

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

Supporting documentation for the
Third Report by the United Kingdom under
Article 17

on the implementation of the Directive
from January 2007 to December 2012
Conservation status assessment for

Species:

S1308 - Barbastelle (*Barbastella barbastellus*)

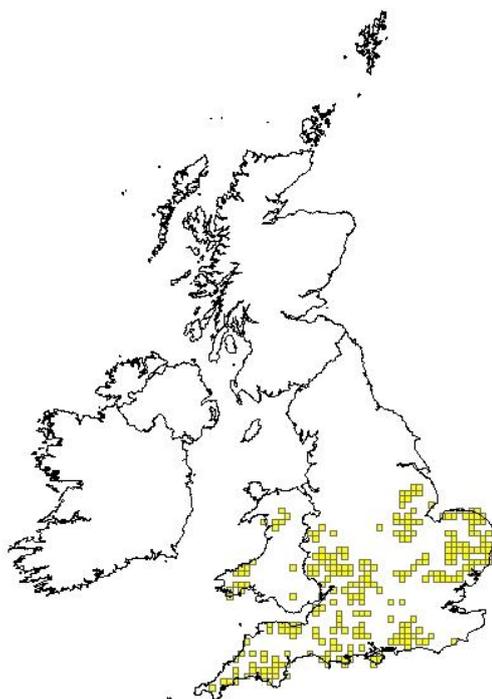
IMPORTANT NOTE – PLEASE READ

- The country-level reporting information contained in this document is a contribution to the Article 17 UK report for the habitat/species concerned.
- It has been provided by **Natural England** and refers only to the state of the habitat/species in **England** - it does not constitute an assessment for the whole of the UK.
- The Article 17 UK Approach document provides details on how this information has been used and, combined with information supplied by other Statutory Nature Conservation Bodies
- The format of the document is closely aligned to that set out by the European Commission for Member State reporting – as a result, some of the fields are not applicable at a country-level and have deliberately been left blank – in addition, the content of most fields is constrained by the EC reporting categories.

Reporting format on the 'main results of the surveillance under Article 11' for Annex II, IV & V species

<i>Field name</i>	<i>Brief explanations</i>	
0.2 Species	0.2.1 Species code	S1308
	0.2.2 Species scientific name	<i>Barbastella barbastellus</i>
	0.2.3 Alternative species scientific name Optional	
	0.2.4 Common name Optional	Barbastelle

1.1 Maps		
1.1.1 Distribution map		Sensitive False
Records are scattered, however, the species occurs in England south of a line from the Mersey to the Humber.		



1.1.2 Method used - map	Estimate based on partial data with some extrapolation and/or modelling	
1.1.3 Year or period	2000-2012	
1.1.4 Additional distribution map	False	

1.1.5 Range map	

2.1 Biogeographical region & marine regions	ATL
2.2 Published sources	<p>"BAT CONSERVATION TRUST, 2012. The National Bat Monitoring Programme. Annual Report 2011. Bat Conservation Trust, London. (www.bats.org.uk)</p> <p>BATTERSBY, J (Ed.). 2005. UK Mammals: Species Status and Population Trends. JNCC/Tracking Mammals Partnership.</p> <p>BOYE, P. & DIETZ, M. 2005. Research Report No 661: Development of good practice guidelines for woodland management for bats. English Nature, Peterborough.</p> <p>CAREY, P.D., WALLIS, S.M., EMMETT, B.E., MASKELL, L.C., MURPHY, J., NORTON, L.R., SIMPSON, I.C., SMART, S.S. 2008. Countryside Survey: UK headline messages from 2007. Centre for Ecology & Hydrology, Wallingford.</p> <p>GREENAWAY, F. 2008. Barbastelle. Pages 362-364 In HARRIS, S & YALDEN, D.W. Mammals of the British Isles: Handbook, 4th edition. The Mammal Society, Southampton.799pp.</p> <p>HARRIS, S., MORRIS, P., WRAY, S. & YALDEN, D. 1995. A review of British Mammals: population estimates and conservation status of British mammals other than cetaceans. JNCC, