

UK Mammals

Update 2008

The Tracking Mammals Partnership (TMP) aims to provide up-to-date and reliable information about the status and population trends of UK land mammals

The TMP is currently reporting annual trends for 35 terrestrial mammals, 54% of our land mammal fauna. Sixteen species, 46%, have increasing populations, and 11 species, 31%, have stable populations. Six species, 17%, are declining, and for two species the trends are unclear. Unfortunately, four of the increasing species - common rat, grey squirrel, sika deer and muntjac - are non-natives that cause problems for our native fauna.

This is the third annual update following the first major report on UK mammals' status and trends, published in 2005. Detailed information on species trends can be found on the TMP website www.trackingmammals.org.

Here we provide a summary of current trends for all mammals covered in the TMP schemes, information on progress with improving species coverage, and explain more about the uses of the information collected by volunteers.



TMP projects in 2007

Bat monitoring diversifies



Bechstein's bat, one of the UK's rarest bats, is a BAP priority species and is on Annex II of the Habitats Directive, with Special Areas of Conservation designated to protect its roosts and habitat. © Hugh Clark/BCT

The *National Bat Monitoring Programme (NBMP)*, run by the Bat Conservation Trust (BCT) since 1996, currently monitors 11 of our 16 resident species using a network of volunteers, and continues to encompass additional species. Starting in 2008, members of county bat groups are being trained to participate in a three-year project using new monitoring techniques, which aims to establish the distribution of Bechstein's, a rare woodland bat that is difficult to survey.

European and international bat monitoring is being developed through the Darwin Initiative funded *iBats* project www.ibats.org.uk. A partnership of BCT, Zoological Society of London and local bat groups has developed pilot car surveys in Romania and Bulgaria, with plans for surveys in Hungary, Moldova, Mexico, Madagascar, Thailand, New York and Mongolia for 2008. The car survey technique, currently being used in the *BCT/MTUK Bats and Roadside Mammals Survey*, delivers large amounts of information on bats and other mammals with minimal surveyor involvement. It was originally

Red squirrel is a BAP priority species and is now confined to Scotland with small isolated populations in other parts of the UK. Developing effective monitoring methods will help efforts to conserve the species. © David McAllister

developed through collaboration between government, NGOs and academic institutions in Ireland and the UK.

Bird surveys continue to deliver mammal data

The *BTO/JNCC/RSPB Breeding Bird Survey (BBS)* and the *Waterways Breeding Bird Survey (WBBS)* together continue to provide information for 18 mammal species. In 2006 mammals were seen on 2740 BBS 1-km squares (about 85% of the total). Two species (rabbit and grey squirrel) were recorded on more than 1000 squares. The WBBS has support for the next three years from the Environment Agency (EA) and currently detects otter, water vole and mink on about 10% of the 250 to 300 stretches of waterway across the UK that are covered in the survey.

Dormouse nest boxes house other species

The *National Dormouse Monitoring Programme (NDMP)* run by People's Trust for Endangered Species (PTES) currently has 211 sites being monitored for the species in England and Wales. 2007 appears to have been a poor year for the species with wet weather affecting numbers. However, surveyors identified 11 other mammal species using the nest boxes, including two weasels! The sample sizes for wood mouse, yellow necked mouse, brown long-eared bat and pygmy shrew were quite large and could yield useful information for these species in the future if recording continues.



Red squirrel monitoring guidelines

Red squirrels have been in decline for decades throughout the UK, but robust population trends are extremely difficult to obtain because the species is so elusive. Following a two-year study developing red squirrel monitoring methods, the Forestry Commission, PTES and JNCC are jointly publishing guidelines for monitoring red squirrels. The guidelines will help to identify the questions being asked about red squirrel populations and the best methods to use in particular situations.

Small mammals' surveillance under development

Small mammals are the main source of food for many species of Britain's rarer birds and carnivores and are important indicators of environmental change, with several species being sensitive to changes in agricultural practices. However, accurate assessments of the conservation status of most small mammals are not possible because of lack of information. The Mammal Society, with support from JNCC, commenced a two-year pilot scheme in 2006. Around 20 expert volunteers have spent many hours in the field over the last two years trialing a variety of methods in different combinations, including live trapping, hair tubes and sign identification, to develop a bi-annual, multi-species monitoring scheme that could be carried out

using a nationwide network of volunteers. Further information about the project can be found on the Mammal Society's website www.mammal.org.uk.



