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CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE
AND NATURAL HABITATS

Standing Committee

32nd meeting
Strasbourg, 27-30 November 2012

Other complaints

**WIDE SCALE CULLING OF BADGERS TO CONTROL
BOVINE TUBERCULOSIS IN CATTLE (UK)**

- Updated information August 2012 -

REPORT BY THE NGO

*Document prepared by
The Humane Society International (United Kingdom)*



**HUMANE SOCIETY
INTERNATIONAL**
UNITED KINGDOM

**COMPLAINT TO THE CONVENTION ON THE CONSERVATION OF EUROPEAN
WILDLIFE AND NATURAL HABITATS (BERN CONVENTION), RELATING TO PLANS
FOR THE AUTHORISATION OF THE KILLING OF BADGERS (*Meles meles*) IN
ENGLAND BY THE GOVERNMENT OF THE UNITED KINGDOM**

13th January 2012

SUMMARY

In a statement to the House of Commons by the Secretary of State for Environment, Food and Rural Affairs on 14 December 2011¹, the UK government formally announced its plans to introduce wide scale culling of badgers as part of its strategy to control bovine tuberculosis (bTB) in cattle. These plans are laid out in detail in The Government's Policy on Bovine TB and Badger Control in England, published by DEFRA in December 2011.

Humane Society International/UK (HSI UK) is of the opinion that the UK Government's plans will amount to a failure of compliance with its obligations under the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention, hereafter referred to as 'the Convention'), for the following reasons:

1. NO OTHER SATISFACTORY SOLUTION

The UK government has failed to adequately assess alternative solutions to the problem of bTB in cattle, or to allow time for alternative strategies introduced in 2008 to properly take effect and be assessed, in order to satisfy Article 9 of the Convention;

2. NON-DETRIMENT TO THE POPULATION CONCERNED

The lack of up-to-date and precise information on the status of badger populations, at both a local and national level, and the lack of information on exactly how many badgers are to be culled and over what geographic areas, makes it impossible to determine the precise impacts the UK government's plans will have on badger populations within and around of control areas. Therefore the plans fail to satisfy the requirement in Article 9 of the Convention that any exemption '...will not be detrimental to the survival of the population concerned;

3. LEGITIMATE PURPOSE

The UK government has failed to adequately demonstrate that its plans will '*prevent serious damage to ...livestock*' in order to justify its proposed cull. The government's estimates of the possible benefits in terms of reduction of bTB in cattle are based on extrapolation from the results of the Randomised Badger Culling Trial (RBCT), although the methodologies proposed differ significantly from those used in the RBCT and as such the extrapolation is not valid.

BACKGROUND

Bovine tuberculosis (bTB) is a serious disease of cattle, and is currently one of the most pressing issues facing the agriculture sector in England and Wales (Scotland is officially bTB free²). Statutory testing for bTB in cattle using the tuberculin 'skin test' (or single intradermal comparative cervical

¹ <http://www.publications.parliament.uk/pa/cm201011/cmhansrd/cm111214/debtext/111214-0001.htm#11121472000004>

² <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:271:0034:01:EN:HTML>

tuberculin (SICCT) test), and compulsory slaughter of infected animals, was introduced in the United Kingdom in 1950, and continues to this day³. Associated statutory cattle testing, compensation to farmers for cattle slaughtered and government led surveillance and research reportedly cost the UK taxpayer £90 million in 2010⁴, and government estimates put the ongoing cost at £1 billion over the next 10 years⁵.

Since the 1970s, it has been known that wild badgers can contract bTB⁶. Unlike some other wildlife species endemic to the UK, badgers are also capable of transmitting the disease between themselves, and therefore of potentially acting as a reservoir host for the disease.

Badgers are protected under various pieces of UK legislation, most significantly the Protection of Badgers Act 1992 which makes the taking, injuring or killing of badgers, interference with their setts, and the selling of live badgers, illegal. However, exceptions can be made through the issuance of licenses under Section 10 of the Act. Section 10(2)(a) specifies that such licenses can be issued '*for the purpose of preventing the spread of disease, to kill or take badgers, or to interfere with a badger sett, within an area specified in the license by any means so specified*'.

Since the first infected badger was officially 'discovered' in the 1970s, debate has raged over whether badgers are a significant source of the disease for cattle. Various badger slaughter programmes were undertaken during the proceeding decades⁷, but bTB continues to be a serious and increasing problem in cattle.

In 1997, Professor John Krebs, then Chief Executive of the Natural Environment Research Council (now Lord Krebs), published a report entitled Bovine Tuberculosis in Cattle and Badgers (subsequently known as the 'Krebs Report') which advocated the vaccination of cattle as the most effective way of controlling bTB, and the setting up of controlled scientific trials to establish the role of badgers in the spread of bTB in cattle. In response to this advice, the then Ministry of Agriculture, Fisheries and Food (now the Department of Environment, Food and Rural Affairs, DEFRA) commissioned the so-called 'Randomised Badger Culling Trial' (RBCT) in 1998. The trial lasted for 10 years at a cost to the taxpayer of approx. £50 million⁸.

In its final report in 2007, the Independent Scientific Group (ISG) charged with evaluating the results of the RBCT concluded that '*badger culling can make no meaningful contribution to cattle TB control in Britain*', and in a subsequent peer-reviewed scientific publication, members of the ISG found that '*reductions in cattle TB incidence achieved by repeated badger culling were not sustained in the long term after culling ended*'⁹. The ISG identified weaknesses in cattle TB testing, and the movement of cattle, as being the major factors contributing to the spread of bTB. There is still no substantial or respectable body of science contradicting the conclusions of the ISG.

In response to these findings, the government of the time announced that it had no plans to reintroduce badger culling in England¹⁰. Stricter controls on cattle movement and testing were introduced in 2008 and have resulted in significant reductions in the numbers of cattle culled and herds under movement restriction in some bTB-affected areas, according to DEFRA's own figures¹¹. This improvement has taken place without a single badger being slaughtered.

