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CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE  
AND NATURAL HABITATS

**Standing Committee**

32<sup>nd</sup> meeting  
Strasbourg, 27-30 November 2012

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**Other complaints**

**STEADY DECLINE OF THE NATIONAL BADGER  
(*MELES MELES*) POPULATION IN IRELAND**

***REPORT BY THE NGO***

*Document prepared by  
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## THREATENED VIABILITY OF IRISH BADGER POPULATIONS

29 May 2012

by

Irish Wildlife Trust and Mark Stephens

Badger populations have been culled in Republic of Ireland (ROI) for the past 25 years. Culling was carried out on a nationwide basis up to 2002 and this has reduced both the national population and population density. Subsequent to 2002 badgers have been culled reactively in response to Bovine Tuberculosis (BTB) outbreaks in cattle herds. Culling in the ROI has been associated with a decline of BTB but is not substantially different from that in Northern Ireland where culling has not taken place.

We are concerned that the activities of the Department of Agriculture Food and the Marine (DAFM), under licence from the National Parks and Wildlife Service (NPWS), have been and continue to be detrimental to the survival of badger populations at a parish, county and national level. The parish, county and national populations of badgers are referred to as the “populations concerned” in this document.

Key questions and proposals are highlighted in grey.

The approach adopted by DAFM to culling in Ireland has included culling on a nationwide basis up to 2002. Our understanding is that in the region of 91,000 badgers have been culled in the ROI since 1984. The graph below shows the numbers culled, by decade, for the period 1980-2009 and a projected figure for 2010-2020, assuming DAFM continues culling badgers at historical rates. An estimate is included for the national badger population of 148,000 (1995), 84,000 (2009) and 60,000 (2012). See Appendix A for detailed data and sources.

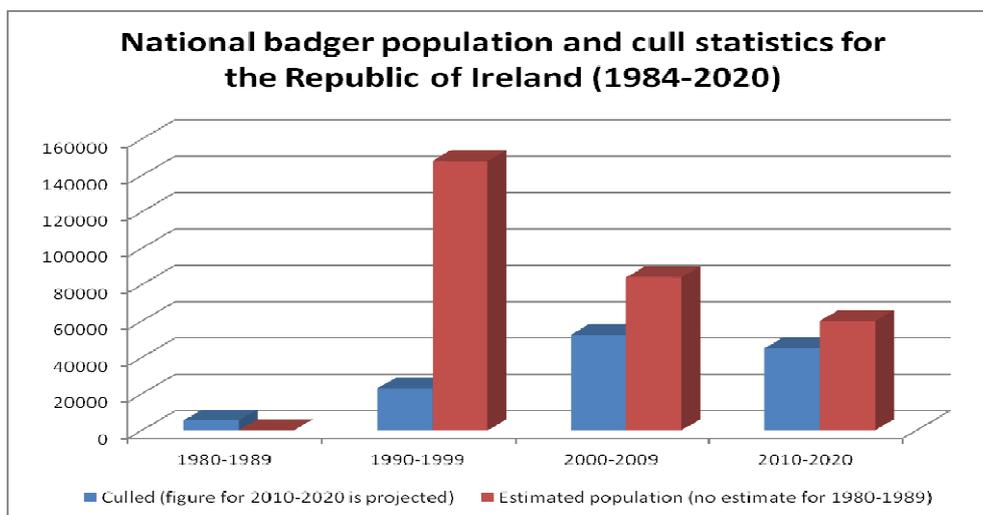


Figure 1. Badger population and culling statistics.

The national badger population has fallen sharply. The percentage of the population which is being culled annually is increasing. The current annual cull alone may be reducing the national population by up to 10% on an annual basis.

Can it be shown that culling is not detrimental to the populations concerned, if accurate, ongoing measurement of those populations is not taking place?

Is the current DAFM culling regime compatible with the spirit and principles of the Berne Convention?

There are many causes underlying the persistence of BTB in cattle, including chronically infected and/or contiguous herds. Badger culling is therefore only one component of the initiative to reduce BTB in cattle. But the success of the cull has not been expressed in terms of the remaining population of badgers, only in terms of the level of BTB in cattle.

