

Strasbourg, 20 July 2012
[files24e_2012.doc]

T-PVS/Files (2012) 24

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)**

REPORT BY THE GOVERNMENT

*Document prepared by
the Department for Environment, Food and Rural Affairs DEFRA (United Kingdom)*

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28 March 2012

COMPLAINT FROM THE HUMANE SOCIETY INTERNATIONAL

1. I refer to your request dated 19 January 2012 for a response from the United Kingdom to the formal complaint made by the Humane Society International about the Government's plan to cull badgers. I understand our response is required by the Secretariat ahead of the case being presented to the next meeting of the Bureau to the Standing Committee being held on 24 April and I am pleased to be able to supply the following information:

➤ **No other satisfactory solution**

2. The Humane Society International (HSI) claims that the UK Government has failed to adequately assess alternative solutions to the problem of bovine TB in cattle.

3. The reasons for the Government's policy are set out in detail in the statement "The Government's policy on bovine TB and badger control" (published in December 2011 and included by the HSI at Annex 1). We would refer you in particular to section 2 (which explains why action is necessary to control the disease in badgers despite implementation of a comprehensive range of cattle measures) and section 3 (which examines the options considered to reduce the transmission of bovine TB from badgers to cattle).

4. In summary, we have concluded that even if the disease situation in cattle improves as a result of more intensive TB surveillance efforts and cattle measures, it is unlikely that we will ever be able to eradicate bovine TB from the national herd while an uncontrolled reservoir of infection remains in wildlife. We need to tackle the reservoir of disease in badgers while continuing our efforts to stem cattle-to-cattle transmission.

5. We considered three options for tackling the reservoir of disease in badgers: biosecurity (see paragraphs 3.2-3.5 of the Policy Statement), badger vaccination (paragraphs 3.6-3.16) and badger culling and took our decision based on the available evidence.

6. We concluded that biosecurity measures have an important role to play alongside a badger control policy (and it is a requirement that all farmers permitting badger culling on their land take reasonable biosecurity measures). However, we do not consider biosecurity measures alone will lead to a substantial reduction in confirmed herd breakdowns. While there is evidence that suitably tailored and consistently applied on-farm intervention measures can reliably exclude badgers from some farm buildings, there is no evidence (for example from observational monitoring, intervention or cohort studies) on the effect of implementing these on-farm biosecurity changes on cattle TB incidence.

7. Scientists agree that proactive badger culling, coordinated over a large area, sustained for at least four years, can lead to an overall reduction in TB in cattle in the control area and land up to 2km away. Laboratory studies have also demonstrated that vaccinating badgers by injection with BCG significantly reduces the progression, severity and excretion of TB infection. However, having assessed the known and estimated effects of badger culling and vaccination, Defra veterinary and scientific advice is that culling in high cattle TB incidence areas, carried out in line with strict evidence-based licence criteria, will reduce the number of infected badgers and thus the weight of TB infection in badger populations in the control area more quickly than vaccination, and therefore have a greater and more immediate beneficial impact on the spread of TB to cattle and the incidence of

infection in cattle. When the potential risk of an increase in cattle TB at the edge of the control area is included, the overall beneficial effect of culling is reduced. However, modelling still suggests that over time culling will outperform vaccination alone and the licence criteria include measures to mitigate against the risk of the perturbation effect on cattle TB at the edge of control areas.

8. The Policy Statement sets out in some detail the expected benefits of culling and the number of badgers that would be culled in each 150km² area to achieve those benefits (see paragraphs 3.17-3.26 and section 4 “The Impact of Culling”).

9. We recognise that some farmers and landowners may prefer to use vaccination to reduce the prevalence of TB infection in badgers and licences to vaccinate badgers will therefore continue to be available.

10. However, for most farmers, badger culling is likely to be the preferred option, leading to a higher uptake. This is an important consideration in the context of a policy which requires the industry to bear the direct costs of badger control. We therefore see a role for both badger culling and badger vaccination as part of a comprehensive and balanced package of measures to tackle TB in cattle.

11. There are no quick or easy ways of reducing TB transmission between badgers and cattle. The benefits of our interventions will take time to materialise, which makes it important to act now, before the disease situation becomes even worse. Doing nothing is not an acceptable option, and (for the reasons discussed above) we do not consider that either on-farm biosecurity or injectable vaccination of badgers alone are sufficiently satisfactory alternatives to culling.

➤ **Non-detriment to the population concerned**

12. The HSI claims that the UK Government will be unable to determine the precise impact the badger control policy will have on badger populations within and surrounding controls areas, and therefore that it will 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’.

13. We have put measures in place to limit the impact on badger populations, and ensure that the policy will not be detrimental to the survival of the local population. We are limiting both the number of licences that may be granted in any one year and the number of badgers that may be removed in each licensed area.

14. The HSI has raised concern about a perceived lack of up-to-date and precise information on the size of badger populations, at both a local and national scale, and the lack of precise information on the size of control areas or numbers of badgers within them to be culled.

15. Compared to many other native wildlife species, there is a considerable body of knowledge on the size of badger populations in England, including two national-scale surveys. As the last of these national surveys was completed in 1997, we acknowledge that we do not currently have a recent estimate of the current national badger population, nor of the current population in the two pilot control areas. We have recently commissioned a repeat national badger survey that will allow an updated estimate of the national population, and also regional updates for the areas of the country where the pilots are located. However, we do acknowledge that the population estimates from such a survey will never be entirely precise.

16. For each licence issued by Natural England, a minimum and a maximum number of badgers to be culled in the licensed control area will be specified. Natural England will set these numbers using sett survey information provided by the licence applicant, together with information obtained in the Randomised Badger Culling Trial (RBCT), and any other relevant survey data for the area. Natural England will set the minimum and maximum numbers by comparison with the number of badgers culled in the RBCT areas, together with any other relevant information that is available. Further information collected during the culling operation may be used to revise these limits, or to inform limits for future years of the cull if appropriate.

17. To ensure transparency as to the implementation of the policy, and ensure that information about the size of each control area and the number of badgers removed is known, Natural England will publish (each year, or more frequently if appropriate) for each licence issued:

- a. the county or counties included within the licensed area;
- b. the size of the licensed area;
- c. the number of badgers reported culled by each method.

While we acknowledge that estimates of population sizes of wild species are always subject to wide confidence intervals, we do not consider that this will cause the UK to breach the requirement in Article 9 of the Convention, that any exemption ‘will not be detrimental to the survival of the population concerned’.

18. It is very unlikely that all badgers will be removed in an area. Additional measures will be in place to ensure that this does not happen and Defra will commission independent monitoring that will assess annually badger activity in each licensed area. If badger activity is found to be very low, mitigation measures can be put in place to ensure there is no local disappearance in any licensed area (e.g. stopping activity under the licence for the remainder of that year, or stipulating areas of land where culling would not be permitted).

➤ **Legitimate purpose**

19. The HSI claim that the UK Government has failed to demonstrate that its plans will ‘prevent serious damage to... livestock’, as required under Article 9 of the Convention.

20. The Policy Statement sets out in some detail the expected benefits of culling on the incidence of TB in cattle, and acknowledges that the methods for estimating the effect of culling on the incidence of TB in cattle use results from the RBCT, which relate to the specific set of circumstances in which the trial was carried out (with results averaged across ten disparate trial areas, relative to similar uncultured areas). We acknowledge that, as such, the results are influenced by numerous variables specific to these areas, which no control area is likely to match exactly. Table 1 of the Policy Statement sets out the estimated average net effect of proactive badger culling on the incidence of confirmed cattle TB breakdowns over a range of scenarios.

21. Independent epidemiological advice on whether the levels of reduction of TB in cattle achieved in the RBCT could be considered substantial in terms of disease control concluded that indications of reductions in new confirmed herd breakdowns of 28% inside the area, and 12.4% when looking at the net effect both inside and outside the control area, are in themselves substantial reductions in the incidence of TB in cattle. Furthermore because bovine TB is essentially a chronic and “slow-moving” disease, reductions of this magnitude might be expected to have a more significant and longer-term impact than they would on a more rapidly spreading disease.

22. The HSI also claim that as some elements of the proposals “differ significantly” from the conditions of the RBCT, the estimated benefits are “unreliable”. The HSI raise four points:

I. The areas over which proactive culling will be carried out are likely to be significantly greater than during the RBCT

23. To ensure that the benefits achieved in the control areas are at least as good as those seen in the RBCT, we have set the average criteria seen in the RBCT as the minimum licence criteria (see section 5 of the Policy Statement). For example, the average size of areas in the RBCT was 141km² and so we have set 150km² as the minimum size of the area. Larger areas would result in a greater net benefit (preventing a larger number of herd breakdowns), albeit with a greater number of badgers removed. From our discussions with industry, we expect the average control area to be around 300km².

24. We are proceeding cautiously with culling in two pilot areas this year, which will be representative of the average anticipated size of areas should the policy be rolled out more widely.