³ <http://archive.defra.gov.uk/corporate/consult/tb-control-measures/100915-tb-control-measures-annexa.pdf>

⁴ <http://www.defra.gov.uk/news/2011/07/19/next-steps-to-tackle-bovine-tb-in-england-2/>

⁵ <http://www.defra.gov.uk/news/2011/12/14/update-on-measures-to-tackle-bovine-tb/>

⁶ A. Nolan, J.W. Wilesmith, Tuberculosis in badgers (*Meles meles*), *Veterinary Microbiology*, Volume 40, Issues 1-2, May 1994, Pages 179-191

⁷ <http://www.defra.gov.uk/animal-diseases/a-z/bovine-tb/badgers/history-controls/>

⁸ <http://archive.defra.gov.uk/corporate/consult/tb-control-measures/100915-tb-control-measures-annexb.pdf>

⁹ Jenkins HE, Woodroffe R, Donnelly CA (2010) The Duration of the Effects of Repeated Widespread Badger Culling on Cattle Tuberculosis Following the Cessation of Culling. *PLoS ONE* 5(2): e9090. doi:10.1371/journal.pone.0009090

¹⁰ <http://www.parliament.uk/Templates/BriefingPapers/Pages/BPPdfDownload.aspx?bp-id=SN05873>

¹¹ <http://www.defra.gov.uk/statistics/foodfarm/landuselivestock/cattletb/>

RECENT DEVELOPMENTS

In May 2010, the incoming coalition government set out to re-examine the issue and published various proposals, indicating its preference for a landowner-led mass cull of badgers in high-risk areas of England, which it put out for public consultation from September to December 2010. It received almost 60,000 responses, approximately 69% of which were opposed to badger culling as part of any tuberculosis control policy. In spite of this, in July 2011 DEFRA stated that: *'Having carefully considered the large number of responses to the public consultation, we remain strongly minded to proceed with a policy of badger control as part of a package of measures to address bTB'*.

A further, more limited public consultation was held between 19 July and 20 September 2011. It focussed on the following practical issues:

- a) concerns that ineffective or incomplete culling could make TB worse and that culling licenses would not be enforceable;
- b) requests for the inclusion of a requirement for 'simultaneous' culling and for a definition of 'simultaneous';
- c) mixed views on allowing the shooting of badgers in the field as a culling method (referred to in this consultation paper as "controlled shooting"), in addition to the shooting of cage-trapped badgers, and concerns about the effectiveness and humaneness of the former;
- d) concern about the risk of negative impacts on non-participating farmers and landowners with vulnerable livestock within and at the edge of the Control Area;
- e) concerns over security and personal safety for those participating and for the general public;
- f) queries and uncertainty about the impact of culling on the badger population;
- g) questions about whether there will be sufficient resources to carry out adequate monitoring; and
- h) agreement that the government should do more to support and encourage the use of badger vaccination.

Natural England, the statutory consultee and nominated responsible organ for issuing and monitoring the culling licenses, raised a number of serious objections in its consultation response in August 2011.

On 14 December 2011 the Secretary of State for Environment, Food and Rural Affairs invited farmer/landowner groups to submit applications to Natural England for licenses to cull badgers over minimum areas of 150km², so that two areas could be selected for large-scale 'pilot culls' during 2012¹². Depending on the results of the pilot culls, the Secretary of State made clear her intention that up to 10 additional licenses would be granted in each of the following 5 years.

GROUNDINGS FOR COMPLAINT

Revised Resolution No. 2 (1993) on the scope of Articles 8 and 9 of the Bern Convention, adopted at the Standing Committee meeting in December 2011, refers to an associated appended document containing useful guidance for interpreting the scope of Article 9. This guidance is relevant in consideration of the following grounds for complaint.

1) No other satisfactory solution

In relation to the question of whether there are satisfactory alternatives available to the UK Government's proposals, the appended document to Revised Resolution No. 2 states that *'alternatives must be assessed by reference to the Articles 4-8 prohibitions and to objectively verifiable factors based on scientific and technical considerations e.g. related to population data'*. It goes on to say that *'arguments in favour of derogations should be robust. This implies an evidence-based balancing act between the benefits of action under the derogation and possible species impacts. A solution must not*

¹² <http://www.publications.parliament.uk/pa/cm201011/cmhansrd/cm111214/debtext/111214-0001.htm#11121472000004>

be deemed unsatisfactory just because it would cause greater inconvenience or compel a change in behaviour by the beneficiaries of the derogation'. 'Satisfactory' must be strictly interpreted to mean a solution which resolves the problem facing the competent authorities whilst respecting the Convention's prohibitions as far as possible.'

Whether no other alternative is really available, *'must again be based on objectively justifiably factors'* (EC 2007) and *'be fixed at the level of what proves to be objectively necessary to provide a solution for those problems'*.

In the light of this guidance, we argue that it is contrary to the overall aims of the Convention to cull an imprecise number of badgers in order to gain a possible net benefit in terms of a reduction of bTB incidence in cattle within control areas of 12-16% after 9 years.

Alternative strategies undoubtedly exist, including more rigorous cattle control methods which may inconvenience farmers but be more effective overall. Stricter controls on cattle movement and testing introduced since 2008 have resulted in significant reductions in the numbers of cattle culled and herds under movement restriction in some heavily affected areas, according to DEFRA's own figures¹³. This improvement has taken place without a single badger being slaughtered. Indeed in Professor John Bourne's preamble to the RBCT final report it states that *'weaknesses in cattle testing regimes mean that cattle themselves contribute significantly to the persistence and spread of disease in all areas where TB occurs... Scientific findings indicate that the rising incidence of disease can be reversed, and geographical spread contained, by the rigid application of cattle-based control measures alone.'*

Greater emphasis should also be placed on the development of practical and effective vaccines for both badgers and cattle, and the establishment of the political framework in which such vaccines could be widely and effectively used.

2) Non-detriment to the population concerned

In order to satisfy the requirement in Article 9 of the Convention that an exception to the restrictions under Article 8 *'will not be detrimental to the survival of the population concerned'*, the status of the target population needs to be established before any action is taken which might affect it. According to the appendix to the Revised Resolution number 2, *'this should be based on current data on the state of the population, including its size, distribution, state of the habitat and future prospects'*. Since there is no current reliable data on the state of the badger population, as was admitted to by the Secretary of State in her statement of 14th December¹⁴, it is not possible for the UK Government to establish whether or not its plans will be detrimental to the populations of badgers that will be affected.

