

Strasbourg, 30 July 2021
[files55e_2021.docx]

T-PVS/Files(2021)55

CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE
AND NATURAL HABITATS

Standing Committee

41st meeting
Strasbourg, 29 November – 3 December 2021

Complaint on stand-by: 2019/04

**Badger Culling Policy in England
(United Kingdom)**

- REPORT BY THE COMPLAINANT -

*Document prepared by the
The Born Free Foundation UK, The Badger Trust UK, and Eurogroup For Animals, Brussels*

In relation to the complaint submitted on 24th July 2019 proposing that the UK government's badger culling policy is in breach of Articles 7, 8 and 9 of the Bern Convention, and further to the additional materials provided on 12th March 2020, and 31 July 2020, the complainants would like to draw attention to the following additional information and materials that have come to light.

Ground 1: There is clear evidence to show that the measures undertaken by the Government for the exploitation of badgers jeopardises the population concerned (Article 7);

Ground 4: The exploitation of badgers is indiscriminate, and capable of causing local disappearance of the population (Article 8);

Ground 6: The Government has failed to base the policy on current data on the state of the population, including its size, distribution, state of habitat and future prospects (Article 9).

Following the first four years of intensive culling under licence, it is reasonable to expect that a resurvey of surviving badger populations based on robust methodology should be conducted in order to determine the accuracy of population estimates prior to licencing supplementary culls to keep badgers at a 'low level'. This should, as a minimum, include an assessment of the population size and its potential reproductive rate, in order to determine whether enough badgers remain to reproduce and repopulate successfully. However, **no adequate reassessment of populations post intensive cull is carried out before supplementary culling takes place.**

In uncultured populations, up to 60% of sows fail to implant, with implantation rates especially low among yearlings. Females in better condition are more likely to implant, so **the stress associated with culling, and the negative impacts on surviving badgers, could increase implantation failure rates.**

Cheeseman et al (1987)¹ found that, in a 'normal' badger population, 56% of cubs do not survive to the following spring, a figure that may have risen with recent extreme weather events. The authors noted:

"The badger is shown to have a low intrinsic population growth rate, a not insignificant maturation delay to first breeding, to produce small litters of cubs which experience high rates of mortality in their first year of life but low rates thereafter, and to exhibit limited powers of dispersal....The ability of badger populations to recover from substantive reductions in density is poor, with a return time (to the pre-control state) of approximately five years."

Since 2013, the culls have removed more than 140,000 badgers, a loss exacerbated by other factors such as roadkill and extreme weather events, with potentially catastrophic impacts on reproductive rates and fecundity.

Advice provided in 2011 by Natural England to the Secretary of State² on the impact of culling on the badger population at a local level stated that;

"...it is our view, that the local disappearance of the badger in some areas cannot be ruled out, not least because of uncertainties regarding the size of badger populations and the fact that culling operations could be more effective than observed in the Randomised Badger Culling Trial (due to the longer period during which culling is permitted and the potential use of two, not one culling techniques)." It was noted that cage trapping was considered to have "limited efficiency" when compared to other culling methods.

In its original advice to DEFRA, Natural England suggested that as there is no agreed threshold in terms of 'local extinction' of either population size or geographical area it would be *"prudent to consider 'local' to be*

¹ Cheeseman, C.L., Wilesmith, J.W., Ryan, J. & Mallinson, P.J. (1987) Badger population dynamics in a high-density area. *Symposia of the Zoological Society of London*, 58, 279– 294.

² The Impact of Culling on badger (*Meles meles*) populations in England and Measures to prevent their 'local disappearance' from culled areas, 4th July 2011

no greater in area than the minimum size of a control area (150km²)". In the same document, Natural England also stated that the outcome for local populations was *"more uncertain...and would depend on the geographic extent of contiguous culling and its intensity"*.

Concern was expressed regarding the potential number and size of cull zones. It was anticipated at that time (based on expressions of interest by farmer led groups) that a total of 40 zones would be likely. There are now 54 concurrently running culls, with an average size of 500km². It is possible that in 2021 a further 10 zones will be licenced, followed by a further 10 in 2022.

Natural England's stated view, having evaluated the risks of culling across numerous large, and potentially contiguous, areas, with a far higher total to be killed and using two techniques, was that:

"Widespread control which is undertaken with the specific aim of reducing populations by at least 70% may prove detrimental to the survival of badger populations at least in some localised areas of the south-west of England...".

Published studies of badger population recovery following culling suggest that recovery to pre-population levels can take between 3³-10⁴ years. These findings were for areas of 13.4km² where only one third of the population was removed, and 104km² where badgers were eradicated, respectively. Natural England therefore advised DEFRA that the proposed policy (when smaller zones over fewer areas were originally anticipated) would result in recovery that was *"comparable with the latter study and that the time taken for complete recovery in some areas could be significantly longer"*.