Water vole is a BAP priority species. Populations declined dramatically in the 1990s and continue to do so. © Johnny Birks

Water vole database and mapping project

Two national water vole surveys carried out over 10 years ago, indicated substantial declines in this species populations, and current monitoring of this species in the BBS/WBBS indicates continuing declines. Hampshire and Isle of Wight Wildlife Trust will be hosting the *National Water Vole Database and Mapping Project*, funded by PTES, EA and the Royal Society of Wildlife Trusts. The Project aims to develop a standard format for a water vole and mink database for all Wildlife Trusts and local record centres in England. The data sets and mapping produced by the project will be used to target water vole conservation work and assess trends in water vole and mink populations, because mink are associated with water vole decline.



Wood mouse is one of our most common and widespread small mammals and an important prey species. © Pat Morris

Table 1. UK Population Trends for Mammals in TMP Surveillance Schemes to 2006

Species	25 year trend (% change)	10 year trend (% change)*	Comments
Hedgehog	Decline (-45)	Decline (-27)	Decline in last 25 years which has continued over last 10 years
Mole	Unsure	Increase	Increase recorded in last ten years
Greater horseshoe bat	Decline (% not known)	Stable/Increase (51)	Increasing populations over last seven years in Colony Counts. Hibernation Survey indicates stable populations. Short term trend and caution required in interpreting information
Lesser horseshoe bat	Decline (% not known)	Increase (42)	Increasing populations over last seven years in both Colony Counts and Hibernation Survey
Whiskered bat	Decline (% not known)	Stable (20)	No significant change in last seven years, although apparent 20% increase in the index
Brandt's bat	Decline (% not known)	Stable (20)	No significant change in last seven years, although apparent 20% increase in the index
Natterer's bat	Decline (% not known)	Increase (64)	Increasing populations in last seven years from Hibernation Survey, Colony Counts indicate stable populations
Daubenton's bat	Decline (% not known)	Increase (17)	Increasing populations over last seven years in Field Survey. Hibernation Survey indicates 24% increase in the index, but this is not significant
Serotine	Decline (% not known)	Stable (28)	No significant change over last seven years, although apparent 28% increase in the index
Noctule	Decline (% not known)	Stable (-8)	No significant change over last seven years from Field Survey
Common pipistrelle	Decline (% not known)	Increase (55)	Increasing populations over last seven years in Field Survey, Colony Counts indicate significant decline of 36%, but Field Survey most robust result because of behaviour of the species
Soprano pipistrelle	Decline (% not known)	Stable/Decline (-10 to -29)	Stable or declining populations. Decline in index of 29% in Colony Counts. However, the Field Survey indicates stable populations and this is considered more robust
Brown long-eared bat	Decline (% not known)	Stable (6)	Stable populations over last seven years
Rabbit	Increase (161)	Decline (-29 to -34)	A long-term increase over 25 years, but with significant declines recorded in last 10 years
Brown hare	Increase since 1980s (32)	Increase/Decline (22 to -11)	Unclear trend. A significant long-term decline has been reversed in the last 25 years and has become a significant increase in the last 10 years according to NGC. BBS shows significant decline over last 10 years
Mountain hare	Stable/Cycling (40)	Decline (-22 to -33)	No long-term significant changes detected in this species in NGC, due to cycling populations. However, 10 year trend shows significant decline in BBS
Irish hare	Decline	Stable	Trends measured since 2002 so very short-term. Indicate stable but fluctuating populations

Grey squirrel	Increase (100)	Increase (36)	Long-term increase over last 25 years, with a more rapid increase in last 10 years
Water vole	Decline	Decline	Long term decline has continued in last 10 years. Percentage change not known at present
House mouse	Decline/Stable	Stable	Stable populations in England indicated by the English House Condition Survey results
Common rat	Increase (80)	Increase (91)	A long-term increase over last 25 years and continuing more rapidly over last 10 years
Hazel dormouse	Decline (% not known)	Decline (-23)	Indications of a continued decline
Fox	Increase (74)	Stable/Decline (4 to -55)	Unclear trend. A long-term increase over last 25 years has stabilised over last 10 years according to NGC, but become significant decline according to BBS
Goat	Increase (36)	Increase (22)	A long-term increase has continued over last 10 years
Weasel	Stable (14)	Increase (36)	Long-term trend suggests stable populations with increasing trend in last 10 years
Polecat	Stable (-13)	Stable (3)	Historic declines seems to have halted over the last 25 years. There are indications of increasing distribution and populations across England
Mink	Decline (-42)	Decline (-31)	Historic increases have changed to declines over the last 25 years that have continued over the last 10 years
Badger	Increase	Increase	A significant increase in last 10 years. Percentage change not available because of data analysis method
Otter	Decline then Increase since 1980s	Increase/Stable	The National Otter Surveys have registered an increase since 1980s. Annual monitoring indicates stable populations in last 10 years
Feral/domestic cat	Decline (-32)	Stable (-13)	A decline over last 25 years, but no significant change over last 10 years
Red deer	Increase (60)	Stable (11)	A long-term increase over last 25 years, but with stable populations over the last 10 years
Sika deer	Increase (92)	Increase (33)	Long-term increase in last 20 years (25 year trends not available). Ten year trend indicates continued increase
Fallow deer	Increase (131)	Increase (37)	Long term increasing populations that have continued over last 10 years
Roe deer	Increase (103)	Increase (23 to 30)	A long-term increase over last 25 years, with continued increase in last 10 years
Muntjac	Increase (1268)	Increase (128)	Long-term increase over last 25 years, with continued increase in last 10 years

KEY

Green = native; Blue = non-native; Bold indicates statistically significant changes. **Percentage change in brackets; *sometimes more than one survey result is given, where results differ markedly.**

Trend information from: National Gamebag Census (NGC) report: 2008, run by the Game and Wildlife Conservation Trust with additional funding from JNCC; The State of UK's Bats, 2008, with data from the National Bat Monitoring Programme (NBMP), run by the Bat Conservation Trust/JNCC Partnership; Breeding Bird Survey (BBS) Mammal Data report 2008. BBS run by BTO/JNCC/RSPB Partnership, and National Dormouse Monitoring Programme run by PTES/Natural England Partnership. All reports available to download from TMP website, www.trackingmammals.org



Scottish wildcat is a BAP priority and European protected species and is under severe threat. © Ewan A Macdonald

Wildcat monitoring

The Scottish wildcat, one of Scotland's rarest and most secretive mammals, is the last surviving native member of the cat family to be found in the wild in Britain. Now unique to Scotland, it has been listed in Scotland's Species Action Framework, to improve its habitat and reduce threats of hybridisation with feral domestic cats. *The 2008-2009 Scottish Wildcat Survey*, run by Scottish Natural Heritage (SNH), is the first national survey of wildcats for 20 years. It aims to chart the health and number of the native population across the country to assess its current survival prospects as a distinct Scottish species. SNH is calling on visitors and workers in the outdoors to be alert for any sightings of the species.

Polecat monitoring

The Vincent Wildlife Trust will soon be launching the report of its *Polecat Survey of Britain 2004-2006*. Author JDS Birks provides 66 pages of information on the polecat's distribution, status and conservation since the last national polecat survey of 1993-1997. The report concludes with advice on conservation action for the polecat, a new BAP priority species.

Polecat is a BAP priority species. It is making a comeback across England from its Welsh stronghold. © Pat Morris

How is the information used?

Making data available through the NBN

The participation of thousands of volunteers in mammal and other surveys means that there are millions of species records held across the UK by organisations running surveys. The data are much more useful if made publicly available and the National Biodiversity Network (NBN) Gateway now provides access to nearly 28 million records on species distribution. The NBN Gateway has mammal data from the National Otter Surveys, the National Dormouse Monitoring Programme, the BCT/MTUK car survey, the BBS and WBBS and the NBMP Daubenton's Waterway Survey. In 2008 data from the other surveys in the NBMP will be made generally available.

Assessing conservation status using monitoring data

2007 saw the culmination of two major conservation status assessments, the review of the UK Biodiversity Action Plan priority list of species and habitats, and the EU Habitats Directive conservation status assessments for European protected species and habitats. Criteria for assessment were different but both processes relied quite heavily on monitoring data to provide evidence on the status of individual species.

As a result of the BAP review there are now 1,149 species on the UK BAP priority list, 18 of which are mammals.



BAP priority mammals

Insectivores / bats

hedgehog; greater horseshoe, lesser horseshoe, barbastelle, Bechstein's, soprano pipistrelle, noctule, brown long-eared bat

Lagomorphs

mountain hare, brown hare

Rodents

red squirrel, water vole, hazel dormouse

Carnivores

Scottish wildcat, otter, pine marten, polecat

Twenty-two mammals that are listed on the Habitats Directive Annexes and have breeding populations in the UK had full conservation status assessments.

Results of mammal Conservation Status

Assessments

Favourable

lesser horseshoe, common pipistrelle, Daubenton's, Natterer's, brown long-eared bat; otter, pine marten, polecat

Unfavourable Inadequate

Greater horseshoe, Bechstein's bat; mountain hare

Unfavourable Bad

Hazel dormouse, wildcat

Unknown

Barbastelle, soprano pipistrelle, Brandt's, whiskered, noctule, Nathusius' pipistrelle, Leisler's, grey long-eared, serotine bat

Species assessed as **Favourable** are likely to prosper in the near future without change to current management, whereas those that are **Unfavourable – Bad** are considered to be under severe threat, requiring urgent conservation action.

One similarity between the UK and European assessments is the paucity of information on habitat availability and use by species. This contributed to the relatively large number of European mammal assessments that were classed as Unknown. To deal with the problem, all BAP priority species are being linked to BAP priority habitats to deliver future action plans. A strategy for UK surveillance and monitoring is being developed, which will include some coverage of all the European protected species and habitats to ensure better information is available next time conservation status is assessed in 2013.

Assessing effects of human induced pressures

The increasing body of mammal data, along with other species and habitat data provides an opportunity to carry out combined analyses to begin to explain why changes might be occurring. We are particularly interested in looking at human induced pressures on the environment, such as changes to size and structure of wildlife habitats, the effects of certain kinds of pollution, whether hunting, fishing and forms of accidental killing such as road deaths are affecting populations, the effects of non-native species and of course, the overarching effects of climate change.

Soprano pipistrelle is a BAP priority and European Protected species with an 'Unknown' conservation status because of lack of information on population size and habitat availability. © John Kakzanow/BCT





The organisations in the TMP extend their grateful thanks to all the volunteers for their generously given time and expertise. We really appreciate and need your continued support to maintain and develop the information base on UK mammals.

The Tracking Mammals Partnership is made up of 25 organisations with a variety of interests in mammals. **UK Mammals: Species Status and Population Trends, First Report by the Tracking Mammals Partnership**, published in 2005, can be obtained from Natural History Book Services www.nhbs.com or from the TMP website www.trackingmammals.org.

Surveys that you can participate in and the organisations that run them

- Bat Conservation Trust: **National Bat Monitoring Programme** www.bats.org.uk
British Deer Society: **Great British Deer Survey** www.bds.org.uk
British Trust for Ornithology: **Breeding Bird Survey;**
Waterways Breeding Bird Survey; Garden BirdWatch. www.bto.org
(these surveys collect data on mammals as well as birds)
- The Game and Wildlife Conservation Trust: **National Gamebag Census.** www.gct.org.uk
People's Trust for Endangered Species/Mammals Trust UK: **National Dormouse Monitoring Programme; Mammals on Roads; Living with Mammals; MoleWatch.** www.ptes.org
- The Mammal Society: **National Owl Pellet Survey; Small Mammal Survey.** www.mammal.org.uk

Other organisations participating in TMP

- Bristol University www.bris.ac.uk
British Association for Shooting and Conservation www.basc.org.uk
Central Science Laboratory www.csl.gov.uk
Countryside Council for Wales www.ccw.gov.uk
Defence Estates www.defence-estates.mod.uk
Deer Commission for Scotland www.dcs.gov.uk
Deer Initiative www.thedeerinitiative.co.uk
- Department for Environment, Food and Rural Affairs (Defra) www.defra.gov.uk
Environment Agency www.environment-agency.gov.uk
Environment and Heritage Service (Northern Ireland) www.ehsni.gov.uk
Forestry Commission www.forestry.gov.uk
Joint Nature Conservation Committee www.jncc.gov.uk
Natural England www.naturalengland.org.uk
Queens University, Belfast www.qub.ac.uk
Royal Holloway University of London www.rhul.ac.uk
Scottish Natural Heritage www.snh.gov.uk
Welsh Assembly Government www.wales.gov.uk
The Wildlife Trusts www.wildlifetrusts.org
Wildlife Conservation Research Unit, (University of Oxford) www.wildcru.org

Also participating: National Biodiversity Network Trust www.nbn.org.uk
Vincent Wildlife Trust: www.vwt.org.uk

Front page photographs left to right: Harvest mouse is a BAP priority species © Pat Morris, noctule is a BAP priority species © Hugh Clark/BCT, pine marten is a BAP priority species with increasing populations in Scotland, but of unknown status in the rest of the UK. A recent survey in Wales confirmed the presence of the species from DNA analysis of scats © Frank Greenaway/VWT. Designed and printed by Statusdesign.co.uk

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