In paragraph 39 of its response to DEFRA's 2011 public consultation, Natural England, the statutory consultee and nominated organ for issuing and monitoring licenses under the government's plans, stated that *'there is no simple and cost effective method of accurately measuring badger population numbers at the spatial scale proposed under this policy, nor will it be possible to accurately measure changes in abundance following culling'*. In paragraph 40 it goes on to say that *'because the evidence-base is imprecise, neither upper limits on badgers licensed to be culled nor adjustments based on monitoring during control operations can guarantee badger survival locally'*.

The UK government's plans require license holders to *'reduce the estimated badger population of the application area by at least 70%'*. Since there is no detailed current knowledge of badger population numbers at a national or local level, it is not clear how Natural England, who will issue the licenses, will accurately estimate the number of badgers within a license area that constitutes 70% of the population. Badgers are highly social creatures that live in close-knit clans consisting of a number of adults and young. The UK government's plans make no provision for whether part or whole clans will be removed, hence it is reasonable to assume that populations at clan and licensed area level will be severely disrupted and may be removed altogether.

¹³ <http://www.defra.gov.uk/statistics/foodfarm/landuselivestock/cattletb/>

¹⁴ <http://www.publications.parliament.uk/pa/cm201011/cmhansrd/cm111214/debtext/111214-0001.htm#11121472000004>

In addition, changes in the ranging behavior of badgers were noted around the edges of proactive culling carried out as part of the RBCT, an effect which coincided with significant increases in the incidence of bTB in cattle in these areas. Presumably this change in behaviour, if it involves infected badgers, could also result in an increase in the spread of bTB among surviving badgers. This effect is referred to by the UK government and others as ‘perturbation’. Perturbation is defined in the Oxford English Dictionary as ‘*a deviation of a system, moving object, or process from its regular or normal state of path, caused by an outside influence*’¹⁵. Clearly this indicates that the proactive culling of badgers has a marked effect not only on badger numbers, but on the behavior of surviving badgers within or around a proactively culled area. We argue this constitutes a ‘*serious disturbance*’ to the population concerned, and could be detrimental to its survival.

It is our understanding that the UK Government has commissioned the Food and Environment Research Agency (Fera) to undertake a Badger Set Survey in England and Wales¹⁶. However, no details of how this survey is to be carried out, what counting methodology will be used, how this will compare to the method of counting of badgers killed post-cull, or when the results are expected to become available, have yet been forthcoming. HSI has requested and is awaiting further details from Fera. Any plans the UK government might have to initiate badger culling should at least be postponed until the results of the proposed population survey are known and have been thoroughly analysed.

3) Legitimate purpose.

As is clear from HSI’s correspondence with the Bern Secretariat, and the Guidance to Natural England on the Implementation and Enforcement of a Badger Control Policy (July 2011)¹⁷, DEFRA will rely on the derogation in Article 9 of the Convention ‘*to prevent serious damage to crops, livestock, forests, fisheries, water and other forms of property*’ in order to justify its proposed cull.

While we accept that bTB is a serious disease of cattle, and that badgers are capable of carrying and transmitting the disease, we disagree that the UK Government’s proposals will prevent ‘*serious damage*’ to livestock.

In 2009, the Welsh assembly government proposed a cull of badgers under section 1 of the Animal Health Act 1981, which states that ‘*The ministers may make such orders as they think fit... for the purpose of in any manner preventing the spread of disease...*’¹⁸. Section 21(2)(b) of this Act authorises the minister to provide for the destruction of wild animals in a specified area, if satisfied that ‘*...destruction of wild members of that or those species in that area is necessary in order to eliminate, or substantially reduce the incidence of, that disease in animals of any kind in that area*’. The proposal was rejected by the Court of Appeal in Wales in April 2010, partly on the grounds that the Welsh assembly government had failed to demonstrate that its plans would satisfy the proper legal definition of ‘*substantial reduction*’ in the incidence of bTB in cattle in section 21¹⁹. (It has never been contended by either the Welsh or Westminster government that culling badgers will actually eliminate the disease in cattle.) It is our contention that the ruling of the Court of Appeal (albeit related to the Animal Health Act) means that for any mass culling of badgers to be lawful, it should result in a ‘*substantial reduction*’ in the incidence of bTB in cattle, a term which must be seen in the context of primary legislation protecting badgers. The proposals outlined by the UK government will similarly not ‘*prevent serious damage*’ to livestock, and therefore do not satisfy the requirements of Article 9 of the Convention.

According to the statement made on 14th December by the Secretary of State for Environment, Food and Rural Affairs²⁰, the UK government expects its plans ‘*to reduce TB in cattle over a 150 sq km area, plus a 2 km surrounding ring, by an average of 16% over nine years relative to a similar uncultured area*’. These estimates are based on extrapolation of the results of the RBCT by a ‘team of

¹⁵ <http://oxforddictionaries.com/definition/perturbation?region=us>

¹⁶ <http://fera.defra.gov.uk/wildlife/ecologyManagement/badgerSurvey/>

¹⁷ <http://www.defra.gov.uk/consult/2011/07/19/bovine-tb/>

¹⁸ http://www.legislation.gov.uk/ukpga/1981/22/pdfs/ukpga_19810022_en.pdf

¹⁹ <http://www.solicitorsjournal.com/story.asp?storycode=16620>

²⁰ <http://www.publications.parliament.uk/pa/cm201011/cmhansrd/cm111214/debtext/111214-0001.htm#11121472000004>

scientific experts' convened at DEFRA in April 2011, and are misleading in that they actually represent the 'best case scenario' where the pre-culling incidence of bTB in cattle is higher in the cull area than in the surrounding 2km ring; RBCT-based estimates for average reductions in areas where pre-culling incidence of bTB is similar across the culling area and the surrounding 2km ring are significantly lower at 12.4% (3-22%). We contend that even if these levels of reduction were achieved, they would not represent the prevention of serious damage to livestock required by Article 9 of the Convention.

