I am ready to provide my views to any who are interested.

It was 1975 and I was a newly qualified post-doctoral student when I was offered the perfect opportunity to pursue my interest in wildlife management - a job investigating the role of badgers in the **epidemiology** of bovine TB. This was when the cattle TB problem was mainly focussed in certain parts of south-west England, with the Cotswolds being one of the worst “**hot spots**”.

My first task was to select a suitable study area and I came across a valley called Woodchester Park near Stroud, Gloucestershire that fitted the bill. While establishing the **Woodchester Park base for field studies**, I honed my skills on surveying for badgers and their setts by helping to set up what became known as the **Thornbury badger eradication exercise**, where badger setts within 104 square kilometres between the M5, M4, River Severn and the Little Avon were gassed repeatedly with hydrogen cyanide for over six years. **Gassing with hydrogen cyanide was eventually abandoned for welfare reasons.**

Our early work at Woodchester was undertaken by just myself and one other person. We concentrated on establishing basic ecological data for the local badger population. We made our own miniature radio transmitter collars for radio-tracking badgers, a new technology in those days, and bought some excellent ex-army image intensifying binoculars for night observation. Together with a local veterinary investigation officer, we also developed techniques for the live capture and clinical sampling of badgers to establish the presence, distribution and dynamics of TB infection in

the badger population.

Beginnings of a badger cull policy

After a few years **a picture emerged of a stable, high-density, neatly organised badger community**. Despite the presence of TB in badgers in this region, the disease at that time was absent from the local cattle herds. However, when TB was first discovered in a local group of badgers in 1976 this raised alarm with the Regional Veterinary Officer (RVO), who insisted on a cull of the entire social group. Shortly after that two cattle TB breakdowns occurred on farms in the study area and the RVO again insisted that all badger groups associated with these farms should be culled.

As continued culling would have meant that we could not continue our research into TB, we negotiated a unique agreement with local farmers. In the event of a TB breakdown, farmers were given full compensation in return for leaving the badger population undisturbed to allow our scientific investigations into TB to continue. Meanwhile, outside our study area, **an official culling policy was in place during the late 1970s through to the mid 1990s**, where badgers were killed following TB outbreaks on farms where the local veterinary officers believed badgers were implicated. These were small-scale, **reactive culling operations** intended to remove just those badgers that might have been responsible for transmitting TB to cattle.

Perturbation in badgers

It was at this time that we also became aware of **the disruptive effects of culling**. Badgers migrating into the culled areas **ranged five times more widely and occupied many more setts than usual**, offering **greater opportunity for disease transmission**. The disruption to the previously stable, well ordered spatial organisation of social groups also lasted for many years.

Furthermore, fresh outbreaks of TB frequently occurred on farms neighbouring the original outbreak **after** the removal of badgers, which was odd and initially counter-intuitive. I can remember talking to some farmers who actually suggested that the policy was making things worse.

'**Perturbation**' was already a recognised phenomenon in wildlife disease control. For example, we knew that **fox culling had actually accelerated the spread of rabies across Europe**. To an ecologist, the observed disturbance to badger movements and behaviour caused by culling fitted this notion of perturbation. I floated the suggestion that **culling could be counter-productive** at a meeting with Government vets only to be told that it was "an unhelpful distraction".

Initial thoughts of switching career were swiftly dispelled by the challenge presented by this attitude. We therefore concentrated on building up a **scientific understanding of how TB might be transmitted between cattle and badgers and vice-versa**. While the evidence for perturbation mounted steadily, we still lacked **empirical data** to show what happens to the **disease dynamics** in cattle after badger culling.

The RBCT

The breakthrough came with the appointment of a remarkably astute man, **Nicolas Soames**, who was then a Minister with **Defra**. During a visit to Woodchester, we explained to him the potential problems associated with badger culling, but also that **the only way to measure the true effects of badger culling was through a rigorous, scientifically-designed trial**.

The rest, as they say, is history.