II. Culling will be wholly carried out by industry, whereas during the RBCT it was carried out by government officials

25. We do not agree that enabling industry, rather than Government, to deliver the culling operation will mean that the results will differ from those seen in the RBCT. The scientific evidence from the RBCT suggests that proactive badger culling, done on a sufficient geographical scale, in a widespread,

coordinated and efficient way, and over a sustained period of time of at least four years, will reduce the incidence of bovine TB in cattle in high incidence areas.

26. It is a matter of judgement, not science, whether the farming industry can deliver an effective, coordinated and sustained cull and the UK Government is confident that the farming industry will deliver. Should that not prove to be the case, robust enforcement mechanisms have been put in place to enable the Government to arrange for the operation to be completed effectively at the expense of the original participants.

III. *'Controlled shooting' will be the predominant method of culling, whereas in the RBCT all badgers were trapped and shot*

27. We are confident that controlled shooting is an effective and humane shooting method given its widespread use in other species and that, providing the participants reduce the estimated badger population of the control area by at least 70% during not more than six weeks, the benefits will be equivalent to those seen in the RBCT. However, in recognition of the fact that controlled shooting was not a method used in the RBCT, we are taking a precautionary approach by piloting the policy, initially licensing two areas in the first year, to test our assumptions about the effectiveness, humaneness and safety of controlled shooting.

IV. *Culling will take place over 6 weeks rather than the RBCT timeframe of 8-11 consecutive days*

28. The evidence on the need to cull simultaneously across a control area to achieve reductions in bovine TB comes from the RBCT, and Defra's Guidance to Natural England defines 'simultaneously' as a requirement to remove at least 70% of badgers from the control area over a period of no more than six weeks.

29. Paragraphs 5.30 – 5.32 of the Policy Statement explain the rationale for the six week period, which was chosen on the basis of advice from a joint group of members from Defra's Science Advisory Council and TB Science Advisory Group. Six weeks was chosen as an appropriate period that balances the evidence from the RBCT and this Group's advice with the need to develop a policy that is deliverable across areas of at least 150km².

Conclusion

30. Therefore, we are confident that, although there are differences from the RBCT on these issues, the industry can deliver a cull that replicates, or improves upon, the results seen in the RBCT.

31. Finally, it is important to note that we are not attempting to eradicate bovine TB in cattle nationally by culling badgers (and culling will not take place over the whole of the endemic area at the same time) but rather to make an effective contribution to controlling the spread of disease at a local level and to contribute to the wider TB Eradication Programme, which comprises a package of different measures (including cattle measures and biosecurity measures) to bring the disease under control. To limit the impact of the policy on badger populations, measures will be in place to ensure that some badgers remain in each control area and that culling is not detrimental to the survival of the badger population concerned (as discussed under the second bullet above).

32. The UK Government has come to the conclusion that the importance of achieving the anticipated net reduction in bovine TB in cattle at a local level from culling in areas where the disease is endemic (in control areas of the size envisaged and for the period for which that benefit is anticipated), and the benefit of allowing farmers to manage the risks to their herds, are sufficient to justify the number of badgers that would be culled.

Yours sincerely

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19 April 2012

Dear Eladio

COMPLAINT FROM THE HUMANE SOCIETY INTERNATIONAL

1. Further to my response of 28th March to the formal complaint made by the Humane Society International (HSI) about the Government's plan to cull badgers, I am now responding to the additional information and documentation provided by HSI on 27th March.

➤ **The Strategic Framework for Bovine TB Eradication in Wales**

2. The HSI has submitted the Welsh Government's (WG) policy document as evidence that should be taken into consideration by the Bern Convention when reviewing its complaint against the UK Government's policy for England.

3. Bovine TB is a devolved matter in the UK, and so the WG has taken its own decision about the appropriate method for controlling the reservoir of disease in badgers in Wales.

4. The Government in England has concluded that the application of cattle measures alone would not be sufficient to eradicate TB; that it is unlikely that we would ever be able to eradicate bovine TB from the national herd while an uncontrolled reservoir of infection remains in wildlife; and that it is therefore necessary to tackle the reservoir of disease in badgers. The report of the Randomised Badger Culling Trial concluded that "*TB in cattle herds could be substantially reduced, possibly even eliminated, in the absence of transmission from badgers to cattle*".

5. The Government's policy in England is to enable farmers in England to cull or vaccinate badgers. However, as explained in our previous response, Defra veterinary and scientific advice, having assessed the known and estimated effects of badger culling and vaccination, is that culling in high cattle TB incidence areas, carried out in line with strict evidence-based licence criteria, will reduce the number of infected badgers and thus the weight of TB infection in badger populations in the control area more quickly than vaccination, and therefore have a greater and more immediate beneficial impact on the spread of TB to cattle and the incidence of infection in cattle.