In section 3.20 of The Government's Policy on Bovine TB and badger control in England it states that *'During the lifetime of the RBCT, annual proactive culling over 4-7 years on accessible land in ten 100km² areas was associated with a 23.2% decrease in confirmed TB herd incidence inside culling areas when compared with survey-only areas. However, proactive culling was also associated with a 24.5% increase in confirmed TB herd incidence in the surrounding 2km ring around the culling area when compared with survey-only areas'*. In section 7 of the Chairman's Overview of the RBCT Final Report, it states that *'As expected, proactive culling reduced TB incidence in cattle in culled areas. However, as described in the report, this beneficial effect on cattle breakdowns was offset by an increased incidence of the disease in surrounding un-culled areas. As in reactive areas, this detrimental effect appears to reflect culling-induced changes in badger ecology and behaviour. We have given careful consideration to culling approaches that might be adopted that would overcome the detrimental effects of altered badger social behaviour, but we conclude that this is not achievable on any useful or practicable scale'*. We therefore contend that the estimates given for the expected average reduction in bTB in cattle by the UK government in order to justify its proposed derogation under Article 9 of the Convention, are unrealistic and unreliable.

The 'team of scientific experts' also concluded that while *'the RBCT provides the best scientific evidence available from which to predict the effects of a future culling policy, informed expert opinion suggests that the more that a future culling policy deviates from the conditions of the RBCT - e.g. industry versus government led and/or culling methods (such as permitting controlled shooting of badgers in addition to cage-trapping), the more likely it is that the effects of that policy will differ, either positively or negatively, and with potential variability in outcome between areas'*. Indeed in section 4.3 of The Government's policy on Bovine TB and badger control in England, it states that *'by extrapolating these [RBCT] results, it is possible to estimate the average net effect of proactive badger culling carried out in the same way (emphasis added) as the RBCT on confirmed cattle TB herd breakdowns for a range of scenarios'*.

The UK government's plans do differ significantly from the conditions of the RBCT, in a number of important ways:

1. The areas over which proactive culling will be carried out are likely to be significantly greater than during the RBCT. The proactive control areas in the RBCT each averaged 113 km² (less than the minimum of 150 km² under this policy). By contrast, the size of control areas being developed by the farming industry are reported to average 350 km², with one area reported to be about 1400 km² which is larger than all ten RBCT proactive cull areas combined;
2. Culling will be wholly carried out by industry whereas during the RBCT it was carried out by government officials;
3. 'Controlled shooting' will be the predominant method of culling whereas in the RBCT all badgers were trapped and shot;
4. Culling will take place over 6 weeks rather than the RBCT timeframe of 8-11 consecutive days.

Against this background, it is highly likely that the potential benefits in terms of reductions in bTB incidence in cattle will be subject to significant variation from those observed during the RBCT, and that the government estimates which form the basis of the *'prevention of serious damage to... livestock'* are therefore unreliable.

Furthermore, we contend that the government's proposals will not *'prevent the spread of disease'*, as is the stated aim. Jenkins et al (2007) stated that *'Our findings confirm that badger culling can*

*prompt the spatial spread of M.Bovis infection, a phenomenon likely to undermine the utility of this approach as a disease control measure*²¹.

A significant body of scientists, including former members of the ISG, does not agree that the current plans will prevent damage:

1. Dr Rosie Woodroffe, a badger ecologist at the Institute of Zoology in London who worked on the RBCT as a member of the ISG, was quoted in the UK press as saying of the Government's preferred option: *'I think it is scientifically among the worst options they could have chosen'*²².
2. In The Guardian on 11th July 2011, Lord Krebs, now Principal of Jesus College, Oxford and Chairman of the House of Lords Science and Technology Select Committee, was quoted as describing the culling of badgers to control bTB as *'ineffective'*, and said of the Government's preferred option: *'It doesn't seem to be an effective way of controlling the disease'*²³. He indicated a preference for the short term to use better biosecurity measures to prevent cattle from coming into contact with badgers and other sources of the disease, and to prevent them passing it to each other, and the long term development of a vaccine. He reiterated his concerns about the proposed cull methodology in a debate in the House of Lords on 20 December 2011²⁴.
3. In a letter to The Times on 13th July 2011, members of the ISG urged the Government to exercise caution, calling the Government's preferred strategy an *'untested and risky approach'* that *'may not deliver the anticipated reductions in cattle TB'*²⁵.
4. In The Guardian on 14th July 2011, the naturalist and broadcaster Sir David Attenborough was quoted as saying that culling badgers could worsen TB in cattle and that vaccination is the only long-term solution to the problem²⁶.

We therefore submit that the government's justification for its derogation under Article 9 of the Convention that its plans will *'prevent serious damage to [...] livestock'*, is unreasonable and unreliable.

SPECIES OR HABITATS POTENTIALLY AFFECTED

The principle species involved will be the European badger (*Meles meles*), which is listed in Appendix III of the Convention. Badgers are described as being widespread throughout Europe and Britain²⁷. According to the Secretary of State for Environment, Food and Rural Affairs, *'there is no precise knowledge of the size of the badger population'*²⁸. The most recent scientific estimates of the national population were made by extrapolating data published as long ago as 1997²⁹.

The UK government has invited farmers and landowners to propose areas for which licenses will be issued under the Protection of Badgers Act 1992 to enable 'pilot culls' to be conducted during 2012. As yet the precise areas in which the culling will take place are unknown.

In the RBCT Final Report section 4.15, it states that *'In addition to its effects on badgers themselves, proactive culling in particular had impacts on other wildlife species. Numbers of foxes (Vulpes vulpes) increased in proactive areas, in comparison with survey-only areas and, perhaps as a result, numbers of hares declined'*. Both brown hares (*Lepus europaeus*) and mountain hares (*Lepus*

²¹ Jenkins, H. E., Woodroffe, R., Donnelly, C. A., Cox, D., Johnston, W., Bourne, F., Cheeseman, C., Clifton-Hadley, R., Gettinby, G., Gilks, P., Hewinson, R., McInerney, J. and Morrison, E. (2007), Effects of culling on spatial associations of *Mycobacterium bovis* infections in badgers and cattle. Journal of Applied Ecology, 44: 897–908. doi: 10.1111/j.1365-2664.2007.01372.x

²² <http://www.guardian.co.uk/environment/2010/sep/15/badger-cull-england-jim-paice>

²³ <http://www.guardian.co.uk/environment/2011/jul/11/badger-culling-ineffective-krebs>

²⁴ <http://www.publications.parliament.uk/pa/ld201011/dhansrd/text/111220-0001.htm#11122051000526>

²⁵ <http://www.guardian.co.uk/environment/2010/sep/15/badger-cull-england-jim-paice>

²⁶ <http://www.guardian.co.uk/environment/2011/jul/14/david-attenborough-badger-cull>

²⁷ <http://www.arkive.org/badger/meles-meles/#text=Range>

²⁸ <http://www.publications.parliament.uk/pa/cm201011/cmhansrd/cm111214/debtext/111214-0001.htm#11121472000004>

²⁹ Wilson, G., Harris, S and McLaren, G., (1997), Changes in the British badger population 1988 to 1997. <http://jncc.defra.gov.uk/default.aspx?page=2797>

timidus) are listed in Appendix III of the Convention. Brown and mountain hares are listed on the UK's Biodiversity Action Plan³⁰, and mountain hares are also listed as a species of community interest whose taking in the wild and exploitation may be subject to management measures under Annex V of the EC Habitats Directive (1992)³¹. DEFRA has confirmed that the Species Action Plan for the brown hare, published in 1995 with the aim to double the number of brown hares by 2010, has not been achieved³².

In its December 2011 policy statement DEFRA acknowledges that there may well be impacts on protected species but they cannot confirm until the precise cull zones are confirmed. (See paragraphs 4.22-4.26 and 5.51-5.60.)

According to the UK Secretary of State for the Environment, "*there is no precise knowledge of the size of the badger population*"³³. The most recent scientific estimates of the national population were made by extrapolating data published as long ago as 1997³⁴.

POSSIBLE NEGATIVE EFFECTS FOR THE AFFECTED SPECIES AND HABITATS

According to The Government's policy on Bovine TB and badger control in England published in December 2011, the government's proposals require license applications to consist of areas of at least 150km², with access for culling to at least 70% of the total land area in the application.

In addition, on page 27 of the policy statement it states that '*Culling must remove a minimum number of badgers in each year as specified below:*

i. in the first year of culling, a minimum number of badgers must be removed during an intensive cull which must be carried out throughout the land to which there is access, over a period of not more than six consecutive weeks. This minimum number should be set at a level that in Natural England's judgement should reduce the estimated badger population of the application area by at least 70%;

ii. a minimum number of badgers must also be removed in subsequent years of culling through an intensive six-week cull which must be carried out throughout the land to which there is access. This minimum number should be set at a level that in Natural England's judgement should maintain the badger population at the reduced level required to be achieved through culling in the first year.'

In the absence of current robust scientific information on the populations of badgers in designated control areas, and with no clear limit having been set on the potential size of control areas, it is difficult to precisely estimate the impact of the UK Government's proposals on populations of badgers. However, in her statement to the House of Commons of 19th July 2011³⁵, the Secretary of State for Environment, Food and Rural Affairs said: '*We estimate that the number of badgers culled will be between 1,000 and 1,500 per 150 sq km area over a four-year period*'.

These figures are based on extrapolation from the RBCT.

The 150km² area represents a minimum area for license consideration. The proactive control areas in the RBCT each averaged 113 km² (less than the minimum of 150 km² under this policy); by contrast, the size of control areas being developed by the farming industry are reported to average 350 km², with one area reported to be about 1400 km² (which is larger than all ten proactive cull areas in the RBCT combined). Indeed in paragraph 5.10 of The Government's policy on Bovine TB and

³⁰ <http://jncc.defra.gov.uk/page-5170>

³¹ <http://data.nbn.org.uk/directory/browseDesignationSpecies.jsp?designationKey=42&sgl1Key=NHMSYS0000079985&sgl2Key=NHMSYS0000629142&speciesCount=3&letter=A&startRow=1&groupName=terrestrial%20mammals>

³²

<http://www.publications.parliament.uk/pa/cm201011/cmhansrd/cm110607/text/110607w0003.htm#1106081400017>

³³ <http://www.publications.parliament.uk/pa/cm201011/cmhansrd/cm111214/debtext/111214-0001.htm#11121472000004>

³⁴ Wilson, G., Harris, S and McLaren, G., (1997), Changes in the British badger population 1988 to 1997.

<http://jncc.defra.gov.uk/default.aspx?page=2797>

³⁵ <http://www.publications.parliament.uk/pa/cm201011/cmhansrd/cm110719/debtext/110719-0002.htm>

badger control in England it states that '*We do not consider it necessary to place a maximum limit on the size of the control area*'.

The actual number of badgers culled is therefore likely to be far higher than the government's estimates indicate.



**HUMANE SOCIETY
INTERNATIONAL**
UNITED KINGDOM

UPDATED REPORT SUBMITTED ON 26th MARCH 2012

ADDITIONAL INFORMATION

Further to the complaint lodged with yourself in January 2012 on behalf of Humane Society International/UK, I would like to bring your attention to additional information and documentation which has since come to our attention. We believe this information will be pertinent to the deliberations on this issue:

1] The Strategic Framework for Bovine TB Eradication in Wales

On 20th March 2012, the Welsh Assembly Minister for Environment John Griffiths announced the Strategic Framework for Bovine TB Eradication in Wales (Appendix 1). This policy document, which was developed following a lengthy review of the available science concerning the epidemiology of the disease conducted by an independent group of scientists led by Professor John Harries, rejects the policy of culling badgers, favouring instead the introduction of stricter bio-security measures, and the development and deployment of vaccines for both cattle and badgers.

During his statement to the Senedd in Cardiff, Mr Griffiths stated that ‘I am not satisfied that a cull of badgers would be necessary to bring about a substantial reduction in cases of TB in cattle’.

With the problems surrounding bovine tuberculosis in parts of west Wales mirroring closely those found in west and south-west England, the way the science has been interpreted and the solutions that have been arrived at by the two jurisdictions are clearly very different.

Both had originally proposed the untested, free-shooting methodology for the lethal control of badgers, although in England this is due to be conducted by farmers by night, whereas in Wales it would have been carried out by specialist government agents had the government not decided that badger vaccination combined with cattle-focussed measures was a satisfactory alternative to culling. Either way, the risks posed by free-shooting in terms of increasing perturbation of badgers, and thereby prompting the spatial spread of disease³⁶, means that the Westminster government’s plans for England are unlikely to meet the Bern derogations for preventing disease in cattle.

We argue that the findings of Professor John Harries’ team, and the interpretation of those findings by the Welsh Assembly Government, should be taken into consideration when reviewing our grounds for complaint against the UK government’s policy for England.

In particular, I would refer the Convention to Annex 4 of the Scientific Working Group evidence (Appendix 2).

2] Natural England’s advice to DEFRA

Documentation has recently been released by the UK government following a Freedom of Information request, detailing advice given by Natural England to the Department for Environment Food and Rural Affairs (DEFRA) in December 2010, and July 2011. Both documents are appended to this letter (Appendices 3 and 4 respectively).

Natural England is the UK conservation body responsible for advising government on conservation matters in England. It is also authorised by the Secretary of State for Environment to issue licenses under various pieces of wildlife legislation, including the Wildlife and Countryside Act

³⁶ Jenkins, H. E., Woodroffe, R., Donnelly, C. A., Cox, D. R., Johnston, W. T., Bourne, F. J., Cheeseman, C. L., Clifton-Hadley, R. S., Gettinby, G., Gilks, P., Hewinson, R. G., McInerney, J. P. & Morrison, W. I. ‘Effects of culling on spatial associations of Mycobacterium bovis infections in badgers and cattle’ - *Journal of Applied Ecology* 44, 897-908, (2007).

1981 and the Protection of Badgers Act 1992. As such it will act as the licensing authority for any applications relating to the culling of badgers in England under the government's current policy.

The advice given to DEFRA relating to the government's proposals to licence farmer/landowner groups to cull badgers questions whether the plans will place the government in breach of its commitments under the Bern Convention, particularly in relation to the requirement in Article 8 of the Convention that contracting parties must prohibit '*all means capable of causing local disappearance of, or serious disturbance to, populations of a species*', and Article 9 of the Convention that '*...(any) exception will not be detrimental to the survival of the population concerned*'.

I would like to draw your attention to paragraphs 29-35 of the advice submitted in July 2011 (Appendix 4), which covers the significant differences in scale between previous culls in the UK and Ireland which have been deemed to be acceptable under the Bern Convention, and the current proposals under which, according to Natural England, '*local disappearance of the badger in some areas cannot be ruled out*' (Appendix 4 par 32). Indeed Natural England goes on to say: '*It is our view that in the event that culling is permitted over a large area, which is a plausible outcome if current industry plans and aspirations are realised or if it became government policy to tackle TB prevalence nationally through badger control, there would be a significant risk of contravening Articles 8 and 9 of the Convention*' (Appendix 4 par 35). Whilst the government has made some changes to the policy since that advice was produced, the fundamental concerns remain, and the government still does not have accurate baseline badger population data for when the proposed culls are authorised to commence later in 2012.

We believe this documentation supports our contention that the UK government's plans fail to satisfy the requirement in Article 8 of the Convention that contracting parties must prohibit '*all means capable of causing local disappearance of, or serious disturbance to, populations of a species*' and Article 9 that any exemption '*...will not be detrimental to the survival of the population concerned*'.

3] Cattle vaccine development

From information posted on DEFRA's website (<http://www.defra.gov.uk/animal-diseases/a-z/bovine-tb/vaccination/cattle-vaccination/>), it appears that DEFRA has lodged an application to the Veterinary Medicines Directorate for a license for a TB vaccine for cattle, based on a BCG strain commonly used in human TB vaccines.

The information provided suggests that, while the vaccine has not yet been widely field tested in the UK (due in part to EU restrictions on the use of TB vaccines in cattle), small scale trials and experience from other countries indicates that between 56 and 68% of vaccinated cattle should be protected against infection with *Mycobacterium bovis*.

We also understand that the Animal Health Veterinary Laboratories Agency is in the process of validating an alternative TB test (the so-called DIVA test) for cattle, which would enable vaccinated reactor cattle to be distinguished from infected cattle. This could potentially solve the problem of vaccination interfering with TB testing, and provide a way around the current EU ban on cattle vaccination.

We believe that these welcome developments support our contention that any licensed cull of badgers would place the UK government in breach of its commitments under Article 9 of the Bern Convention, since the Article 9 effectively commits the government to explore alternative non-lethal methods of controlling tuberculosis in cattle, before considering lethal control measures for protected wildlife species. With the opportunity to deploy and assess a cattle vaccine apparently so close, the government should surely give time for the impacts of vaccination to be measured before employing any lethal measures to control badgers. This is especially so given that the government is quite clear that no benefits will be seen for at least 4 years into the culling programme (please see confirmation of this in the letter from DEFRA to a concerned Member of Parliament on 19 March 2012 at Appendix 5). If the government does not consider satisfactory alternatives, it would surely contravene the UK's legal obligations under the Convention.

4] TB reactor isolation and other bio-security issues

A report has come into our possession that was written in September 2010 by Dr David Fisher, then an Animal Health & Welfare Inspector for Pembrokeshire County Council in Wales (Appendix 6).

Through his work visiting hundreds of cattle farms over a 5 year period in an area significantly affected by bovine tuberculosis, Dr Fisher concluded that aspects of the management and administration of TB breakdowns on farms is a significant problem, and may be contributing to the spread of the disease. He claims that this problem is widespread throughout England and Wales.

In particular, Dr Fisher details his concerns that the legal requirement for cattle that react positively or inconclusively to a TB test to be isolated from other cattle in the herd is subject to significant delays, because while Movement Restriction Orders may be placed on a farm immediately a reactor is identified, the Order to isolate individual reactor cattle from the rest of the herd may take some considerable time to be issued, and in the meantime many farmers do not make any effort to isolate the animals. Dr Fisher provides evidence to suggest that non-compliance of various existing requirements is high, and that non-compliance with the requirement to isolate reactors or inconclusive reactors to TB tests is not taken particularly seriously by the authorities.

DEFRA accepts that bovine tuberculosis is spread primarily through the exchange of respiratory secretions between infected and uninfected animals, and that this transmission usually happens when animals are in close contact with each other. Infected animals that have not been isolated from the herd are likely to represent a significant source of infection, a source which is currently not being adequately addressed.

Additionally, Dr Fisher asserts that the current holding number system for identifying livestock holdings is not fit for the purpose of controlling bovine tuberculosis, in that separate holdings over a wide area owned by the same landowner may have the same holding number, and therefore movements of cattle between the holdings are not subject to measures to restrict the spread of tuberculosis.

