

**European Community Directive  
on the Conservation of Natural Habitats  
and of Wild Fauna and Flora  
(92/43/EEC)**

**Second Report by the United Kingdom under  
Article 17  
on the implementation of the Directive  
from January 2001 to December 2006**


**Conservation status assessment for  
Species:**

**S1304 - *Rhinolophus ferrumequinum* - Greater  
horseshoe bat**

The information in this assessment corresponds to the "species fact sheet" submitted by the UK to the European Union in February 2008 (second and final submission). Please note that this is a section of the UK's report. For the complete report visit <http://www.jncc.gov.uk/article17>

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**Species Name: *Rhinolophus ferrumequinum***

<b>1. National level</b>	
Species Code	S1304
Member State	United Kingdom
Biogeographic regions concerned within the Member state	ATL
1.1 Range map	

1.2 Distribution map



**2. Biogeographic level**

2.1 Biogeographic region

ATL

2.2 Published sources and/or websites

BARR, C.J. & GILLESPIE, M.K. 2000 Estimating hedgerow length and pattern characteristics in Great Britain using Countryside Survey data. *Journal of Environmental Management*, 60, 23-32.

BAT CONSERVATION TRUST. 2006. The National Bat Monitoring Programme Annual Report 2005. Available to download from Bat Conservation Trust website ([www.bats.org.uk](http://www.bats.org.uk)) and Tracking Mammals Partnership website ([www.trackingmammals.org](http://www.trackingmammals.org)).

BATTERSBY, J (Ed.) & TRACKING MAMMALS PARTNERSHIP. 2005. UK Mammals: Species Status and Population Trends. JNCC/Tracking Mammals Partnership.

CORBET, G.B. & HARRIS, S. 1991 *The Handbook of British mammals* (3rd Edition) Blackwell Scientific Publications, Oxford.

DUVERGE, P.L. & JONES, G. 1994 Greater Horseshoe Bats - activity foraging behaviour and habitat use. *British Wildlife* 6: 69-77.

ENGLISH NATURE 2000. Managing landscapes for the greater horseshoe bat. English Nature, Peterborough.

FOX, R., CONRAD, K.F., PARSONS, M.F., WARREN, M.S. & WOIWOD, I.P. 2006. The state of Britain's larger moths. Butterfly Conservation and Rothamsted Research, Wareham, Dorset.

FULLER, R.M., SMITH, G.M., SANDERSON, J.M., HILL R.A., THOMSON A.G., COX R., BROWN N.J., CLARKE R.T., ROTHERY P. & GERARD F.F. 2002. Countryside Survey 2000 Module 7, Land Cover Map 2000 Final Report. CEH  
([http://www.cs2000.org.uk/Final\\_reports/M07\\_final\\_report\\_pt1.pdf](http://www.cs2000.org.uk/Final_reports/M07_final_report_pt1.pdf))

HAINES-YOUNG, R.H., BARR, C.J., BLACK, H.I.J., BRIGGS, D.J., BUNCE, R.G.H.,

CLARKE, R.T., COOPER, A., DAWSON, F.H., FIRBANK, L.G., FULLER, R.M., FURSE,

M.T., GILLESPIE, M.K., HILL, R., HORNUNG, M., HOWARD, D.C., McCANN, T.,

MORECROFT, M.D., PETIT, S., SIER, A.R.J., SMART, S.M., SMITH, G.M., STOTT,

A.P., STUART, R.C. & WATKINS, J.W. 2000. Accounting for nature: assessing habitats in

the UK countryside. Countryside Survey 2000. DETR, HMSO, London.

HARRIS, S., MORRIS, P., WRAY, S. and YALDEN, D. 1995. A review of British Mammals: population estimates and conservation status of British mammals other than cetaceans. JNCC, Peterborough.

RANSOME, R. D. 2000. Monitoring diets and population changes of greater horseshoe bats in Gloucestershire and Somerset. *English Nature Report* 341. Peterborough.

RANSOME, R.D. 1997. The management of greater horseshoe bat feeding areas to enhance population levels. *English Nature Research Reports* 241. Peterborough.

RANSOME, R. D. & MCOWAT, T. P. 1994. Birth timing and population changes in greater horseshoe bat colonies (*Rhinolophus ferrumequinum*) are synchronised by climatic temperature. *Zoological Journal of the Linnean Society*, 112, 337-351.

RANSOME, R.D. 1990. *The Natural History of Hibernating Bats*. Christopher Helm.

