



Laurie Campbell

The state of Britain's hedgehogs 2011

written by David Wembridge

Evidence of a declining hedgehog population

There has never been a national census of hedgehog numbers but several on-going surveys have collected data on their relative abundance nationally since 1996. Preliminary data from two surveys run by People's Trust for Endangered Species (PTES) over the past decade indicated an alarming fall in the numbers of hedgehogs in urban and rural areas. Now, a report by the British Trust for Ornithology (BTO) commissioned by PTES and the British Hedgehog Preservation Society (BHPS) to determine the state of Britain's hedgehogs, indicates that at a conservative estimate a quarter of the population has been lost in the last ten years.

Surveys in urban and rural areas both indicate falling numbers of hedgehogs. Nationally, the evidence indicates an average decrease of several per cent each year (surveys with different methodologies and coverage show annual rates of 1.8 to 10.7 per cent) and the data support the widespread and consistent anecdotal evidence of a decline.

Five surveys (shown overleaf) that have run over several years were analysed in the report. Two separate

measures (that recorded either hedgehog presence/absence or abundance) were looked at in two of the surveys. The other surveys looked at a single measure of presence/absence, so that a total of seven measures were analysed. All the surveys showed declines between 1996 and 2010, and five of the measures were statistically significant declines. The evidence is now very strong that hedgehogs are in trouble.

Moreover, the *National Gamebag Census*, run by the Game and Wildlife Conservation Trust and consisting of records from gamekeepers, provides further evidence of a long-term decline. An analysis in 1992 indicated a steady decline in hedgehog numbers between 1960 and 1980. In addition, *HogWatch*, which was run by PTES and BHPS in 2005/6 and collected records from tens of thousands of people nationally, found that almost half of participants felt that hedgehog numbers had declined over the previous five years.

The preliminary data from these surveys were sufficiently alarming for hedgehogs to be declared a priority conservation species in 2007.



The scale of the decline

In the early part of the last century, hedgehogs were abundant throughout Britain, with an estimated population of perhaps 30 million in the 1950s. By 1995, the population was estimated to be only about 1.5 million (1.1M in England; 0.31M in Scotland; and 0.145M in Wales). Comparisons of counts of hedgehog road casualties in the early 1990s and 2001 suggest that numbers in some regions might have fallen by as much as a half in that period.

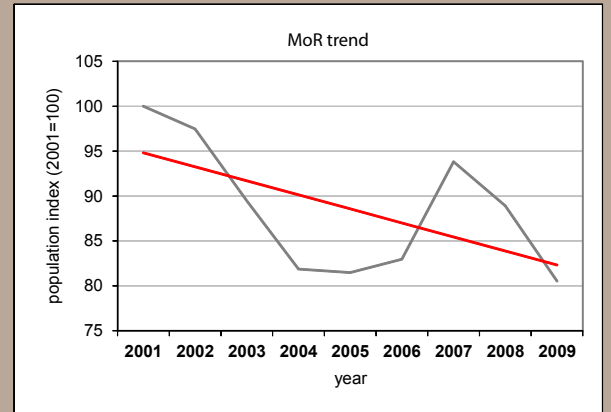
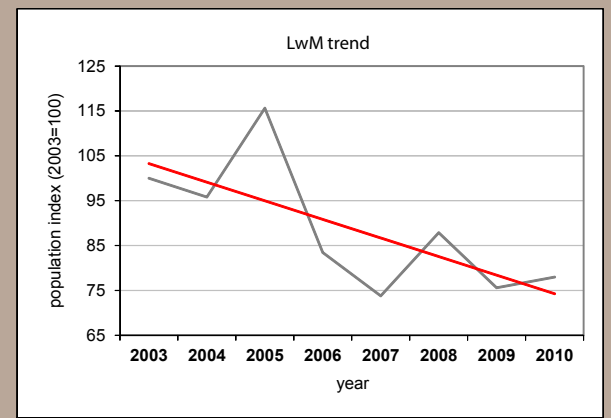
In 2005/6, *HogWatch* collected tens of thousands of records from members of the public across the country, creating a distribution map. The survey asked whether participants thought hedgehog numbers had changed over the previous five years. Almost half said that they thought hedgehogs had declined, and their perceptions were linked to an increase in built-up areas as the cause.

Reasons for the decline

Why hedgehog numbers are falling is not known for certain. However there are likely candidates and probably all are involved to a varying extent. More intensive agriculture – with larger fields and the loss of hedgerows and permanent grassland – has probably played a role. The use of pesticides too reduces the amount of prey available. In towns and villages, smaller and tidier gardens with fencing that prevents hedgehogs moving between gardens may have reduced suitable urban habitats.

