

**COUNCIL FOR NATURE CONSERVATION
AND THE COUNTRYSIDE**
An Advisory Council to the Department of the Environment

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WILDLIFE and BOVINE TUBERCULOSIS

1. Introduction.

CNCC is a Statutory Advisory Council to the Department of the Environment, providing scrutiny of a range of designations and advice on a range of topics relating to nature conservation and the countryside. CNCC has been involved over a number of years with DARD Stakeholder Groups looking at the issue of wildlife and Bovine TB. Our remarks are limited to issues involving wildlife as we are not qualified to consider any other aspects of the disease.

2. Wildlife species involved.

The species primarily involved in discussions about bTB is the Badger. It has become clear that badgers are susceptible to bTB, and many badgers have died from the disease, often following painful and unpleasant symptoms such as open rupture of salivary and sub-maxillary glands. It is also clear that badgers may then infect cattle, and as such represent one of the main routes of transmission and spread of the disease. What remains unclear are the exact pathways for transmission of the disease from cattle to badgers, from one badger to another, and from badgers to cattle. Finally it is important to recognise the close association between cattle and badgers. Badger distribution and abundance correlates very closely with that of cattle in Ireland, indicating that areas suitable for grazing are also ideal for badgers. The presence of cattle dung as a source of food for invertebrates, including a range of beetles, flies and earthworms, may also be important in providing a staple diet for badgers.

The other animals that may be involved in the transmission of bTB are deer, with populations of three species, Red, Fallow and Sika, now increasingly common in the NI countryside, and two other species, Muntjac and Roe, apparently illegally introduced relatively recently. As yet TB infection in deer is relatively low, at about 5% of those tested, and the infection appears to be limited to the digestive tract, unlike cattle where it is found in a range of other organs and glands. At present deer probably represent a limited risk to cattle, but as populations are steadily increasing and ranges are spreading this situation may change.

3. Culling.

There have been many calls for badgers to be culled to try to stop this route of transmission of bTB. While we have not culled badgers in NI there is now a considerable body of experience from culls in RoI and England, as well as some good scientific data on the effects of culling from some of these experiments. It should be noted that there are two different types of cull: the reactive cull, removing badgers where there is an established bTB outbreak in herds in a locality, and the pro-active cull, where badgers are removed as a precaution, usually over a wider area.

4. Culling experience.

In RoI there have been two major trials of pro-active culling, which have been reported as being successful in reducing bTB infection in cattle, but as yet there have been no detailed results or analysis published, so it is difficult to gauge how successful the trials have been. There has also been a lot of reactive culling, but this has not been carefully monitored. In England the large-scale Randomised Badger Culling Trial showed a clear increase in cattle infection with reactive culling (this part of the trial was rapidly abandoned), and a major problem with 'perturbation' (increased movements and disturbance to social structures) to badger populations with proactive culling. Various studies have shown that badgers are more likely to become infected if they move about more, and that groups of badgers that experience more movements are also more likely to become infected. As a result bTB may decrease in the areas where badgers are culled, but increase significantly in the adjacent areas. One study concluded that 'culling could not make a meaningful contribution to disease control'.

5. Other issues associated with culling.

CNCC believe that there are a number of other issues that make culling an unattractive option in tackling bTB. These are:

- ⤴ Public opinion – while there may be support for culling badgers among the farming community there is little sympathy for this position among the wider public. The recent filming of badger baiting has aroused a considerable depth of feeling of revulsion at killing badgers.
- ⤴ Legal problems – attempts to introduce culls in both England and Wales have led to legal challenges which have delayed progress significantly and led to vast increases in the cost.
- ⤴ Badger status – the badger is protected under Schedule 5 of the Wildlife Order and the Wildlife and Natural Environment Act (2011) – 'Animals which are protected at all times'. Any culling activity would require a licence from NIEA, who would have to be convinced of the need, effectiveness, and humane methodology of the proposed actions.
- ⤴ Effectiveness – studies of the methodology of culling suggest that it is relatively easy to remove about 75% of badgers in an area, but the final 25% of the population requires a great deal of effort and time. Often this effort is not made and culls are signed off as complete when actually only about 80% of the badgers have been removed. The remaining population provides a reservoir for the disease which then spreads rapidly again as a result of perturbation effects. There may also be an issue with landowners who are not prepared to let badgers be killed on their land.
- ⤴ Cost – the implication of this is that to carry out an effective and humane cull will require enormous resources, with the risk of making matters worse if the extra effort is not made.

