

Tackling Bovine TB

This blog will provide updates on the work carried out across England to tackle TB in cattle, and share information on the disease and its impact.

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What is the 'perturbation effect'?

There's been some confusion in the media lately as to what the term "perturbation" actually means when we talk about the pilot badger culls in Somerset and Gloucestershire. So here's a simplified look at the facts.

In this context "perturbation" is a term given to changes in the behaviour of badgers when badger populations are culled. Almost all the evidence for perturbation in badgers comes from the Randomised Badger Culling Trial (RBCT) that took place between 1998 and 2005. The aim of this trial was to see if culling badgers reduced bovine TB in cattle, a disease that is devastating our farming industry.

The RBCT found that while TB outbreaks in cattle declined inside the proactive badger cull areas, an increase was seen in the surrounding 2 kilometre area. The reason for this increase is thought to be due to the 'perturbation' of the badgers. The scientists found that although there was a reduction in badger numbers within the cull area, the remaining badgers roamed over a wider area and more badgers had TB. It is thought that this may lead to more contact between badgers and cattle and increasing the likelihood of badgers spreading disease to cattle, although this is unproven. Therefore the perturbation of badgers is thought to lead to the increase in TB in cattle surrounding culled areas, which is called the "perturbation effect".

However, it's a common misconception that perturbation leads to badgers 'fleeing' the cull zone. Indeed, perturbation probably has more to do with badgers from outside taking advantage of abandoned territory within the cull area than badgers leaving the cull area.

The increased disease observed in the RBCT in cattle herds

adjacent to areas where culling was carried out was short lived. The perturbation effects in the surrounding area were seen to disappear within 18 months after the end of culling, whereas the overall beneficial effects of reduced levels of TB can still be seen today.

Culling beyond the initial six week licence in both Gloucestershire and Somerset has caused some concern that the longer the culling, the worse perturbation will become.

Chief Vet Nigel Gibbens has advised that the benefit of extending the licences to further reduce the badger population is likely to outweigh any potential impact of prolonging the perturbation. Taking this advice and advice from the Chief Scientist into account, Natural England has granted licences to extend both culls to ensure we reduce the badger population by similar levels as in the RCBT.

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