Therefore the populations concerned can be completely removed and the cull will still not be considered a success. Success criteria for removing infection from badger populations should be defined in terms of the number and distribution of infected badgers not in terms of the level of BTB in cattle.

Does the absence of appropriate documented success criteria mean that the cull has the potential to be severely detrimental to the populations concerned?

Does DAFM have a target number for an acceptable minimum national population? If so what is this figure?

DAFM have mentioned a density of between 0.2 and 0.5 badgers per sq km as being a density at which badgers will no longer pose a risk to cattle and indicated that some areas have been reduced to this density.

Is this a target density for populations at a local level? Can a local population survive and reproduce at a density of 2 animals per 10 sq km?

If the risk of serious damage to livestock has been removed for any of these populations concerned, then is it the case that there should not be exceptions made under article 9 of the Berne Convention for these populations?

The sharp decline in the national population and increasing level of culling as a percentage of the population suggest that the populations concerned may be at risk of extirpation. The populations concerned may be being endangered with every continued year of culling.

Has a mathematical model for the ROI badger populations concerned been produced?

About 71% of Ireland is agricultural land and the Irish badger population, unlike in other countries is inclined to live primarily on the margins of agricultural land. DAFM have indicated that badgers will only be culled in 28% of agricultural land and that therefore the populations concerned are secure, as they are not culled in the other 72%. We believe that this control/constraint on culling does not afford the populations concerned any real protection. A circular area of 500m radius (.78 sq km) is culled around each sett (where badgers live). The 28% of agricultural land referred to is the summation of all these circular areas around setts. But badgers live in main setts and must return to a sett every night. It is a bit like saying that the bull's-eye represents only a small percentage of the target, or that people will be safe to live in 72% of the country except that there will be a marksman outside of every house who will shoot people entering or leaving! Culling is therefore very much more intensive than suggested by the 28% "ceiling".

Does the 28% of agricultural land constraint, as defined and implemented by DAFM, actually afford the populations concerned any protection?

DAFM have a very sophisticated regime for tracking and culling badgers. The GPS coordinates of sett locations and the number of restraints used at each sett is recorded on a digital mapping system. 34,000 setts have been recorded. A badger sett is reasonably easy to find as badgers use the same paths over many years and these paths identify the sett location. So it can be assumed that the 34,000 setts recorded by DAFM after decades of culling very probably represents a substantial majority of setts in ROI.

It is estimated that there are about 124 occupied main setts in an average Irish county. A circular area of radius 500m around these 500 main setts gives a total area of about 97 sq km, or about 6% of agricultural land in an average county. The population in an average county can therefore be completely removed within the 28% constraint.

See Appendix C for more information.

Does the 28% of agricultural land constraint, as defined and implemented by DFAM, allow the majority of main setts to be culled, such that the cull is severely detrimental to the survival of the population in an average county?

We have observed areas of Counties Wicklow and Dublin where a majority of the main setts known to us have been depopulated. The use of camera traps in one area suggests that only a single

animal remains moving from sett to sett. Once a sett has been selected for culling DAFM ensures, on an annual basis, that the sett remains unpopulated. The culling campaign has resulted in a view amongst some Irish farmers that badgers are vermin and always a risk to their cattle. We have evidence of farmers taking matters into their own hands and culling the setts both on their land and their neighbour's land. Our understanding is that DAFM staff are paid for each animal culled and therefore incentivized to maximize the extent of the cull.

Have many local populations have now been pushed to a point beyond recovery given the scale of culling, negative view of farmers and damage to the social structure of the population?

DAFM have conducted trials on the effectiveness of using an oral vaccination on ROI badger populations. Our understanding is that these trials have shown that the vaccine is effective in protecting a population, even when the vaccine has not been administered to all animals. Our understanding is that there are plans to extend the vaccination trial to an area of about 200 sq km by 2013. Vaccination is significantly cheaper than culling. It results in uninfected animals (the vast majority of a population) being protected from infection. To remove infection by culling instead the whole population has to be removed to remove a small number of infected animals.

Does the application of cattle measures combined with a badger vaccination regime constitute an alternative satisfactory solution under the Berne Convention?