6. Alternative measures.

CNCC believe that there are a number of measures that can be undertaken to reduce the impact of badgers on bTB in cattle. Clearly the most important is to maintain the current regime of testing cattle on a regular basis, combined with careful measures to restrict movement of cattle that are either infected or may have had contact with infected animals. These measures have been effective in reducing levels of infection over the past few years, and are necessary to prevent any increase in infection, such as was evident when testing was suspended during the Foot and Mouth outbreak in 2001.

It is to be hoped that the Case Control Study undertaken by DARD in 2011 may turn up some results showing the effect of various farm management practices which may help to provide guidance for farmers.

Two other main avenues are currently being explored in England, with some success, and we believe that these should be developed in NI. These are explored below.

7. Managing contact between badgers and cattle.

In the absence of detailed knowledge of how the disease is transmitted between badgers and cattle, it seems logical to attempt to reduce contact between the two species as far as possible. This is difficult when cattle are out at grass, though direct contact is unlikely unless a dead badger is nosed by cattle. However closer contact is much more likely when cattle are housed, and badgers may enter cattle houses in search of food, particularly when badgers suffering from advanced stages of bTB may find foraging in the wild more difficult. Trials on exclusion measures have shown that it is possible to exclude badgers completely from houses and yards using badger-proof gates or electric fencing, as long as the defences are properly maintained. This relatively simple measure seems a sensible precaution for farmers to take.

8. Vaccination.

Vaccination has long been a vital tool in tackling serious diseases in humans, including Tuberculosis where the BCG vaccine has all but eradicated the disease in many countries. The EU Animal Health Strategy is based to a large extent on shifting the control of a number of diseases from test and slaughter to vaccination as a cheaper and more effective solution. However vaccination of cattle against bTB is still some distance off, with no tested vaccine yet available, and the serious problem of how to distinguish between vaccinated and infected animals.

Badger vaccination on the other hand appears to be a viable option. An injectable vaccine has been available since 2010, and trials have been under way at several sites in SW England, including Woodchester Park (Food and Environment Research Agency), the Killerton Estate (National Trust) and several nature reserves belonging to the Gloucester Wildlife Trust. Badgers have been trapped and injected, and then re-trapped to determine levels of antibodies present. The main problem is the cost of injecting the vaccine, but it is hoped that an oral vaccine will be available by 2014 following trials that are now under way. However initial results are very encouraging, and it appears that some immunity is passed from mother badgers to their cubs, so that it may not be necessary to vaccinate all badgers to have a significant and lasting effect.

Trials are also being undertaken in the Republic of Ireland to determine the effectiveness of the vaccines in providing protection against infection in badgers. It should however be stressed that as yet there is no clear indication of the effect on infection in cattle, and that may take some time to determine.

It should also be pointed out that following legal difficulties in setting up a cull, the Welsh Assembly Government has introduced a programme of badger vaccination.

9. Conclusions.

CNCC strongly believes that culling is not the best way to deal with the issue of bTB in badgers. We suggest that it would be an expensive, controversial and difficult method to employ, that could have serious negative effects beyond the areas which are actually culled. We recommend that trials with vaccination of badgers are undertaken in NI to help establish how effective a programme might be. We also recommend that further serious thought is given to farm management practices that would minimise the contact between cattle and badgers.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Patrick Casement', written in a cursive style. The signature is positioned above the printed name and title.

Patrick Casement
Chairman