



## Badgers Culling

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This note sets out recent developments in the policy on badger control. The previous Government decided in 2008 not to introduce a badger cull as part of bovine TB control measures in light of the findings of the UK Randomised Badger Culling Trial. This concluded that a reactive cull of badgers resulted in significant increases in Bovine TB and a proactive cull, whilst controlling TB in the cull area, contributed to an increase in TB in surrounding areas, and would not be cost effective. Not all agreed. Sir David King, the chief Scientific Adviser at the time, reviewed the findings and concluded that a proactive cull would be cost effective.

Since the election the Coalition Government has indicated that a badger cull will be introduced as part of control measures. It announced a consultation in September 2010, which set out its proposals. These include introducing proactive culls over 150km<sup>2</sup> areas where farmers would be licensed to control badgers by shooting. Farmers would have to bear the costs of any culls. The consultation also included proposals on TB monitoring in cattle and further biosecurity measures.

The Welsh Assembly is also in the process of introducing a badger cull in Wales, although the process has been temporarily halted by the courts.

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## Background

Background on this issue, including details of the Randomised Badger Culling Trial (RCBT), can be found in [Library Note 3751](#) on Badgers and Bovine TB. The RCBT was commissioned by the previous Government to study the various options for culling badgers and their effectiveness at preventing the spread of the disease amongst cattle.

### 1 Labour Government Decision on Culling

The previous Government decided in 2008 not to introduce a badger cull as part of bovine TB control measures in light of the findings of the UK Randomised Badger Culling Trial published in 2007. Hillary Benn, the then Secretary of State for Environment, Food and Rural Affairs, made a statement to the House on 7 July 2008 in which he set out details of the Government's decision not to go ahead with a cull for the time being:

While scientists agree that a prolonged and effective cull over even larger areas—some 250 to 300 sq km—could reduce the incidence of bovine TB, the ISG's judgment was that the practicality and cost of delivering a cull on that scale meant that

“badger culling cannot meaningfully contribute to the future control of cattle TB”.

Having listened carefully to a wide range of views from scientists, farming, veterinary and wildlife organisations, and many others, and having considered all the evidence, I have decided that although such a cull might work, it might also not work. It could end up making the disease worse if the cull was not sustained over time or delivered effectively, and public opposition, including the unwillingness of some landowners to take part, would render that more difficult. It would not be right to take that risk. Therefore, in line with the advice that I have received from the Independent Scientific Group, our policy will be not to issue any licences to farmers to cull badgers for TB control, although we remain open to the possibility of revisiting that policy under exceptional circumstances, or if new scientific evidence were to become available.<sup>1</sup>

He went onto highlight other measures that would be taken, including allocating funding of £20m to the development of an effective TB vaccine for cattle and badgers:

We have invested £18 million in the past 10 years in vaccine development, which has delivered good results, including: evidence that vaccinating young calves is effective; making progress towards developing a test to distinguish between infected and vaccinated cattle; showing that injectable BCG can protect badgers; and developing oral badger vaccine baits. I now intend to increase significantly our spending on

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<sup>1</sup> HC Deb 7 July 2008 c1153

vaccines by putting in £20 million over the next three years to strengthen our chances of successfully developing them. I will also provide additional funding to set up and run a practical project to prepare for deploying vaccines in future.<sup>2</sup>

The Minister went on to say that due to the fact there would not be a viable vaccine for badgers or cattle in the short to medium term – nothing is expected before 2015 – there needed to be a focus on disease control by both the Government and farmers. He also announced the setting up of a bovine TB partnership group to develop a plan for tackling TB in England.<sup>3</sup>

## 1.1 Reactions

The NFU was strongly critical of the decision calling it an abdication of responsibility:

NFU president Peter Kendall has roundly denounced the Secretary of State's refusal to cull badgers as a part of a TB control programme, despite admitting that a cull 'might work' in his statement to the House of Commons today.

"This is a disgraceful abdication of responsibility by Secretary of State Hilary Benn," said Mr Kendall. "Despite his promise to base his decision on the facts, he has ignored the scientific evidence of the ISG report, the recommendation of the EFRA select committee and that of Professor Sir David King, in reaching his conclusion. It is a total non decision.