Under the Bern Convention, the competent national authority should choose, among possible alternatives, the most appropriate one that will have the least adverse effects on the species while solving the problem. In the Resolution in relation to the interpretation of Article 9, which was agreed at the most recent meeting of the Standing Committee in December 2011, it states that '*A solution must not be deemed unsatisfactory just because it would cause greater inconvenience or compel a change in behaviour by the beneficiaries of the derogation*'.

It is our understanding that the UK government has an obligation under the Convention to ensure that current methods of controlling TB in cattle are appropriate and are being adequately carried out and enforced, and that additional cattle measures should be investigated and assessed, before any consideration is given to the destructive control of badgers. Indeed, in his preface to the Independent Scientific Group's report on the Randomised Badger Culling Trial, Professor John Bourne states that '*Scientific findings indicate that the rising incidence of disease can be reversed, and geographical spread contained, by the rigid application of cattle-based control measures alone*' (see Appendix 4 to the original Humane Society International complaint).

We believe the evidence provided by Dr Fisher, compounded by the points made above, supports our contention that the government's plans will place it in breach of its international obligations, and we argue that the government should be encouraged to instigate a thorough and robust review of the application and effectiveness of current and additional cattle measures before instigating any policy that involves culling badgers.

I hope and trust that the Bureau will take these concerns and the supporting documentation into consideration during its evaluation of our complaint.

**Mark Jones BVSc MSc MRCVS, Veterinary Surgeon
Executive Director, Humane Society International/UK**

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List of appendices

- Appendix 1 A Strategic Framework for Bovine TB Eradication in Wales. Welsh Government, March 2012
- Appendix 2 Report of the Bovine TB Science Review Group To Professor John Harries, Chief Scientific Adviser, Welsh Government. November 2011
- Appendix 3 Licensing the control of badgers (*Meles meles*) to prevent the spread of bovine tuberculosis in cattle: Advice provided under the Protection of Badgers Act 1992 and Wildlife & Countryside Act 1981 (as amended). Natural England, December 2010
- Appendix 4 The impact of culling on badger (*Meles meles*) populations in England and measures to prevent their 'local disappearance' from culled areas
Supplementary advice provided under the Protection of Badgers Act 1992 and Wildlife & Countryside Act 1981 (as amended). Natural England, July 2011
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- Appendix 8 Claridge, J. et al. *Fasciola hepatica* is associated with the failure to detect bovine tuberculosis in dairy cattle. *Nat. Commun.*3:853 doi: 10.1038/ncomms1840 (2012)
- Appendix 9 Donnelly, C.A. and Woodroffe, R. Reduce uncertainty in UK badger culling. *Letters to Nature*, published May 30th 2012

[NB: these appendices are available at the Bern Convention Secretariat in pdf format]



**HUMANE SOCIETY
INTERNATIONAL**
UNITED KINGDOM

**UPDATED REPORT SUBMITTED ON
8th JUNE 2012**

ADDITIONAL INFORMATION

Further to the complaint lodged with yourself in January 2012 on behalf of Humane Society International/UK, and the supplemental information provided in March 2012, I would like to make you aware of additional information and documentation which has recently come to our attention. We believe this information will be pertinent to your deliberations on this issue:

1] Detection of bTB in cattle using the Single Intradermal Comparative Cervical Tuberculin (SICCT) Test

For a disease control/eradication strategy to be effective, the accurate identification of infected individual animals is essential. Since the 1950s, the United Kingdom's efforts to control and ultimately eradicate bovine tuberculosis (bTB) has been reliant on the Single Intradermal Comparative Cervical Tuberculin (SICCT) test for the identification of infected cattle.

Research published by Claridge et al. in May of this year in the journal Nature Communications (Appendix 1) has raised serious doubts about the sensitivity of the SICCT test in cattle infested with the common parasite *Fasciola hepatica* (liver fluke). Based on their research, the authors estimate that this could lead to an under-ascertainment rate of up to a third of infected cattle, and that this under-ascertainment could in part explain the failure of the current eradication policy, and the continued spread of bTB through the national herd.

This uncertainty raises serious questions about the likely effectiveness of the UK government's policy of licencing the widespread shooting of badgers as a means of containing the spread of bTB, and therefore about whether the policy will place the government in breach of its commitments under Article 9 of the Convention.

2] Scientific uncertainty concerning the survival of local badger populations

In a letter to the journal Nature published on 31st May 2012 (Appendix 2, also <http://www.nature.com/nature/journal/v485/n7400/full/485582a.html>), two eminent scientists and former members of the Independent Scientific Group charged with overseeing and assessing the results of the Randomised Badger Culling Trial (see Appendix 4 to original HSI UK complaint), Christl Donnelly (Imperial College London) and Rosie Woodroffe (Zoological Society of London), have raised serious doubts about whether the UK government can guarantee that its policy will not be detrimental to the survival of badger populations, as required under Article 9 of the Convention.

In their letter the authors note that Natural England, the agency monitoring the cull, will be required to set minimum and maximum cull numbers for each license, which will be designed to achieve a minimum 70% reduction in badger numbers in the license area, while avoiding the risk of local extinction. However, as the authors point out, these calculations will be based on regional estimates of badger abundance, but because badger densities are uncertain (owing to their secretive behavior) the wide confidence intervals around the abundance estimates could result in the killing of between 51% and 100% of the badgers within a cull area. This could result in the complete removal of badgers from cull areas, and could therefore place the UK government in breach of its commitments to Article 9 of the Convention.

I hope and trust that the Bureau will take these concerns and the supporting documentation into consideration during its evaluation of our complaint and I would like to restate HSI UK's previous request for the Bureau to formally request that the UK government delay its badger cull plans until Bern has completed its consideration of this serious matter.

Sincerely

Mark Jones BVSc MSc MRCVS, Veterinary Surgeon
Executive Director, Humane Society International/UK
mjones@hsi.org

Appendices:

Appendix 1: Claridge, J. et al. *Fasciola hepatica* is associated with the failure to detect bovine tuberculosis in dairy cattle. Nat. Commun.3:853 doi: 10.1038/ncomms1840 (2012).