Natural England therefore made a number of recommendations to reduce the risk. These were as follows:

- Limit culling to a single, 6-week period (although this was subsequently relaxed);
- Limit the total number of control areas that can run concurrently;
- Limit the number and extent of contiguous control areas that may operate concurrently;
- Allow Natural England to impose a requirement that part of a boundary of control areas adjoin un-culled areas, to allow migration and support population recovery.

By 2020, after 7 years of licenced culling, it is clear that many of these safeguards have either not been implemented or have been abandoned. For example, in 2013 62.6% of the culled badgers were targeted using cage trapping and shooting, however in 2020 77% of badgers were culled by "controlled shooting". Culling periods have gradually been extended to as much as 63 days, and the areas in which this is occurring has increased from 20% in 2016 to 80% in 2019 and 61% in 2020.

³ Tuytens et al, 2000 Comparative study on the consequences of culling badgers (*Meles meles*) on biometrics, population dynamics and movement <https://doi.org/10.1046/j.1365-2656.2000.00419.x>

⁴ Cheeseman et al, 1993, Recolonisation by badgers in Gloucestershire. *The Badger* pp 78-93



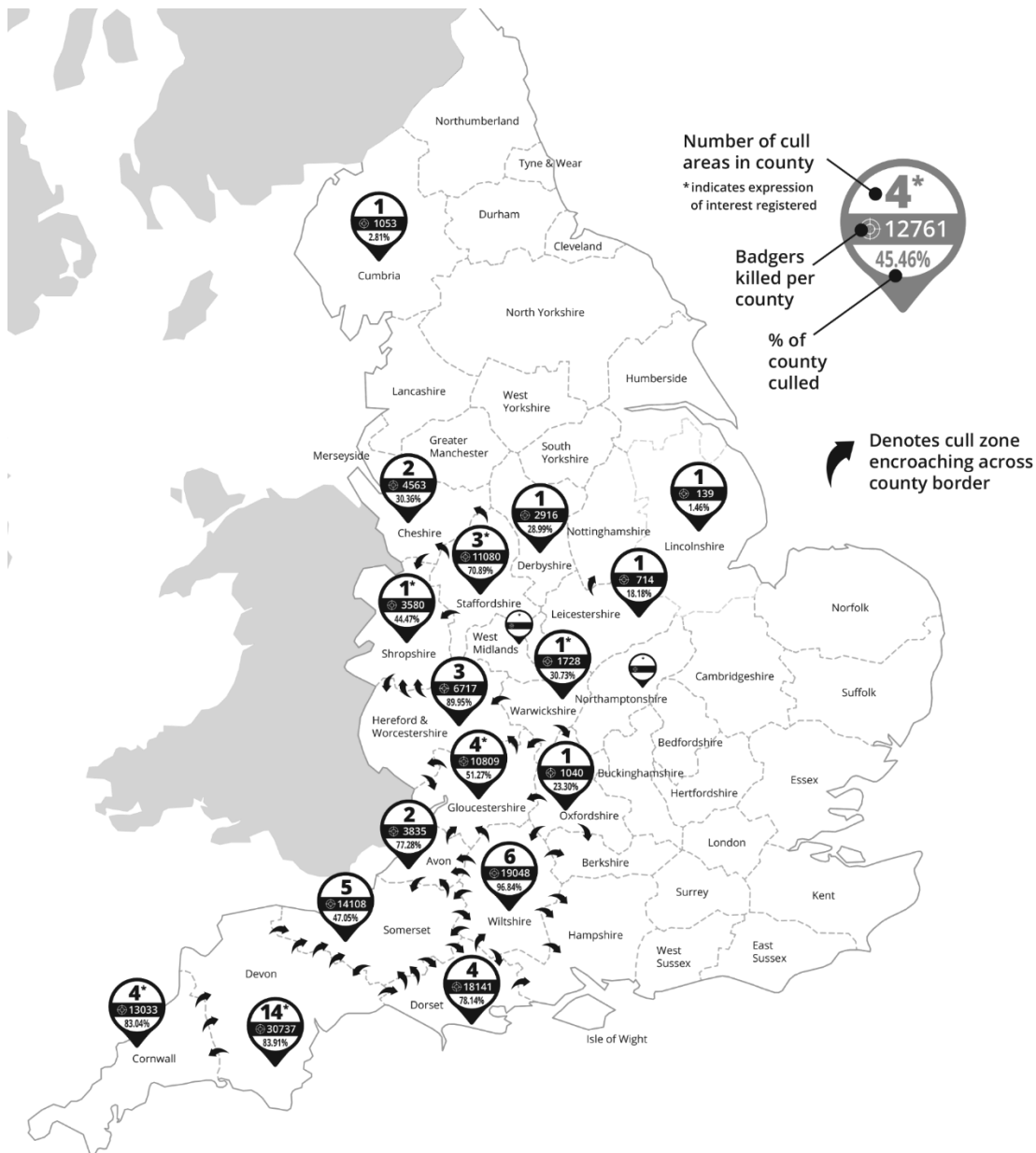
Figure 1: Graph showing proportion of badgers culled under licence by controlled shooting, 2013 -2020. Data derived from government statistics released annually

No meaningful limit has been placed on the number or extent of control areas operating concurrently, only the number of new licences issued each year. It is not clear what controls are in place regarding un-culled boundaries, certainly at a local scale.

In addition, Natural England noted that annual post cull monitoring by the Food and Environment Research Agency (FERA) would provide information on the presence or absence of badgers and that in the absence of “*precise trigger points or signals relating to badger survival that can be relied upon to fine tune culling during the period of individual licences*”, this annual survey would provide important evidence on survival and distribution. However, it is our belief that the post-cull surveys carried out have been inadequate to ensure the survival of intact populations, and that any such surveys appear to have been discontinued.

Mortality over and above the natural loss averages over 70,000 per year, but is not evenly distributed across the base population, as cull losses are concentrated in cull zones, where the minimum target is 70%. **Large cull zones (on average 500km²), especially where they are contiguous (taken together with inaccurate population estimates) means that perturbation of badgers creates a real risk of local extinction.**

Accurate information on the contiguous nature of cull zones is not publicly available. As a result it is only possible to illustrate the extent of culling using county data. A total of 20 counties of the 48 in England incorporate some cull areas, 17 of which appear to be the main counties for cull zones, while three (Berkshire, Nottinghamshire and Hampshire) appear to be secondary parts of cull zones established in adjacent counties. 31 of the 54 cull zones cover areas in two or more counties. Using a map of the cull counties, it is possible to see that several counties have numerous zones crossing into adjacent counties.



Map produced by Badger Trust based on data 2013 to 2020 cull period, and expressions of interest for 2021

Figure 2: Map showing scale of culling in terms of counties involved, number of badgers killed per county, and percentage of county covered by the cull. Data derived from government statistics released annually

If the two Low Risk Area (LRA) culls are excluded, 60% of the total area (45,360km²) of the 15 main High Risk and Edge Area counties will be within a cull zone in 2021. On average, **74% of the land within each cull zone is either accessible or within 200m of accessible land. Clearly badgers travel much greater distances than 200m to forage, and the perturbation effect of culling may cause them to venture further still**⁵. As a result of culling, badger home range area has been reported to increase by as much as 180%⁶, and

⁵ Woodroffe, R et al (2006) Effects of culling on badger *Meles meles* spatial organization: implications for the control of bovine tuberculosis. *J Appl Ecol* **43**: 1-10. <https://doi.org/10.1111/j.1365-2664.2005.01144.x>

⁶ Woodroffe, R., Donnelly, C. A., Ham, C., Jackson, S. Y. B., Moyes, K., Chapman, K., ... Cartwright, S. J. (2017). Ranging behaviour of badgers *Meles meles* vaccinated with *Bacillus Calmette Guerin*. *Journal of Applied Ecology*, *54*, 718–725.

the movement rate of individuals between social groups has been found to increase after culling⁷. Inaccessible areas within cull zones will not therefore provide long term protection to the local population.

Given the size of the cull zones and the overall coverage, it is likely that several cull zones are contiguous. Where this is the case, incursion from non-culled land and its contribution to the currently observed population and cull numbers is unpredictable and risks a sudden drop in badger numbers as several areas move through four years of intensive culling and into supplementary culling. A lack of data on surrounding land and its suitability for badgers, and the permeability of boundaries, only exacerbates this risk.

It is unclear whether the government and Natural England are considering the impacts of culling on incursion, and reproductive rates, in diminished populations across wider scales when assessing contiguous or nearby licenced operations. In recent years, extreme weather events, such as long dry spells and flooding, have occurred in some cull zones including the Severn catchments and Somerset Levels, with the probability that badger populations in those areas will be additionally impacted. The Government does not appear to be taking such factors into account.

Cull zones in five counties account for 66% of the badgers culled thus far (95,067): Cornwall, Devon, Somerset, Dorset and Wiltshire (Devon, Cornwall and Wiltshire have further expressions of interest registered for 2021). This will be affected by density, but of course density is not evenly distributed and this increases the risk of such high population losses across England. One county alone (Devon) accounts for 21% of all badgers killed (28,482).

County	No of areas	Size of county (km ²)	Cull Zone area (km ²)	Percentage of county
Cornwall	4	3562	2993	84
Devon	14	6707	5630	84
Dorset	4	2653	2093	79
Somerset	5	4170	1962	47
Wiltshire	6	3485	3375	97

(calculations based on published government data)

Under Article 2 of the Bern Convention, the status of the badger population in England is expected to be maintained at the level which corresponds to ecological, scientific and cultural requirements. There is no evidence that the government has investigated and determined whether these requirements are being met.

Ground 2. There is clear evidence to show that the exploitation is not monitored by the Government (Article 7)

Guidance provided to Natural England by DEFRA in August 2014⁸ details four potential options for determining the size of the population after culling, following population recovery and/or incursion from

⁷ Riordan P, Delahay RJ, Cheeseman C, Johnson PJ, Macdonald DW (2011) Culling-Induced Changes in Badger (Meles meles) Behaviour, Social Organisation and the Epidemiology of Bovine Tuberculosis. PLoS ONE 6(12): e28904. <https://doi.org/10.1371/journal.pone.0028904>

⁸ Setting the minimum and maximum numbers for Year 2 of the badger culls - Advice to Natural England, 2014. <http://www.bovinetb.info/docs/setting-the-minimum-and-maximum-numbers-for-year-2-of-the-badger-culls.pdf>

surrounding areas. None of the options were considered to be totally reliable, however Option IV was adopted. This involves an assessment of activity levels in setts in the accessible area based on the number of active entrances. This, as far as can be ascertained from the available documentation, is the only form of population assessment currently carried out prior to, during or following culling operations.

Initial population estimates are frequently adjusted due to “*the overall uncertainty associated with the methods and the range (lower to upper limits)*”, and are intended to allow the estimates to be revised “*in the light of new data*”⁹. At day 28 culls are assessed using an analysis of effort against the number of badgers culled and maximum and minimum cull numbers are adjusted where it is evident that initial estimates of population were either too high or too low. The methodology used for these re-estimates was set out in 2017 and amended in 2019;

“The method used to update the minimum and maximum numbers has not been changed since 2017, but has been improved to take into account further data from effective first year control areas and effective second and third year control areas in previous years. For an area that had deployed sufficient effort, the minimum and maximum numbers were recalculated using an historical comparator. Taking data from the previous years’ effective control areas, the proportion of the Day 42 cull total that was achieved on each day in each area is calculated, then averaged across areas to generate the historical comparator. This allows the prediction of the expected Day 42 total for any area, from any given day. The minimum and maximum numbers are then set equidistant around the expected cull total. The updated minimum and maximum numbers in 24 areas were further increased by 1.5% per operational day, given continuation in those areas beyond 42 days in order to maximise disease control”.¹⁰

Using complete data (where available) for culls starting in 2017, 2018, 2019 and 2020 we can see that updated estimates at day 28 have been revised each year and the most recently started culls show a much more cautious approach. Maximum cull targets were initially increased in all Year 1 zones during 2017, with an average increase of 113.4% (range 8.61 to 455). By 2020 first year culls showed an average decrease of 10.9% (range 14 to -41.1).

Following badger culling in 2018, Dr. Tim Hill, Chief Scientist (Natural England) recommended sett survey work be carried out:

*“The minimum and maximum numbers for 2019 will be set in line with Defra’s commitments under the Bern Convention. In order to help inform this, I would recommend that some sett survey work is undertaken to understand badger activity levels prior to the 2019 SBC [Supplementary Badger Cull]. We will continue to ensure that local extinction does not occur in order to protect the UK’s badger population. We will also continue to undertake surveillance and monitoring of other protected species in order to ensure that we avoid any adverse consequences on them.”*¹¹

We would expect a more robust methodology to determine an updated population before ongoing culls to keep badgers at a ‘low level’, however the current methodology is fundamentally flawed.

⁹ Bovine TB: Setting the minimum and maximum numbers in licensed badger control areas in 2016
Advice to Natural England, August 2016

¹⁰ NE, Policy paper Annex A1: updating minimum and maximum numbers during 2019 badger control operations,
Published 27 March 2020

¹¹ Department for Environment, Food and Rural Affairs Natural England Chief Scientist’s advice on the outcome of
Supplementary Badger Control 2018 March 2019

Est. #	Date	Source	Method	Population size	
				Somerset	Gloucs
1	2011	Defra	Based on numbers of badgers removed in initial culls during the RBCT*	1098	1339
2	2012	Farming industry	Survey work to determine number of main setts, which was then multiplied by 5.4**	2553	2492
3	2012	Farming industry	Same as above but based on additional field work	1787	1557
4	2012-2013	Defra	Survey work to determine number of active setts (2012), plus CMR*** analysis of hair-trapping data to determine average number of badgers per active sett (2013)	1501-3905	1999-5423
5	2013	Defra	CMR analysis of pre-cull hair-trapping data to determine average number of badgers per active sett. Number of active setts was taken from the 2012 survey.	850-1905	1394-3242
6	2013	Defra	Cull sample matching	1802-2512	1811-2575

Table 4.3 Six different estimates of population size (number of badgers) in each of the two pilot areas, in chronological order. Where a range is given for population size, this represents the 95% CI.

* RBCT: Randomised Badger Culling Trial. ** 5.4 was taken as the average number of badgers per social group, based on trapping data obtained in the RBCT (Independent Scientific Group on Cattle TB, 2007). *** CMR: capture mark recapture.

Figure 3: Methods of badger population size estimation considered by the Government's Independent Expert Panel, 2014¹²

The Government-appointed Independent Expert Panel examined methodologies for estimating badger population size for the first two pilot zones (in Somerset and Gloucestershire) in 2013. It is clear that there are considerable variations in estimations of population size depending on the methodology employed. **The government is utilising one of the least accurate methods, not only to estimate initial population, but to estimate ongoing populations and thereby determine minimum and maximum cull figures for each subsequent cull in each zone.** Adjusting the minimum and maximum cull figures based on cull results against effort can only give an indication that there are enough badgers remaining for the level of effort to cull a certain number of badgers at any given moment.

*“As in previous years, minimum and maximum numbers were updated as initial estimates of badger abundance were refined by actual circumstances observed in the field once badger control operations were underway. This being necessary despite the **widespread use of sett surveys to provide field evidence of the size of the badger population.**”*¹³

¹²https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/300382/independent-expert-panel-report.pdf

¹³ Policy paper “Summary of 2019 badger control operations” Published 27 March 2020

<https://www.gov.uk/government/publications/bovine-tb-summary-of-badger-control-monitoring-during-2019/summary-of-2019-badger-control-operations>

This approach, rather than attempting to determine likely recovery rate based on initial population size, suggests that **the government recognises that accurate population figures cannot be achieved and is instead simply culling until the level of effort required must be increased beyond a certain threshold to kill a set number of badgers per night.**

In supplementary cull areas, this effect could be confused with having already culled ‘70% or more’ of the population and moving to holding it at that level, as several months are now required to kill a relatively small number of remaining badgers. However, it is not impossible that in some cases the entire population has been culled and the badgers now being culled are the result of incursion (and subsequent reproduction) from outside the zone itself. There is no previous experience of the impacts due to incursion over areas of this size or on the potential loss or reduction in any expected level of incursion where there are numerous zones in any single county, or where a high percentage of any county is culled, nor is there a real understanding of the reproductive rate of a diminished population.

In addition, **we are not aware of any analysis of the impact of culling on genetic diversity on either a local or national scale.** The loss of 70% or more of UK badgers in any given area is likely to result in inbreeding and interbreeding. Local populations may lose as yet unrecognised local adaptations, and the impact of climate events such as floods and drought will exacerbate impacts on depleted populations.

Ground 5. The Government has failed to choose the most appropriate alternative, amongst possible alternatives, and has failed to be objective and verifiable in its reasoning for this decision (Article 9)

For too long **the Government and the farming industry have wrongly blamed badgers for the spread of bovine TB in cattle, which has been a dangerous distraction from tackling the root cause of the disease in the cattle industry.**

There are over 9.6 million cattle in Britain and more cattle movements are undertaken here than anywhere else in Europe. The movement of cattle is a key driver for the spread of bovine TB in both cattle and badgers.

However, growing political and public recognition over infection disease control issues as a result of the COVID-19 pandemic should focus attention on more effective ways to control bovine TB without the need to kill badgers.

Like COVID-19, bovine TB is a disease spread primarily by aerosol droplet infection when cattle are held indoors for extended periods of time, without any prospect of “social distancing.” **Like COVID-19 control in humans, the most effective way to stop the spread of bovine TB in cattle is to put in place testing, track and tracing systems and a widespread vaccination programme to build up cattle herd immunity.**

Despite a commitment to phase out badger culling, up to 10 new cull licences could be issued in both 2021 and 2022, with the prospect of these licences running for another 4 years¹⁴. Thereafter, the Government is keeping the door open to allowing the issuing of cull licences for areas of the country where there are persistent outbreaks of bovine TB.

The Animal Plant Health Agency (APHA) bovine TB epidemiology reports are published biannually or annually. The reports review the situation relating to bovine TB in Great Britain at county and national levels. The Derbyshire Wildlife Trust commissioned a report into the Year End Descriptive Epidemiology Report for the Edge Area of Derbyshire in 2018¹⁵. The report included an evaluation of the methodology used by APHA to assign attribution to the source of new herd breakdowns to badgers. The evaluation reached the following conclusions:

¹⁴<https://www.gov.uk/government/news/government-sets-out-next-phase-of-strategy-to-combat-bovine-tuberculosis-in-england>

¹⁵<https://www.derbyshirewildlifetrust.org.uk/sites/default/files/2020-04/Critical%20evaluation%20of%20the%20Animal%20and%20Plant%20Health%20Agency%20report.pdf>

- APHA relies on a risk assessment which depends upon accurate hazard identification and risk pathway analysis;
- In all these areas there is neglect of uncertainties and unknowns coupled with unsupported bias towards badgers;
- There is a lack of clarity as to the evidence used to support on-site analysis as regards wildlife;
- There appear to be misconceptions about the likelihood of contact between badgers and cattle leading to disease transfer;
- The Disease Risk Forms identify badgers as a likely source of infection but there is no detailed disease data for the badger population.