"To admit that a cull might work, and then push the already crippling burden of TB controls further onto the farming industry is just plain wrong. It is ridiculous to expect farmers to continue fighting TB with one hand tied behind their back."<sup>4</sup>

The RSPCA welcomed the move, calling it "the right decision based on compelling evidence", as did the Badger Trust which published the following press release.

"We are delighted that Hilary Benn has based his decision on sound science. The Government and the farming industry can now move forwards together in controlling the disease in a way which supports rather than harms the industry. Eradication is a long way off, but the science clearly shows that control is rapidly within our grasp, provided that the farming unions are prepared to work towards it."

However, the Badger Trust criticised Conservative spokesman James Paice for claiming that Mr Benn had "gone against the advice of the ISG" and for claiming that PCR - the Polymerase Chain Reaction - could be used to "target" diseased badgers..<sup>5</sup>

## 2 Bovine TB Eradication Group for England

The Bovine TB Eradication Group for England was set up in November 2008 and included members from the veterinary profession, farming industry and Defra officials. It reported back to the Government in October 2009. It suggested a whole series of measures with regards to TB control, some of which were put in place by the previous Government and are being considered by the current Government. Details of these can be found on the Group's Defra [webpage](#).

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<sup>2</sup> ibid

<sup>3</sup> ibid

<sup>4</sup> NFU Press Release, [Government refusal to cull badgers is a disgraceful abdication of responsibility](#), 7 July 2008

<sup>5</sup> Badger Trust Press Release, *Benn rules out badger culling*, 7 July 2008

With regards to badger culling, the group concluded the balance of scientific evidence was against a cull:

We concluded that the option of badger culling needs to remain open but we cannot, at this stage, make a clear case for change based on scientific evidence which has emerged since the Secretary of State's decision or exceptional circumstances. We will keep this position under close review since results emerging from the ongoing post-RBCT analysis led by Christl Donnelly and Helen Jenkins of Imperial College still show an overall benefit. We have also agreed that we need to make sure options are available so, if the position were to change, culling could be carried out in an effective and cost efficient way.<sup>6</sup>

The research referred to above was published in February 2010. It concluded that the benefits of the cull were not sustained once culling stopped and that culling was not an effective way of controlling TB in Britain:

Our findings show that the reductions in cattle TB incidence achieved by repeated badger culling were not sustained in the long term after culling ended and did not offset the financial costs of culling. These results, combined with evaluation of alternative culling methods, suggest that badger culling is unlikely to contribute effectively to the control of cattle TB in Britain.<sup>7</sup>

### 3 Coalition Government Proposals

The [Programme for Government](#) published in May 2010 set out the position as follows:

As part of a package of measures, we will introduce a carefully managed and science-led policy of badger control in areas with high and persistent levels of bovine tuberculosis.

The Government published a document setting out its approach to dealing with Bovine TB, and consulting on a policy to control badgers, on 15 September 2010. With regards to badgers the Government statement summarised the proposals to allow farmers to cull badgers at their own expense:

The consultation proposes issuing licences under the Protection of Badgers Act 1992 to enable farmers and landowners to cull badgers, at their own expense. Under the Government's new proposal, they will be able to use vaccination either on its own or in combination with culling. Licences would be subject to strict criteria to ensure culling is carried out effectively, humanely and with high regard to animal welfare. They will also be asked to explain how they intend to minimise the negative effect in the surrounding area identified by the Randomised Badger Culling Trial (RBCT).

There was also further detail provided including the proposal only to allow culling, by shooting or cage trapping, in areas of at least 150km<sup>2</sup> and for the licensing scheme to be funded by the Government, although farmers would have to bear the cost of the actual cull.

Badger control licences would be subject to strict criteria to ensure that measures are carried out effectively, humanely, and with high regard to animal welfare. This will include a requirement that any culling must take place over a minimum area of 150km<sup>2</sup> so we can be confident it will have a net beneficial effect. This means that we would expect to receive licence applications from groups of farmers and landowners rather

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<sup>6</sup> The Bovine TB Eradication Group, [Developing a Bovine TB Eradication Programme for England](#), October 2009

<sup>7</sup> *ibid*

than individuals. Applicants will also need to demonstrate that they have considered taking further steps to minimise the potential detrimental effect at the edge of a culling area.

Licences will only permit culling by cage-trapping and shooting, and by shooting free-running badgers, carried out by trained, competent operators with appropriate firearms licences. Defra ruled out gassing and snaring on the basis that we do not have sufficient evidence to demonstrate that they are humane and effective methods of culling.

The Government will fund the cost of the licensing operation and monitor the effects of the policy. We expect the farming industry to bear the direct costs of badger control.<sup>8</sup>

The consultation also set out other measures being considered to improve the monitoring and control of TB in cattle:

We will continue to look over the next few months at: changes to TB terminology; strengthening controls on high risk unconfirmed breakdowns; extending the use of gamma interferon testing to all confirmed breakdown herds in the two year testing areas; providing better support for TB restricted farmers by enhancing their options for selling surplus stock.

In 2009/10 controlling bovine TB cost the taxpayer £63million in England. An additional £8.9million was spent on research.<sup>9</sup>

The full consultation, which closed on 8 December 2010, is available on the Defra [website](#). Alongside the consultation a *Veterinary assessment of the risk factors associated with proactive badger culling* was published. This set out in detail what would be required to ensure a successful cull:

For badger culling to decrease the incidence of TB in cattle, a culling strategy must take into account factors that will mitigate perturbation. A culling strategy should be

- a. **Sustained** (at least annual), undertaken on a regular basis over a period of at least 4 years in order to achieve low local badger populations in high TB incidence areas;
- b. **Over a large area** (the evidence suggests a minimum area of 150 km<sup>2</sup>);
- c. Conducted where land access is **over 70%** of the area;
- d. **Effective and humane** and conducted by competent operators; and
- e. Where possible, conducted in areas with **boundaries or buffers** (such as motorways, conurbations, coast, and substantial rivers) around the culled area to mitigate any risks from the perturbation effect.

The licensed Badger BCG vaccine could also be used as a tool to mitigate the negative effects of perturbation. This is likely to be beneficial but not fully protective against the negative effects of perturbation. Immunity takes time to develop and so vaccination would need to precede culling. There is limited evidence about the impact of vaccination in field conditions.

If a different culling strategy to that conducted in the RBCT is used, the effect on TB incidence and the degree of the resulting perturbation is uncertain.

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<sup>8</sup> Defra, [Bovine Tuberculosis: the Government's approach to tackling the disease and consultation on a badger control policy](#), 15 September 2010

<sup>9</sup> Ibid

It is essential that any culling is carried out using methods that are both effective and humane.

Training in capture and culling techniques will be needed to ensure that the operators are competent and that culling is as effective as possible, in order to minimise perturbation. Education will also help to ensure understanding of the risks of inefficient culling and ensure adherence to welfare requirements.<sup>10</sup>

### 3.1 Reactions to the Proposed Cull

The NFU strongly welcomed the Government decision to consult on culling and very much supported the proposal to cull:

The consultation on badger control, launched by Defra Minister of State Jim Paice today, is a major step forward in the battle to control the spread of bovine TB according to the NFU.

The organisation, which has long lobbied for action to combat the disease as it threatens the future of so many farming families in the beef and dairy sector and costs taxpayers upwards of £84million, said it looks forward to contributing to the consultation.

And

“Bovine TB is out of control. The NFU has always said that in order to effectively tackle the spread of bTB we need to address the disease in both cattle and wildlife but it’s important to be clear; this is not about eradicating badgers, this is about disease control.<sup>11</sup>

The British Veterinary Association also welcomed the Government’s proposals:

The British Veterinary Association (BVA) and British Cattle Veterinary Association (BCVA) have long argued that bTB cannot be controlled without measures to control the disease in both cattle and wildlife.

In particular the BVA and BCVA have welcomed

- the recognition that the farming industry, veterinary profession and Government need to work in partnership
- the understanding that there is no single solution to tackling bTB and that we need to use ‘every tool in the toolbox’
- the commitment to a balanced package of measures linked to the understanding that we cannot succeed in eradicating bTB in cattle without addressing the reservoir of disease in wildlife
- the commitment to monitor the effectiveness, humaneness and impact of badger control measures.<sup>12</sup>

Hilary Benn was critical of the Government’s proposals:

“This is the wrong decision,” he said. “Bovine TB is a terrible disease that we must overcome, but we have to use means that will work.