Appendix 2: Donnelly, C. & Woodroffe, R. Reduce uncertainty in UK badger culling. Nature 485 (582) 31 May 2012

[NB: these appendices are available at the Bern Convention Secretariat in pdf format]



**HUMANE SOCIETY
INTERNATIONAL**
UNITED KINGDOM

UPDATED REPORT SUBMITTED ON 17th AUGUST 2012

ADDITIONAL INFORMATION

Further to the complaint lodged with yourself in January 2012 on behalf of Humane Society International/UK, I would like to bring your attention to additional information and documentation which has since come to our attention. We believe this information will be pertinent to the deliberations on this issue.

1) TB reactor isolation and other bio-security issues

A report has come into our possession that was written in September 2010 by Dr David Fisher, then an Animal Health & Welfare Inspector for Pembrokeshire County Council in Wales (Appendix 6).

Through his work visiting hundreds of cattle farms over a 5 year period in an area significantly affected by bovine tuberculosis, Dr Fisher concluded that aspects of the management and administration of TB breakdowns on farms is a significant problem, and may be contributing to the spread of the disease. He claims that this problem is widespread throughout England and Wales.

In particular, Dr Fisher details his concerns that the legal requirement for cattle that react positively or inconclusively to a TB test to be isolated from other cattle in the herd is subject to significant delays, because while Movement Restriction Orders may be placed on a farm immediately a reactor is identified, the Order to isolate individual reactor cattle from the rest of the herd may take some considerable time to be issued, and in the meantime many farmers do not make any effort to isolate the animals. Dr Fisher provides evidence to suggest that non-compliance of various existing requirements is high, and that non-compliance with the requirement to isolate reactors or inconclusive reactors to TB tests is not taken particularly seriously by the authorities.

DEFRA accepts that bovine tuberculosis is spread primarily through the exchange of respiratory secretions between infected and uninfected animals, and that this transmission usually happens when animals are in close contact with each other. Infected animals that have not been isolated from the herd are likely to represent a significant source of infection, a source which is currently not being adequately addressed.

Additionally, Dr Fisher asserts that the current holding number system for identifying livestock holdings is not fit for the purpose of controlling bovine tuberculosis, in that separate holdings over a wide area owned by the same landowner may have the same holding number, and therefore movements of cattle between the holdings are not subject to measures to restrict the spread of tuberculosis.

Concerns regarding the implementation of the UK government's bio-security measures to reduce the spread of tuberculosis among cattle were also highlighted in the final report following the audit to evaluate the operation of the bovine tuberculosis eradication programme, carried out by the European Commission Health and Consumers Directorate-General (DG SANCO) in September 2011 (Appendix 7). This audit highlighted a number of particular areas of concern, including:

- numerous movement derogations;
- pre-movement test exemptions (including extended time intervals between testing and movement);
- the operation of "linked" holdings over large geographical areas;
- incomplete herd testing and the operation of specialist units under restriction, which lacked the necessary bio-security arrangements;

- Failures to meet targets relating to the removal of reactors from breakdown herds and the instigation of epidemiological enquiries.

The report concluded that:

'There is a fragmented system of controls, involving a number of responsible bodies. This combined with a lack of co-ordination (particularly with Local Authorities) makes it difficult to ensure that basic practices to prevent infection/spread of disease (such as effective cleaning and disinfection of vehicles and markets) are carried out in a satisfactory way'

Under the Bern Convention, the competent national authority should choose, among possible alternatives, the most appropriate one(s) that will have the least adverse effects on the species while solving the problem. In the Resolution in relation to the interpretation of Article 9, which was agreed at the most recent meeting of the Standing Committee in December 2011, it states that *'A solution must not be deemed unsatisfactory just because it would cause greater inconvenience or compel a change in behaviour by the beneficiaries of the derogation'*.

It is our understanding that the UK government has an obligation under the Convention to ensure that current methods of controlling TB in cattle are appropriate and are being adequately carried out and enforced, and that additional cattle measures should be investigated and assessed, before any consideration is given to the destructive control of badgers. Indeed, in his preface to the Independent Scientific Group's report on the Randomised Badger Culling Trial, Professor John Bourne states that *'Scientific findings indicate that the rising incidence of disease can be reversed, and geographical spread contained, by the rigid application of cattle-based control measures alone'* (see Appendix 4 to the original Humane Society International complaint).

We believe the evidence provided by Dr Fisher, and the concerns raised in the audit report from DG SANCO, support our contention that the government's plans will place it in breach of its international obligations under the Bern Convention, and we argue that the government should be encouraged to instigate a thorough and robust review of the application and effectiveness of current and additional cattle measures before instigating any policy that involves culling badgers.

2) Detection of bTB in cattle using the Single Intradermal Comparative Cervical Tuberculin (SICCT) Test

For a disease control/eradication strategy to be effective, the accurate identification of individual infected animals is essential. Since the 1950s, the United Kingdom's efforts to control and ultimately eradicate bovine tuberculosis (bTB) has been reliant on the Single Intradermal Comparative Cervical Tuberculin (SICCT) test for the identification of infected cattle.

Research published by Claridge et al. in May of this year in the journal Nature Communications (Appendix 8) has raised serious doubts about the sensitivity of the SICCT test in cattle infested with the common parasite *Fasciola hepatica* (liver fluke). Based on their research, the authors estimate that this could lead to an under-ascertainment rate of up to a third of infected cattle, and that this under-ascertainment could in part explain the failure of the current eradication policy, and the continued spread of bTB through the national herd.

This uncertainty raises serious questions about the likely effectiveness of the UK government's policy of licencing the widespread shooting of badgers as a means of containing the spread of bTB, and therefore about whether the policy will place the government in breach of its commitments under Article 9 of the Convention.

3) Scientific uncertainty concerning the survival of local badger populations

In a letter to the journal Nature published on 31st May 2012 (Appendix 9), two eminent scientists and former members of the Independent Scientific Group charged with overseeing and assessing the results of the Randomised Badger Culling Trial (see Appendix 4 to original HSI UK complaint), Christl Donnelly (Imperial College London) and Rosie Woodroffe (Zoological Society of London), have raised serious doubts about whether the UK government can guarantee that its policy will not be detrimental to the survival of badger populations, as required under Article 9 of the Convention.

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I hope and trust that the Bureau will take these concerns and the supporting documentation into consideration during its evaluation of our complaint.

Mark Jones BVSc MSc MRCVS, Veterinary Surgeon
Executive Director, Humane Society International/UK, mjones@hsi.org

Appended documents:

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