RANSOME, R.D. 1989. Population changes of greater horseshoe bats studied near Bristol over the past 26 years. *Biological Journal of the Linnean Society*, 38, 71-82

	<p>RICHARDSON, P. 2000. Distribution atlas of bats in Britain and Ireland 1980-1999. Bat Conservation Trust, London.</p> <p>ROBINSON, R. A., LEARMONTH, J. A. HUTSON A. M. , MACLEOD, C. D., SPARKS T. H., LEECH D I., PIERCE G. J., REHFISCH M. M. 1 &amp; CRICK H.Q.P. 2005 Climate change and migratory species. BTO, Thetford.</p> <p>SPENCER, J.W. &amp; KIRBY, K.J. 1992. An inventory of ancient woodland for England and Wales. Biological Conservation, 62, 77-93</p> <p>STEBBINGS, R.E. 1989. Conservation of the greater horseshoe bat: is the long term survival of the greater horseshoe bat a viable concept? British Wildlife, 1, 14-19.</p> <p>STEBBINGS, R. E. &amp; Arnold, H. R. 1987. Assessment of trends in size and structure of a colony of the greater horseshoe bat. Symposia-Zoological Society of London, 58, 7-24.</p> <p>Map Data Sources</p> <p>Biological Records Centre - Mammals Database 100m; and Natural England - Batsites inventory for Britain (via NBN Gateway)</p> <p>Bat Conservation Trust National Bat Monitoring Programme (NBMP) Colony Survey (1998 - 2005), Hibernation Survey (1997-2005)</p>
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### 2.3 Range of species in the biogeographic region or marine region

2.3.1 Surface range of the species (sq km)	50543
2.3.2 Date of range determination	1990-2006
2.3.3 Quality of data concerning range	Moderate
2.3.4 Range trend	Stable (=)
2.3.5 Range trend magnitude (%)	Not applicable
2.3.6 Range trend period	1990-2006
2.3.7 Reasons for reported trend	Not applicable

### 2.4 Population

2.4.1 Population size estimation	Minimum	6600	Maximum	Unknown
	Units	Individuals		
2.4.2 Date of population estimation	2005			
2.4.3 Method used for population estimation	3 - From comprehensive inventory			
2.4.4 Quality of population data	Good			
2.4.5 Population trend	Stable (=)			
2.4.6 Population trend magnitude (%)	Not applicable			
2.4.7 Population trend period	1998-2005			
2.4.8 Reasons for reported trend	3 - Direct human influence;			

2.4.9 Justification of % thresholds for trends (optional)	Not Applicable
2.4.10 Main pressures	101 - Modification of cultivation practices; 110 - Use of pesticides; 140 - Grazing; 151 - Removal of hedges and copses; 160 - General Forestry management; 164 - Forestry clearance; 490 - Other urbanisation, industrial and similar activities; 624 - mountaineering, rock climbing, speliology;
2.4.11 Threats	110 - Use of pesticides; 141 - Abandonment of pastoral systems; 164 - Forestry clearance; 624 - mountaineering, rock climbing, speliology;
<b>2.5 Habitat for the species in the biogeographic region or marine region</b>	
2.5 Habitats for the species	<p><i>R. ferrumequinum</i> mainly occupies altitudes from sea level and lowlands, usually below 800m. The species requires a mosaic of grazed pasture and woodlands within a radius of 4km from roost sites. This should provide enough food during the spring and summer months for pregnant and lactating females, as well as for the young on their early foraging flights; usually within 1km from the roost. The ideal habitat is a landscape of permanent pasture and ancient, deciduous woodland, linked with an abundance of tall bushy hedges with a good supply of insect food (Ransome 1997; 2000).</p> <p>A study on the preferred habitat of <i>R. ferrumequinum</i> carried out over a number of different sites suggests in order of preference, habitats most often visited are: Cattle pastures (39%) &gt; Ancient semi-natural woodland (19%) &gt; Meadows (10%) = Other pastures (10%) &gt; Broad leaved woodlands &gt; Others (Ransome &amp; McOwat 1994). The order of preference changes throughout the seasons with woodlands being utilised more frequently in cooler months, possibly as they maintain a 1 – 1.5oC higher temperature than open pasture which may be enough to encourage insect flight.</p> <p><i>R. ferrumequinum</i> has quite specific roosting requirements. Maternity roosts are usually in attics of old buildings, but also caves and mines will be utilised. The species hibernates underground in caves and disused mines and occasionally cellars and tunnels. It prefers warmer sites than those chosen by other bat species, 11oC in October down to 7oC in February (Ransome, 1990) ideally with a high humidity &gt;90% (Harris et al. 1995). If the temperature fluctuates individuals will awake from hibernation to search for a more suitable site. When hibernating they are especially prone to arousal by lights or noises when at 9oC or above, or at dusk (Corbett &amp; Harris 1992). <i>R. ferrumequinum</i> is very faithful to its roosts and hibernation sites are generally close to maternity roosts.</p>
2.5.2 Area estimation (sq km)	Unknown
2.5.3 Date of estimation	05/2007
2.5.4 Quality of data	Poor
2.5.5 Trend of the habitat	Unknown (X)
2.5.6 Trend period	1990-2000
2.5.7 Reasons for reported trend	Not applicable
<b>2.6 Future prospects</b>	
2.6 Future prospects for the species	Good prospects_Species expected to survive and prosper
<b>2.7 Complementary information</b>	

2.7.1 Favourable reference range (sq km)	50543
2.7.2 Favourable reference population	8800
2.7.3 Suitable Habitat for the species	Unknown
2.7.4 Other relevant information	
<b>2.8 Conclusions</b> <i>(assessment of conservation status at end of reporting period)</i>	
(2.3) Range	(FV) - Favourable
(2.4) Population	(U1+) - Inadequate but improving
(2.5) Habitat for the species	(XX) - Unknown
(2.6) Future prospects	(U1+) - Inadequate but improving
Overall assessment	(U1+) - Inadequate but improving