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<sup>10</sup> Defra, [Veterinary assessment of the risk factors associated with proactive badger culling](#), September 2010

<sup>11</sup> NFU, [Consultation on TB a 'major step forward'](#), 15 September 2010

<sup>12</sup> BVA, [TB consultation receives strong support from vets](#), 15 September 2010

“Bovine TB has a devastating effect on farmers’ herds and their livelihoods, and I understand how desperate those affected are for something more to be done. But badger culling has already been tried. Based on these trials, the Independent Scientific Group concluded that ‘badger culling cannot meaningfully contribute to the future control of cattle TB.’

“As Secretary of State, I agreed with this scientific judgement. It would be neither practical nor publicly acceptable, and getting it wrong could actually make matters worse.

“Shooting badgers may make Ministers feel that they are doing something, but it is not the way to beat this disease. Vaccination is, which is why cancelling five of the six vaccine demonstration projects was such a mistake.”<sup>13</sup>

The Wildlife Trust who has campaigned strongly against using a cull as a measure for controlling TB echoed Hilary Benn’s concern about the effectiveness of a cull:

The Wildlife Trusts acknowledge bTB is a significant problem that causes hardship for many in the farming community. There is no single solution to this disease but any approach must take account of ecological as well as veterinary science. It should be tackled on many fronts: vaccination of badgers, cattle controls and improved biosecurity on farms. The rationale for any cull of native species needs to be extremely clear and well proven.

We are concerned the scientific evidence does not support the culling of badgers as part of that solution. It could even make matters worse by disturbing the remaining badgers, so spreading the disease further. The Wildlife Trusts are willing to work with the farming community and others to confront this disease in a science-led and constructive way.<sup>14</sup>

The Badger Trust which has successfully taken the Welsh Assembly Government to court to halt the proposed cull in Wales, at least temporarily, expressed similar views.<sup>15</sup>

### **3.2 Proposals in Detail**

#### **Free Shooting**

The Minister set out how he envisaged badgers being culled using free shooting in an interview with the Farmers Guardian following the publication of the consultation:

Farmers will cover the entire cost of badger removal. The big advantage with ‘free shooting’, which farmers will be able to do themselves as long as they possess the appropriate firearms licence, is that it will be affordable to all.

The alternative of employing a contractor to trap and shoot badgers, given the cost of the cages and manpower involved, would be financially out of reach for many.

Questions have been raised, however, about the potential animal welfare implications if badgers are wounded but not killed and also possible safety implications for humans of free shooting, which has not been trialled.

“As a countryman my view is that free shooting would, in most cases, be by far the most effective option,” Mr Paice told Farmers Guardian this week.

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<sup>13</sup> Farmers Guardian, [Badger cull the 'wrong decision' says Benn](#), 15 September 2010

<sup>14</sup> Wildlife Trust, [Concern over culling proposals](#), 15 September 2010

<sup>15</sup> The Badger Trust, [Badger Cull in England?](#) 15 September 2010

“There may be security issues but I am not talking about talking about people just ranging around the countryside with a rifle. If you put a high seat over a sett you could kill most of them fairly quickly.”

However, a report to Defra by The Game Conservancy Trust published in August 2006, *Shooting as a potential tool in badger population control*, concluded that shooting over a sett should not be considered a first choice:

A major problem with shooting at or near the sett is that a wounded badger will almost certainly attempt to bolt underground, preventing a second shot (and preventing safe disposal of the carcass). This really means that the first shot must cause the badger to collapse on the spot, limiting the choice of target to the spine, neck or head (cranium)<sup>16</sup>

And

In view of the difficulties outlined above, shooting at the sett should probably be regarded as a viable ancillary approach, but one requiring considerable care, and certainly not a first choice.<sup>17</sup>

The Trust was also of the view that due to the need for shooting to take place at night there may be difficulties for farmers in incorporating this in their daily routine:

Time. Badger shooting would be restricted almost entirely to the hours of darkness, and would therefore involve an anti-social work regime that is unlikely to fit well with farming or husbandry activities.

It seems likely that this profile fits professional operators rather than landowners and farmers with other demands on their time. Because of the finite number of badgers on any one land-parcel, such specialists would probably need to operate on a roving basis among many different land-parcels. A further consequence is that regional co-ordination would be essential to ensure appropriate incentives for operators to maintain effort where badger numbers had already been reduced<sup>18</sup>

As a result of the conclusions of the report the RSPCA is of the view that it will be difficult to shoot badgers humanely:

The animals' anatomy and behaviour make them harder targets to kill with a single shot than foxes or deer, a fact made clear to ministers in a report by the Game Conservancy Trust, says the RSPCA. It alleges that if the shooting campaign goes ahead, many badgers will be wounded, not killed.

Colin Booty, the RSPCA's deputy head of wildlife, said: "Shooting badgers might be very different from shooting foxes, say, because their anatomy is very different. The badger has a very thick skull, thick skin and a very thick layer of subcutaneous fat. It has a much more robust skeleton than the fox. Because of the short, squat body and the way its legs work, these legs often partly conceal the main killing zone. Free shooting carries a high risk of wounding."<sup>19</sup>

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<sup>16</sup> Game Conservancy Trust, [Shooting as a potential tool in badger population control](#), August 2006

<sup>17</sup> *ibid*

<sup>18</sup> *ibid*

<sup>19</sup> *The Independent*, [Badger shooting is cruel, says RSPCA](#), 29 October 2010

## Regular Culling

The Krebs follow-up report warned of the need for any cull to be well planned and co-ordinated with the potential for small scale or irregular culls resulting in increases rather than decreases in Bovine TB incidence:

It is important to note 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. As described elsewhere, culling-induced changes in badger numbers and movement patterns mean that culling which is small-scale, patchy, short-term or asynchronous is very unlikely to provide comparable reductions in the incidence of cattle TB and could well prompt increases

This view is supported by Dr Robbie McDonald - Head of Wildlife and Emerging Diseases Programme for Fera who has been studying a badger set in Woodchester Park for over 30 years, in an article published in September 2009, before the proposal for shooting badgers was put forward:

the disappearance/reduction of one group will cause badgers from another group to go and 'investigate' the vacated area, taking their diseases with them or picking up new infections in the process.

"Transmission of disease reduces where there's a stable social system," he says, explaining that disease peaks are usually seen the year after a period of upheaval and that it takes a long time to return to a stable situation again.

Therefore, the benefit of culling a population is outweighed by the detrimental affect on neighbouring populations. He says a huge number of badgers would have to be killed to make a difference and while it is cheap and easy to trap and exterminate animals in the early days of a cull it gets harder and more expensive as time goes on.<sup>20</sup>

## Culling Costs

Defra set out the estimated costs of various culling methods in its Annex to the consultation document setting out the scientific basis for culling:

The cost of conducting five annual culls over a 150 km<sup>2</sup> area, 75% of which was accessible for culling, is estimated as £2.14 million for cage-trapping (as undertaken in the RBCT) at £3,800/km<sup>2</sup>/year, or £1.35 million for snaring or gassing at roughly £2,400/km<sup>2</sup>/year. The predicted annual cost of a farmer-led culling operation is estimated to be around £562,500 at £1,000/km<sup>2</sup>/year.<sup>21</sup>

The Randomised Badger Culling Trial (RCTB) follow up study published in February 2010, which examined the long term effects of culling, including the cost and benefits of a cull carried out by farmers. It pointed out that the costs estimates from Defra did not include any capital costs to farmers, or costs of training and co-ordinating efforts and concluded that costs of this culling method could exceed the long term financial benefits:

Defra estimated that the costs of culling would be substantially lower if implemented by licencing of farmers (roughly £1,000/km<sup>2</sup>/year, hence £562,500 for the idealised five-year 150 km<sup>2</sup> area described above; note that the Welsh Assembly Government recently published updated cost estimates of £4,200/km<sup>2</sup>/year for government-

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<sup>20</sup> <http://www.farmersguardian.com/tb-the-science-behind-the-decisions/27451.article>