New buildings and roads carve up suitable habitat, so that small populations can become isolated and more vulnerable to local extinction. Tens of thousands of hedgehogs are killed by road traffic each year and road deaths might be an important cause of decline locally. Spines are little defence against wheeled predators.

Badgers are a natural predator of hedgehogs and hedgehogs actively avoid sites where badgers are present in high numbers. When the habitat provides sufficient cover and good foraging opportunities, badgers and hedgehogs can coexist, but when there is no safe refuge and the prey that the two species compete for are scarce, hedgehogs may be in serious trouble.



The underlying trend

The graphs above show the downward trend in hedgehog records in urban (top) and rural (bottom) areas, collected in PTES' *Living with Mammals* and *Mammals on Roads* surveys respectively.

The index on the vertical axis is a measure of the probability of detecting a hedgehog in a particular year relative to the probability in the first year of the survey. Wild populations fluctuate in size from year to year – due to a particularly wet or dry summer for example that can affect the availability of prey – but by analysing comparable data across several years, underlying trends can be spotted beneath these fluctuations. These are shown by the red lines in the graphs above.

Surveys recording hedgehogs analysed for the report

Mammals on Roads (annually since 2001) and *Living with Mammals* (annually since 2003) are both run by PTES. Presence data is collected from predominantly rural (MoR) and urban/suburban (LwM) sites. Abundance data is also collected from rural (MoR) areas.

The BTO organises the BTO/JNCC/RSPB *Breeding Bird Survey*, the *Waterways Breeding Bird Survey* and *Garden BirdWatch*, which have collected mammal data since the 1990s. For this study, presence data were analysed from predominantly rural (BBS and WBBS) and urban/suburban (GBW) sites.

A fuller version of the report is available from PTES.



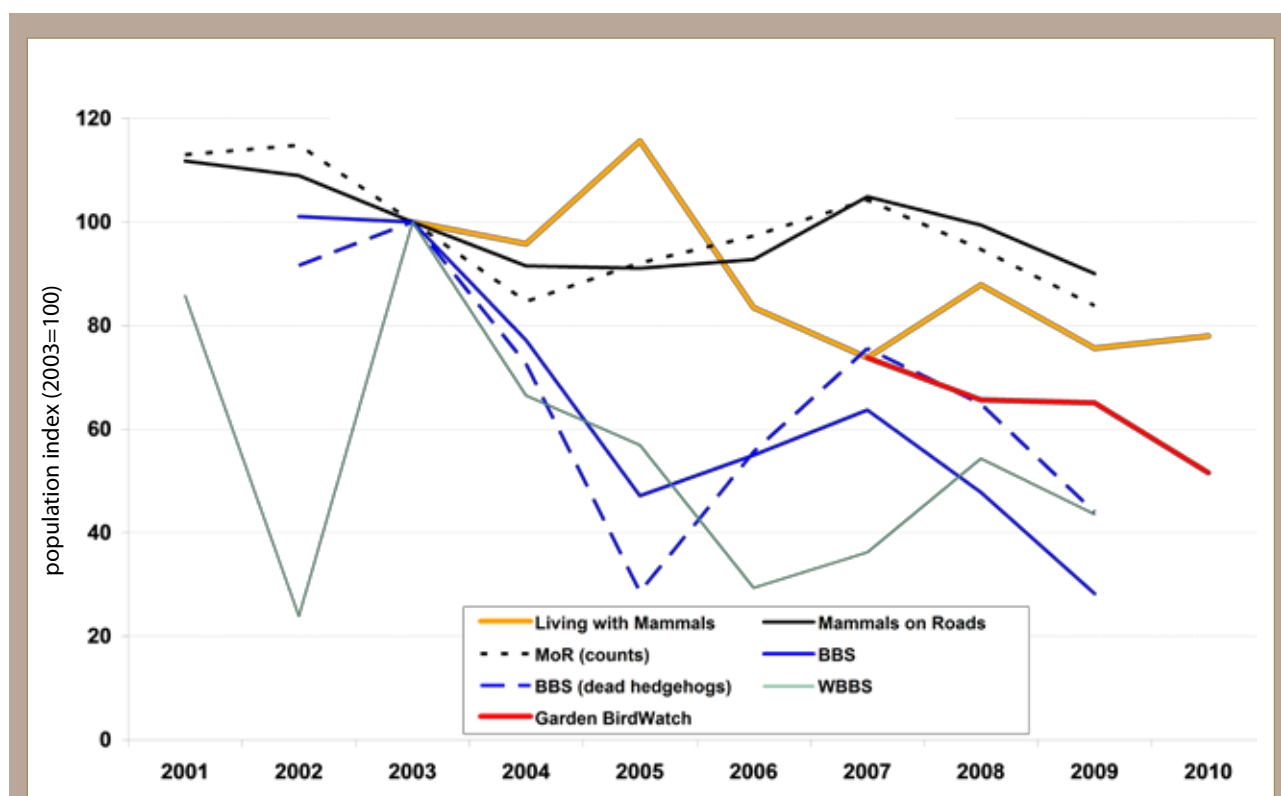
Stephen Oliver



What we're doing about it

PTES and BHPS have joined forces on a campaign to help hedgehogs.