National Parks and Wildlife Service (NPWS) are responsible for the licensing of culling in ROI but have not published any information regarding how they plan to protect the populations concerned. Licenses are issued to DAFM on an annual basis by NPWS, but it appears that NPWS is not actively considering the protection of the populations concerned, rather they are issuing licenses under guidance of DAFM.

The approach adopted by DAFM to culling in Ireland has included culling on a nationwide basis up to 2002. Since 2002 an approach has been adopted where badgers are only culled where their presence has been linked to a serious BTB breakdown (defined as three or more positive cattle) in an adjacent herd. An investigation is carried out to try to identify the possible sources of infection. If the investigation rules out a purchased source but confirms that badgers are present locally, then a survey for badger setts is undertaken and culling of badgers commences where setts are within a 2 km radius (12.56 sq km) of an infected farm. Setts that have been culled are then repeatedly culled on an annual basis if any activity (reoccupation of setts) is noted.

See Appendix D for a schematic representation of a typical ROI county.

It would appear that the culling approach described above may be seriously detrimental to the survival of badger populations at a local and county level.

Will DAFM make the detailed information on culling public and/or available to an independent scientific review?

Would DAFM / NPWS consider?:

The immediate cessation of culling in ROI and rapid adoption of vaccination

Conducting an independent scientific review

Defining appropriate measures of success for the control of BTB in badgers independent of other factors causing BTB in cattle

Establishing the appropriate level of monitoring to protect the populations concerned

Declaring areas where the badger populations are protected

Actively addressing the very negative perception of the badger in Ireland

Separation and transparency of the relationship between NPWS and DAFM in relation to issuing of any licenses to cull badgers

**Appendix A - Detailed Information Regarding the National Badger Population in ROI**

**Badgers Culled 1984-2011**

The following table identifies the sources for the cull figures in the graph “National Badger Population and Cull Statistics for the Republic of Ireland (1984 - 2020)”. More detailed annual figures and estimates are also included.

**Badgers Culled 1984-2011**

<b>Year</b>	<b>Num Culled</b>	<b>Totals</b>	<b>Sources</b>
1984	1,000	1,842.8	
1985	1,000		
1986	842.8	6,426.2	1986-1996 - Scientific paper and Data provided by NPWS. Annual figures extrapolated from total
1987	842.8		
1988	842.8		
1989	842.8		
1990	842.8		
1991	3,055	7,574	1991-1994 - Data provided by NPWS
1992	1,674		
1993	1,844		
1994	2,045		
1995	2,011	74,306	1995-2010 - Data provided by DAFM
1996	3,157		
1997	2,171		
1998	2,474		
1999	3,533		
2000	4,727		
2001	3,558		
2002	6,115		
2003	4,737		
2004	2,973		
2005	5,171		
2006	5,589		
2007	5,937		
2008	7,284		
2009	6,244		
2010	5,636		
2011	5,000	5,000	Estimated

**184,455.2**

**Badger Population 1984 - 2011**

Information underlying the population figures in the graph “National Badger Population and Cull Statistics for the Republic of Ireland (1984 - 2020)” are explained.

**National Population of 148,000 in 1995**

Smal (1995) estimated the national badger population to for ROI to be approximately 200,500 adults. Sleeman, O’Keeffe and Davenport (2011) suggest that, based on a study by Feore and Montgomery (1999), the figure should be adjusted downwards to give an estimate of 148,000.

**National Population of 84,000 in 2009**

Sleeman (2009) estimated the national ROI population to be 84,000, from a minimum of 72,000 to max of 95,000.

**National Population of 60,000 in 2012**

DAFM have indicated orally that they believe the current population to be 80,000 +/- 20,000.