Mr Soames appointed **Professor John Krebs**, now Lord Krebs, to head a team of experts to undertake a review – the **third review on the topic** since TB was first discovered in badgers.

Initial findings from the RBCT

Skip forward ten years, the time it took to complete the £50 million-plus **Randomized Badger Culling Trial (RBCT)**. I received a phone call from **Professor Rosie Woodroffe**, the principle badger ecologist on the Krebs team and also a member of the **Independent Scientific Group (ISG)** appointed to oversee the trial. She was well familiar with the **perturbation phenomenon** through earlier collaborative work with us. She and the other ISG scientists had the foresight to structure and analyse the culling trial data to look for a perturbation effect. The **reactive culling** element of the trial had already been abandoned because it was clearly making cattle TB significantly worse. **Proactive culling**, where culling was carried out annually for five years in zones with a history of bovine TB, resulted in a small improvement in the core of the culled area, but with a similar scale worsening of cattle TB on the periphery. **For the first time there was evidence that culling badgers can impact negatively on the disease in cattle**.

These results led the ISG to recommend that **badger culling could make no meaningful contribution to the control of TB in cattle in Britain** and the Government of the day sensibly abandoned it.

Current policy on badger culling

Since the end of the trial the negative effects of culling have slowly waned while the positive effects have persisted for longer. This has led the present government to revisit the culling option, having made an election pledge that they would do so. They now estimate that the balance of the negative and positive effects will result in **a meagre 12-16% relative reduction in TB in cattle on average**, after culling for five years over large areas of at least 350 km², **but nine years on from the start of culling**.

Crucially, however, the Government's plans for culling **differ from the original trial in three fundamental ways** that expert opinion believes will probably **increase its negative impacts**:

1. Culling will be **industry-led** rather than conducted by trained professionals;
2. It will be conducted **primarily by shooting** instead of trapping (to save on cost);
3. It will be carried out **over a period of six weeks** rather than 12 days.

Defra has argued that these changes will not be detrimental **but they have no evidence to**

support this view. The costs are likely to exceed the benefits, indeed **farmers have been warned that they will probably spend more than they can expect to save**, even under the government's most optimistic assumptions.

So where are we now?

Despite the fact that there is no scientific justification for a culling policy, the Government is pressing ahead with its **pilot badger culls**, which could start any time after **1st June 2013**.

As a scientist it is tempting to take a back seat and watch how things pan out. But I also have a conscience and cannot sit back and ignore the way politicians are treating one of this country's most iconic, indigenous animals. **Badgers are an important 'key' member of our native fauna** and they deserve to be protected from the kind of persecution they have suffered in the past. **Badger culling is simply not a sensible way to tackle TB in cattle.**

Meanwhile:

The **Welsh Government** has already dropped the culling option after taking independent scientific advice and is pursuing badger vaccination and cattle vaccination instead.

The **British public** have expressed their strong opposition to culling through **one of the fastest growing government e-petitions of all time**, which went from less than 10,000 signatures to over 160,000 in the space of a few weeks and now (May 2013) stands at **over 213,000**.

The government e-petition led to a **debate in the House of Commons** where the government was roundly defeated by a **vote by MPs of 147 against the cull to 28 in favour**.

Many **farmers and vets** are calling for an alternative approach.

The **Conservative Party Bow Group** has advised that culling should be abandoned.

Killing badgers has all the makings of a public relations disaster for the farming industry.

There have even been calls to boycott products from farms that participate in the badger cull that have caused consternation within the farming community. Yet still the Government ploughs on in pursuit of its cull policy.

The planned cull is also a very poor use of taxpayers' money as it will not contribute in any way to greater scientific understanding of the problem.

There are no magic bullets, but **the available evidence shows that badger culling should form no part of a cattle TB control programme**. The only way forward is through more rigorous testing of cattle, better surveillance, improved biosecurity and fast-tracking the development and use of vaccines for both badgers and cattle.

<http://www.badgergate.org/>