Defra recognised the weakness of the system in its ‘Next Steps’ response to the Sir Charles Godfray TB Review¹⁶, with the commitment to improving bovine TB epidemiology evaluation, including better understanding of the sources and pathways of infection for herds affected by bovine TB breakdowns. It will support APHA to refresh the format and content and use of the Disease Risk Form (DRF) to enhance the efficiency of epidemiological data gathering and its accuracy, as well as improve data extraction and analysis. APHA is undertaking a short-term study to document the DRF process from investigation at the farm through to analysis and reporting. This is scheduled for publication in the next few months.

It is critical that the Defra Chief Veterinary Officer (CVO) has access to systematic and accurate gathering of epidemiological data to lead to more accurate analysis of transmission pathways. Reliance on the current process will inevitably lead to decisions being taken by the CVO on biased and inaccurate evidence of the role of badgers in the spread of bovine TB. This could result in the continued licencing of badger culling even when all the 4 year cull licences in operation come to an end.

We note that while badger culling has formed a significant part of the bovine TB control policy in England, the **Welsh Government has consistently rejected the mass culling of badgers**, a position reiterated in its Programme for Government 2021-2026 published in June 2021¹⁷. It should be noted that the policies adopted by the Welsh Government, which have **focussed on improvements to cattle testing and biosecurity measures**, have **resulted in greater reductions in herd incidence within the “high risk” TB areas compared to those achieved in England.**

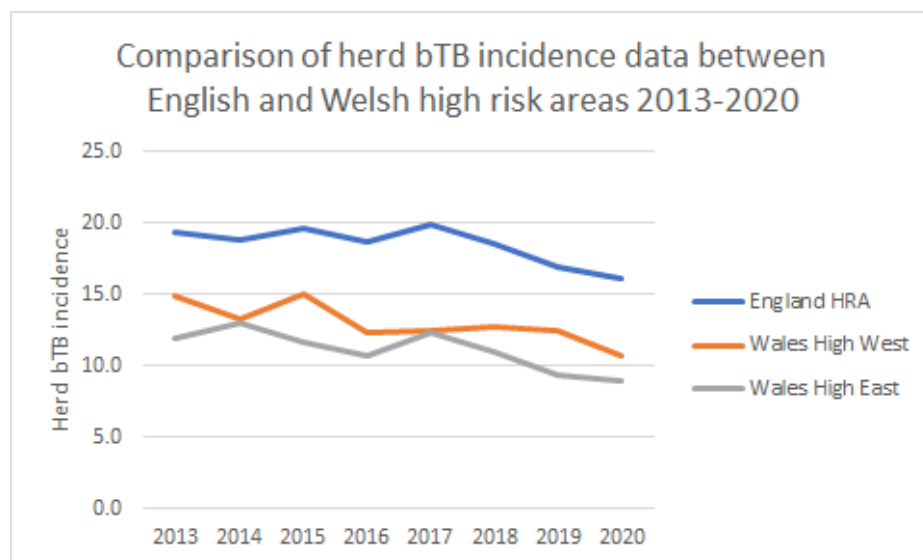


Figure 4: Herd bTB incidence in bTB high risk areas of England and Wales 2013-2020. Data available at <https://www.gov.uk/government/statistical-data-sets/tuberculosis-tb-in-cattle-in-great-britain>

¹⁶<https://www.gov.uk/government/publications/a-strategy-for-achieving-bovine-tuberculosis-free-status-for-england-2018-review-government-response/executive-summary>

¹⁷ <https://gov.wales/sites/default/files/publications/2021-06/programme-for-government-2021-to-2026.pdf>

Ground 7. The Government has failed to demonstrate that the measures undertaken by the Government involving the exploitation of badgers is in place to prevent serious damage to livestock (Article 9)

On 27th May 2021, the UK Government set out the next phase of strategy to combat bovine tuberculosis in England¹⁸, following a public consultation and call for views earlier in the year.

Its headline announcements were that work on badger vaccination, increased cattle testing and development of cattle vaccine would be accelerated, the licensing of new intensive badger culls would end after 2022 following a ‘significant reduction in the disease’ and that new schemes would be launched to roll out badger vaccination across the country. In addition, existing cull licenses could be cut short after two years, where supported by sufficient scientific evidence, and there will be no option for them to be renewed. The Government stated it will also develop a monitoring system to track the badger population and disease levels to help tackle the disease, with the findings being routinely published on gov.uk.