**Appendix B - References**

**Sleeman, O’Keeffe and Davenport (2011)**, The ECOLOGY OF THE EURASIAN BADGER (MELES MELES) IN IRELAND: A REVIEW

**Smal (1995)**, Smal, C. The badger habitat survey of Ireland. Dublin. Government Stationary Office

**Sleeman (2009)**, D.P Davenport, J. More, S.J. Clegg, T.A Collins, J.D Martin, S.W Williams, D.H Griffin, I. O’Boyle, How many Eurasian badgers *Meles meles* L. are there in the Republic of Ireland? European Journal of Wildlife Research 55, 333-44

**Appendix C - Analysis of the 28% “Ceiling”**

The 28% “ceiling” on culling does not afford the population concerned any real protection as all main setts in an average county can be removed within a 20% ceiling. A figure of 6,000 main setts (which may not all be occupied) nationally has been mentioned by DAFM.

Average area of a County	2,700	sq km
Number of Counties	26	
Estimate number of main Setts	6,000	
Number of main Setts per County	230	
Estimate of Number of Occupied Main Setts	124	
500m around each sett	0.78	sq km
Cull area in a county required to cull occupied main setts	97	sq km
Available Badger Habitat	1,642	
The Cull area around sett is .78 sq m. What % of agricultural land needs to be culled in the average county to remove all main setts?	5.91%	

Note that 34,000 is not the definitive national total number of setts. Also it is not known how many of these setts are unoccupied.

### Appendix D - Spatial Representation of Average County

DAFM have not made public the digital maps which show setts locations or the areas which have been / are continuing to be culled. The diagram overleaf is a schematic representation of an average county designed to illustrate graphically the impact of culling.

Each square represents 1 sq km.

Land in a typical county: 2702 Sq km

Of which:

- Non-agricultural (29%): 782 Sq km (badgers found here only in *very* small numbers)
- Agricultural (71%): 1,920 Sq km

Of which 278 Sq km arable; leaving 1,642 Sq km available badger habitat PTO.

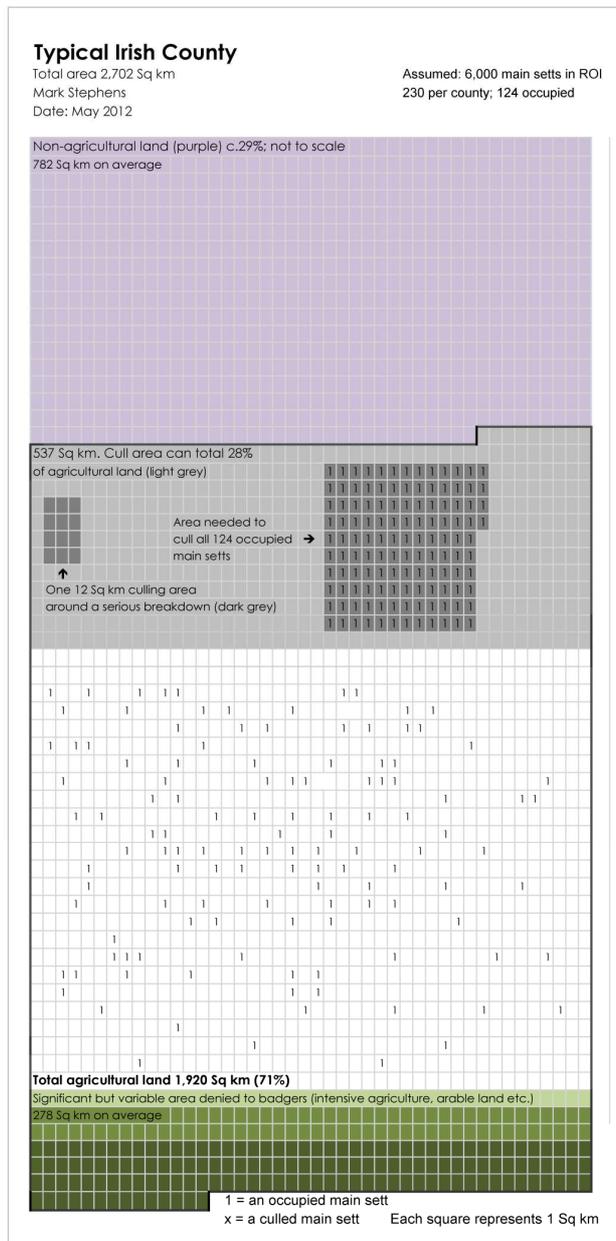


Figure 2. Visual demonstration of the potential extent of the “culling fields”.