<sup>21</sup> Defra, Annex B: The Randomised Badger Culling Trial (Proactive & Reactive culling), September 2010

delivered cage trapping and £1,500/km<sup>2</sup>/year for farmer-delivered culling ). However, this assumed that farmers would conduct the culling themselves (and so included only minimal capital costs) and excluded the costs of training farmers or coordinating their efforts. In the absence of such training and coordination, licenced culling would almost certainly be patchy, asynchronous, unsustainable and uncoordinated, circumstances highly likely to prompt increases, rather than reductions, in the incidence of cattle TB. Hence, although the total cost of licenced culling is slightly lower than the potential benefits projected from RBCT results (using 2005 cost estimates), it is extremely unlikely that such benefits could in fact be realised by this culling method. The costs of conducting badger culls thus substantially exceed the long-term financial benefits likely to be achieved.<sup>22</sup>

A Written Answer in December 2010 set out an estimate of the cost to Government of licensing culling areas and monitoring compliance:

### **Badgers**

Mr Bain: To ask the Secretary of State for Environment, Food and Rural Affairs what estimate she has made of the cost to the public purse of the licensing and monitoring systems that would be required for a cull of badgers undertaken by her Department.

Mr Paice: As stated in the consultation impact assessment, costs to be incurred by Government for licensing are estimated at £26,000 for a 150km(2) application area.

This is based on receiving a modest number of applications and includes assessing applications and monitoring compliance. It does not include costs for setting up the licensing system which are yet to be determined. Costs to be incurred by Government for monitoring are estimated at £200 per km(2) of participating land. This includes monitoring badger population numbers, humaneness of the methods used, epidemiological monitoring of the disease and monitoring protected sites. These costs will be refined in the final impact assessment.<sup>23</sup>

The consultation closed in December 2010. Further details and accompanying documents can be found on the Defra [website](#).

### **3.3 Consultation Results**

A recent written answer stated that the Government planned to publish the result of consultation in February 2011:

The public consultation on 'The Government's approach to tackling the disease and consultation on a badger control policy' closed in December 2010. We received a large number of responses, which we are considering carefully. We plan to publish the Government's response alongside a balanced and comprehensive TB eradication programme for England in February 2011.<sup>24</sup>

## **4 Vaccine Research**

The incoming Government announced in June 2010 that it would be reducing the number of proposed areas covered by the Badger Vaccine Deployment Project (BVDP) trials from six to one in view of its intention of reviewing policy on badger control, and the need to reduce

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<sup>22</sup> Jenkins *et al*, [The Duration of the Effects of Repeated Widespread Badger Culling on Cattle Tuberculosis Following the Cessation of Culling](#), 10 February 2010

<sup>23</sup> HC Deb 21 Dec 2010 : Column 1333W

<sup>24</sup> HC Deb 11 Jan 2011 : Column 245W

spending. The aim of the five year trial is to build confidence in the principle and practicalities of vaccination and provide an opportunity to learn how best to address practical difficulties.<sup>25</sup> Further details on the trial can be found on the [Food and Environment Research Agency website](#).

Results have recently been published, in December 2010, of a field trial on the impacts of the BCG vaccine on badgers. This found that vaccination resulted in a 73.8% reduction in positive blood tests in badgers. The authors concluded:

In common with other species, BCG did not appear to prevent infection of badgers subjected to experimental challenge, but did significantly reduce the overall disease burden. BCG vaccination of badgers could comprise an important component of a comprehensive programme of measures to control bovine TB in cattle.<sup>26</sup>

The Government's view on the implications of these results were set out in Annex C of the consultation:

The results of the laboratory and small-scale field studies do not lend themselves to giving a definitive figure for BCG vaccine efficacy. This could only be determined by vaccine field-testing on a large scale over a long period of time and several thousand badgers would need to be removed to allow the determination of the presence and severity of TB at detailed post-mortem.

An oral badger vaccine, which may be a more practical option in terms of field deployment, is still at the research stage and will not be available until 2015 at the earliest.<sup>27</sup>

## 5 Badger Culling in Wales

The Welsh Assembly Government announced on 8 April 2008 that a TB eradication programme would be put in place:

A comprehensive plan of action to eradicate the infectious disease bovine TB in Wales was announced by Rural Affairs Minister Elin Jones today [Tuesday, 8 April]. The plan includes measures to test all cattle herds across Wales in order to measure the extent of the infection, to remove all sources of the infection on farms and to review the compensation system.