The announcement was accompanied by a statement from the Secretary of State for Environment, Food and Rural Affairs that “*The badger cull has led to a significant reduction in the disease...*”, although no evidence for this claim was provided.

However, on the same day, **the Government announced 11 new supplementary badger cull licences, in addition to the 10 already in operation. There is no body of evidence on which to justify supplementary cull licences for disease control purposes**, the justification for supplementary culling is based solely on the advice of the Chief Veterinary Officer.

Such licences have to date been issued for all cull zones that have completed four years of intensive culling under licence. **Wildlife groups estimate that if further four year cull licences are granted for 2021 and 2022, as many as 140,000 additional badgers might be killed before culling ends, doubling the number killed to date and representing, in total, a substantial proportion of the UK badger population.**

Since 2013, over 140,000 badgers have been killed under licence across large parts of England. By 2020, approximately 70% of the Government’s designated High Risk Area for bovine TB, covering much of the West and South West of England, was subject to licenced badger culling. Throughout this time, the Government has failed to demonstrate that bovine TB transmission from badgers to cattle is a serious risk, or that its current badger culling policy will substantially mitigate any such risk. In its attempts to justify its ongoing policy, the Government has relied heavily on evidence from the Randomised Badger Culling Trial which took place between 1998-2005 in spite of the conclusions by the Independent Scientific Group that analysed the trial that. *inter alia*, “*badger culling can make no meaningful contribution to cattle TB control in Britain.*” It has also relied on the conclusions of two peer reviewed papers (Brunton et al. 2017¹⁹, and Downs et al. 2019²⁰), both of which modelled the impacts of culling on cattle TB incidence in the initial pilot zones for the first two and four years of culling respectively, and whose findings and conclusions were heavily caveated.

McGill and Jones (2019)²¹ analysed bovine TB incidence rate and prevalence among cattle herds within the first three licenced badger cull zones, which included the first six years of data from the original pilot cull zones in Gloucestershire and Somerset, and the first four years from the third licenced zone in Dorset. Their analysis demonstrated little overall change in either cattle herd bovine TB incidence rate or prevalence within these badger cull zones throughout the period analysed, contradicting the Government’s consistent contention

¹⁸<https://www.gov.uk/government/news/government-sets-out-next-phase-of-strategy-to-combat-bovine-tuberculosis-in-england>

¹⁹ <https://onlinelibrary.wiley.com/doi/full/10.1002/ece3.3254>

²⁰ <https://www.nature.com/articles/s41598-019-49957-6>

²¹ <https://bvajournals.onlinelibrary.wiley.com/doi/abs/10.1136/vr.16845>

that “badger culling has resulted in significant reductions in the spread of the disease to cattle.”²² The authors concluded that **the main factor contributing to the ongoing bTB epidemic is the high number of infected cattle not detected by the SICCT skin test, and urged for a move away from a failing policy based on... the culling of wildlife.**

A recent and more comprehensive analysis (Langton et al. 2021, in prep - details available on request) examines the incidence and prevalence of bovine TB among cattle herds in the High Risk Area of England within and outside licenced cull zones, for the period 2010-2020, using data published by Government. While the analysis reveals a general downward trend in herd bovine TB incidence and prevalence across the High Risk Area from 2017 onwards, **no significant differences in either incidence or prevalence of bovine TB between herds within and outside badger culling areas were found.** Examination of county-level bovine TB trends revealed that **in 9 of 10 counties, herd bovine TB incidence peaked and had begun to fall before the introduction of badger culling.**