- Hedgehog sightings are recorded through several annual wildlife surveys and *The state of Britain's hedgehogs* aims to clarify the facts and identify work that could halt the dramatic decline that has become apparent.
- We do not know exactly what is causing the decline but are carrying out a number of practical research projects to find out what is going on so that we can advise on how to manage rural habitats for hedgehogs.
- We know that urban landscapes are increasingly important to hedgehogs so we have launched *Hedgehog Street* to encourage and help people create hedgehog-friendly neighbourhoods.
- Many hedgehogs are rescued each year and we are helping carers to monitor the hedgehogs they return to the wild.



National trends of hedgehog records

The graph above shows hedgehog occupancy (whether hedgehogs were present or absent at survey sites) for the five surveys. Two surveys, PTES' *Mammals on Roads* (MOR) and BTO's *Breeding Bird Survey* (BBS) were analysed for two separate measures: for *Mammals on Roads*, the two measures were (1) the number of journeys that recorded hedgehogs, and (2) the number of hedgehogs recorded ('MOR (counts)');

for the *Breeding Bird Survey*, the two measures were (1) all types of records, and (2) only records of dead hedgehogs, which avoids biases in some other types of records. The surveys use very different methods and so indices are standardised by arbitrarily setting them to '100' in 2003, the earliest year that most surveys have in common. Hence, the value in 2003 represents a baseline for each survey. For example the BBS data in 2005 shows about half as many records for hedgehogs in 2003.



What you can do to help

Become a hedgehog champion and take part in *Hedgehog Street*. Gardens have become too tidy, paved over for parking or enclosed within impenetrable fences and walls. Hedgehogs need these areas to be reconnected and improved, by planting hedges, providing rough areas for shelter or simply by making small holes in walls or fences so they can move freely around in search of food and mates. If we all do a little we can achieve a lot for hedgehogs. Rally support from your neighbours to create ideal hedgehog land through your street, estate or communal grounds. Information packs are available from www.hedgehogstreet.org.

HogWatch continues to collect sightings, please visit www.hogwatch.org.uk for more information. The survey also records other information – such as habitat-type – to help us better understand the sorts of areas that support hedgehogs.

If you take part in the BTO bird surveys (www.bto.org/science/monitoring/monitoring-other-wildlife) please continue your valuable recording of hedgehogs.

Living with Mammals and *Mammals on Roads* take place annually. Both surveys record species other than hedgehogs and together provide an insight into the changing fortunes of wild mammals in urban and rural habitats. Visit www.ptes.org/surveys to take part and also to download the *Mammals on Roads* iPhone app. Monitoring wild populations is the first step in conservation, identifying trouble when there is still time to act. The efforts of all our volunteers nationwide may have just saved the hedgehog.

Spiny natural history

Hedgehogs are unmistakable, with several thousand sharp spines on their backs. They are not shy of sharing our built environment, making use of features such as compost heaps and flower beds, and the short grass of lawns and recreational areas to forage for earthworms, beetles, slugs and caterpillars. In rural areas, they live along woodland edges and hedgerows in meadowland and rough pasture, almost anywhere where there is sufficient cover for nesting, but they are scarce or absent in marshy or upland habitats (such as moorland) and in coniferous woodland.

The presence of hedgehogs is a good indicator of plentiful ground-dwelling invertebrates, especially worms, snails, slugs and beetles, and of varied habitat features, such as hedges and copses. Between November and the end of March, when food is scarce, hedgehogs hibernate to conserve energy, remaining largely inactive. During the rest of the year, they are mostly nocturnal, travelling 1-2km in a night over home ranges of 10-50ha. The highest numbers are found in suburban areas where badgers are absent, when there might be up to 80 individuals in a square kilometre.

Hedgehogs are widespread but patchily distributed in Great Britain and Ireland, where they are found up to the treeline. They are absent from some of the Scottish islands including Barra, Jura, Colonsay, Eigg and Rum in the Hebrides, and Rousay in Orkney.



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**endangered
species**



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