Bovine TB is having a devastating impact on the health and welfare of the national cattle herd in Wales. It is a disease that can be transmitted to humans and to and from other mammals. The incidence of TB has increased dramatically over the past decade with 7,905 cattle slaughtered in Wales because of the disease in 2007 compared with less than 700 in 1997. The cost of compensation in Wales has risen from £1.8m in 2000/01 financial year to £15.2m in 2007/08. On present trends by 2012 it could exceed £30m.<sup>28</sup>

The main measures put forward by the Minister involved removing sources of infection, including badgers:

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<sup>25</sup> Defra, [Changes to badger vaccine deployment project](#), 24 June 2010

<sup>26</sup> Chambers *et al*, [Bacillus Calmette-Guérin vaccination reduces the severity and progression of tuberculosis in badgers](#), *Proc. R. Soc. B*, 1 December 2010

<sup>27</sup> Defra, [Annex C: Badger TB Vaccines](#), September 2010

<sup>28</sup> Welsh Assembly Government Press Release, [Comprehensive Plan to eradicate bovine TB announced](#), 8 April 2008

### **Cattle Surveillance and Control**

A key step for the first year will be to establish an additional one-off test of all cattle herds across Wales in order to identify the extent of the infection and to remove diseased animals.[...]

### **Change compensation regime**

[..] By the end of 2008 plans will be published to amend the current system to ensure compensation arrangements encourage herd owners to comply with legal and best practice requirements.[...]

### **Identify and Remove all on-farm sources of infection**

Previous studies have already concluded that badgers are a wildlife reservoir of bovine TB in the UK and they are involved in the transmission of infection to cattle, and vice versa. The results of the Wales Badger Found Dead Survey were consistent with this, because they showed that levels of infection in badgers were highest in Gwent, Pembrokeshire and Carmarthenshire and other areas of high incidence of TB in cattle.<sup>29</sup>

The announcement also included details of a proposed pilot area where intensive culling would be carried out:

To take this forward we will prioritise the establishment of an intensive action pilot in an area which has been identified as a TB hotspot. No final decision has yet been made about a location capable of satisfying these criteria but I anticipate it would be in a defined high incidence area for the disease and subject to strict conditions. Additional areas would not be considered until the implementation and robust review and a proper evaluation of the cull and other measures in the intensive action pilot area has been undertaken.<sup>30</sup>

An area of north Pembrokeshire and small areas of Ceredigion and Carmarthenshire were designated as a pilot area for the new TB controls. The measures which were to come into force 1 May 2010 included the following:

- Cattle herd testing every six months;
- Two clear tests 60 days apart required after a positive test to regain official TB free status;
- All breakdowns will be subject to tracing and associated herds tested;
- Increased restrictions on cattle movements, and all movements to be reported and pre-movement testing carried out;
- Veterinary surgeons to visit farms to offer advice on biosecurity and preventing disease transfer;
- A limited badger cull within the pilot area, although this is being appealed against in court by the Badger Trust.
- Penalties for farmers who do not comply with testing.<sup>31</sup>

Following a Court of Appeal ruling which halted the proposed cull the Welsh Assembly announced in September 2010 how it would be taking forward its plans by consulting on a new draft order:

Following consideration of the Court of Appeal's judgement, legal advice together with scientific and technical evidence, the Minister will consult on a draft Order that would

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<sup>29</sup> ibid

<sup>30</sup> ibid

<sup>31</sup> <http://wales.gov.uk/newsroom/environmentandcountryside/2010/4012950/?lang=en>

allow the Welsh Assembly Government to pursue a badger control strategy in this specified area of west Wales.

Under the proposals, there would be an annual cull of badgers over a five year period. Based on the available evidence, at the end of a cull and post cull period (total of 10 years), through culling alone we expect to have reduced bovine TB in cattle in the area by approximately 22%, preventing an estimated 83 confirmed herd breakdowns that would otherwise have occurred in the absence of culling badgers in the area.

However, that is a conservative estimate. The additional surveillance and controls on cattle that the Assembly Government has already put in place in the Intensive Action Area are designed to generate further reductions.<sup>32</sup>

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<sup>32</sup> Welsh Assembly Government, [New bovine TB Eradication proposals announced by Welsh Rural Affairs Minister](#), 20 September 2010