6. The extent of the anticipated reduction in the incidence of disease was stated in paragraph 4.4 of the Government's policy statement:

"Extrapolating the RBCT results to a circular 150km² area and 2km adjacent ring (which has a total area of 99km²)¹, we would expect to see an average net benefit of a 16% reduction² in the number of new confirmed cattle herd TB incidents across the culled area and adjacent ring over a nine year period (5 years culling and 4 year post-cull period), relative to an epidemiologically

¹ Using the figures from the RBCT post-trial analyses up to 2 July 2010 and assuming an initial cattle TB incidence of 0.15 confirmed new incidents (CNIs) per km² within the 150km² area and 0.10 CNIs per km² in the adjacent ring, which is consistent with the Veterinary Laboratory Agency's recent estimates of incidence in the worst affected TB areas.

² 95%CI: 7.9% decrease to 24.2% decrease.

similar unculled area. An average of 16% reduction equates to preventing 47 out of 292 breakdowns over nine years, over the 150km² culled area and 2km surrounding ring.”

7. The WG has reached its own decision, on the basis of the same evidence base, about the most appropriate tools for tackling bovine TB in Wales. This does not negate the Government’s conclusion that in England culling will be more effective than vaccination at reducing TB in cattle.

➤ **Natural England’s advice to Defra**

8. HSI has submitted two pieces of advice given to the Government by Natural England (NE) in December 2010 and July 2011. Defra shared the July 2011 advice, and NE’s response to the consultation on draft Guidance to Natural England (also in July 2011) with the Bern Secretariat in September 2011.

9. The Government took account of NE’s advice in developing the policy, and made a number of changes to address the points raised. These included the introduction of a maximum limit on the number of badgers that may be removed in each control area each year, and limiting the number of licences that may be issued each year to ten, to address NE’s concerns about the potential for culling over a large area.

10. HSI has again raised its concern about the need for accurate baseline badger population data and, as we explained in our response of 28th March, we do acknowledge that estimates of population sizes of wild species are always subject to wide confidence intervals. However, we do not agree that our proposals amount to a breach of Article 9 that any exemption “...will not be detrimental to the survival of the population concerned.” As our previous response explained, for each licence issued by Natural England, a minimum and a maximum number of badgers to be culled in the licensed control area will be specified and, if required, additional measures may be put in place to ensure that a viable population of badgers remains in each area. Defra will commission independent monitoring that will assess annually badger activity in each licensed area. If badger activity is found to be very low, mitigation measures can be put in place to ensure there is no local disappearance in any licensed area (e.g. stopping activity under the licence for the remainder of that year, or stipulating areas of land where culling would not be permitted).

➤ **Cattle vaccine development**

11. The Government is clear that we want, ultimately, to be able to cost-effectively vaccinate both cattle and badgers against TB and we are investing a further £20 million over five years on the development of effective and affordable cattle and oral badger vaccines.

12. However, we cannot say with any certainty when, or even if, a cattle vaccine will be ready to be deployed in the field. This is because vaccination of cattle against bovine TB is currently prohibited by EU legislation. The prohibition is in place principally because BCG vaccination of cattle can interfere with the tuberculin skin test which is the recognised primary diagnostic test for TB in cattle. The European Commission has stated that if a candidate vaccine succeeds in showing scientifically sufficient protection and no interference with diagnostic tests, this vaccine might be an additional tool to accelerate TB eradication under certain circumstances. But the Commission has also stated that for this to happen EU and international (World Organisation for Animal Health - OIE) rules will need to be substantially amended.

13. The UK Government is, nevertheless, working with the Commission and others to take steps which could eventually see the current legislation changed, so that vaccination of cattle and use of a test to differentiate infected from vaccinated animals (so-called DIVA test) can be used commercially. Particular attention is being given to:

- Providing evidence that the vaccine is safe and effective in the vaccine marketing authorization application which was submitted to the UK Veterinary Medicines Directorate in January 2012 in order for an ‘in principle’ decision to be made.
- Seeking an internationally validated DIVA test, which must be as good as the current tuberculin skin test. We are currently in the process of validating a DIVA test and are in discussion with the

OIE about how this test might be certified and validated at international level by the scientific community.

- Influencing the views of other EU member states which have officially TB free status on the use of cattle vaccination and the DIVA test.
- Submission – ideally in collaboration with the European Commission – of the case for cattle vaccination to the European Food Safety Authority (EFSA) for its opinion.