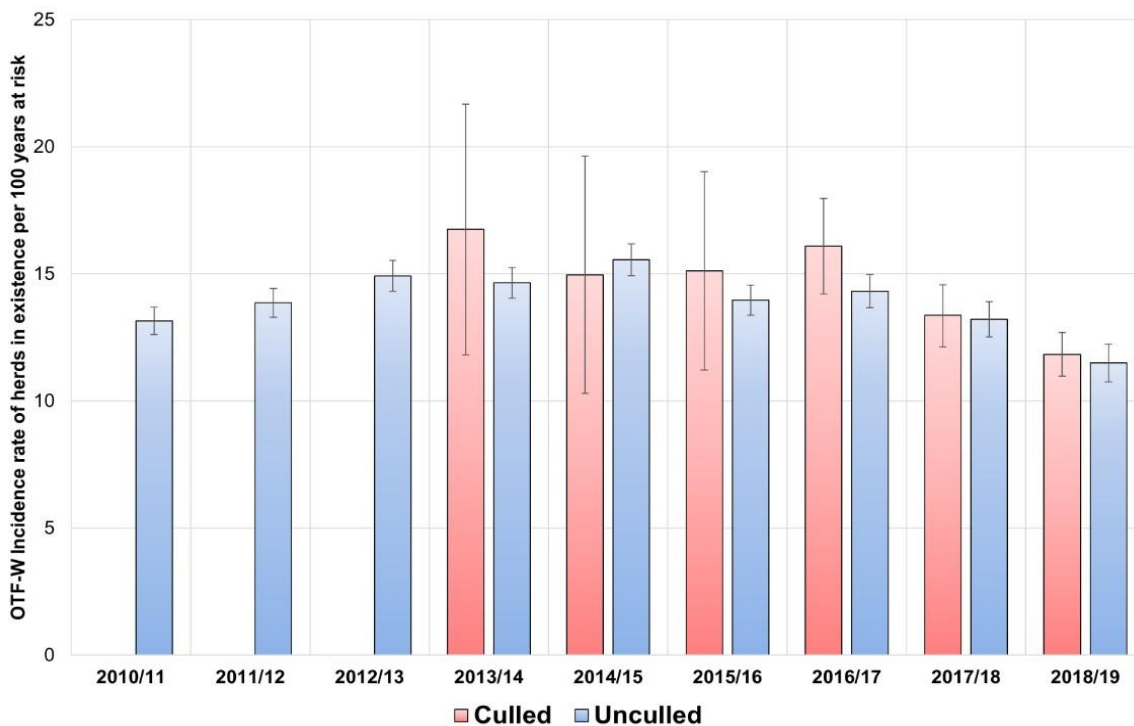


Figure 5: A comparison of OTF-W incidence rate in respect of herds in existence per 100 years at risk, between culled and uncultured areas of the HRA, 2013-2019

²² <https://www.gov.uk/government/news/government-sets-out-next-phase-of-strategy-to-combat-bovine-tuberculosis>

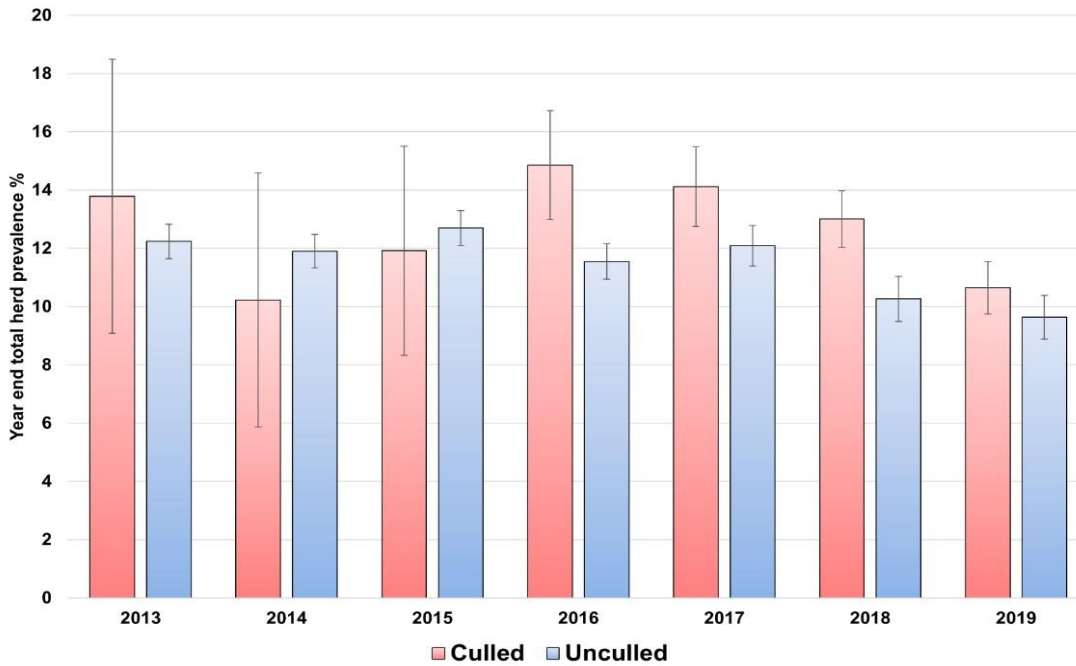


Figure 6: A comparison of bovine TB prevalence (Herds under restriction as a proportion of all registered herds) between culled and unculted areas of the HRA, 2013-2019

The continuation of a policy that targets such large numbers of native, protected wild animals, purportedly to prevent disease in livestock, must surely be contingent on clear and unequivocal evidence for a substantial and predictable disease control benefit. The failure of the UK Government to provide such evidence, or even attempt to conduct the analyses necessary on an ongoing basis to evaluate the impact of the policy on livestock disease and release the results into the public domain, represents a clear breach of Article 9 of the Convention on which the UK Government's policy relies.