Getting the outcome we seek on each of these steps will be challenging.

14. Equally, we cannot say with any certainty when an oral badger vaccine might be ready for use in the field. We work closely with colleagues in the Republic of Ireland and in New Zealand working on wildlife vaccination, but unfortunately all products in development are still at the development stage and not ready to take forward for licensing.

15. Therefore, while the progress noted by HSI is important in working towards a cattle vaccine, the position remains that neither cattle vaccination nor badger vaccination currently represent a satisfactory alternative to badger culling as a means of reducing the incidence of TB in cattle.

➤ **TB reactor isolation and other bio-security issues**

16. HSI has submitted a report produced in 2010 by Dr David Fisher, then an Animal Health & Wealth Inspector for Pembrokeshire County Council in Wales, in which he suggests that aspects of the management and administration of TB breakdowns on farms is a significant problem and specifically 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 delay. HSI suggests that this report supports its view that the UK has not complied with its requirement under the Convention to ensure that current methods of controlling TB in cattle are appropriate and are being adequately carried out and enforced.

17. As explained in the Policy Statement (to which we referred in our previous response), cattle measures remain the foundation of our efforts to tackle bovine TB in cattle and the UK's 2011 TB Eradication Plan addresses the need for closer controls on cattle movements for the purposes of bovine TB control. Exemptions to some controls are being withdrawn in TB-infected areas from 1 July 2011. These include:

- Withdrawing the facility for a farmer to make a formal link to another farm through the British Cattle Movement Service to allow regular frequent movements between the two premises without reporting every movement to the central tracing database. From withdrawal of the link, all movements must be reported.
- Stopping the creation of management units for farmers managing more than one farm as a single unit (called "sole occupancy authorities"/SOA's) which allow free movement without the observance of the 6-day standstill within the SOA. No changes will be allowed to existing SOA's (Note: SOA arrangements do not exempt movement reporting).

These changes will allow more effective monitoring of TB testing controls and the Department will be working closely with industry over the coming months to bring the changes in smoothly.

18. We also place a high priority on enforcement; it is something we take seriously and want to continuously improve. In 2009, the Animal Health and Veterinary Laboratories Agency (AHVLA) Regulatory Hub was set up and this has led to more effective co-ordination between local authorities and AHVLA. We have also recently agreed a set of compliance and enforcement priorities for 2012/13 – one of which is to ensure compliance with the requirements for isolation of reactor animals on farms.

19. While we have a robust set of measures in place to tackle transmission between cattle and, while we are committed to maintaining and strengthening these controls, it is clear that cattle-based control measures alone are not working in the West and South-west of England where we know the disease in cattle is perpetuated through spread from an infected badger population. As explained in the Policy Statement, experience from relying on cattle controls alone where there is a reservoir of disease in wildlife suggests that cattle measures could only reduce levels of TB, not eradicate it (paragraphs 2.6-2.8). We have therefore concluded that relying on cattle measures alone is not sufficient and we need

to tackle the reservoir of disease in badgers while continuing our efforts to stem cattle-to-cattle transmission.

20. If you require any further clarification, or additional information, please let me know.

Yours sincerely

A handwritten signature in cursive script, appearing to read "Elaine Kendall".

Elaine Kendall
UK Representative to the Bern Standing Committee



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From Rt Hon Jim Paice MP
Minister of State for Agriculture and Food

Our ref: PO276455/ON

12 July 2012

Thank you for your further letter of 14 June to the Secretary of State about the Government's badger control policy and your complaint to the Bern Convention. I am replying as the Minister responsible for this policy area.

Use of the SICCT test in cattle infested with liver fluke

The low incidence of bovine TB (bTB) breakdowns in some areas of the country that seem to be more prone to liver fluke infestations cannot be used to claim that this parasite is hiding cases of bTB. The vast majority of cattle carcasses undergo veterinary inspection in abattoirs, so we would expect to see marked increases in numbers of bovine TB slaughterhouse cases from those areas if this was the case. The research from Liverpool University has not considered other potential confounding factors that might be the reason for their findings.

Furthermore, the authors acknowledge in their paper (see Table 3 and Discussion) that 'although the magnitude of the response to the SICCT test in six co-infected calves was significantly less than that in calves infected with *M. bovis* alone, all six co-infected animals had responses that would be considered positive under field conditions (comparative increase in skin thickness of more than 4mm)'. In other words, the single intradermal comparative cervical tuberculin (SICCT) test used in the UK, even at the standard interpretation, was still able to identify all the calves experimentally co-infected with *M. bovis* and *F. hepatica*.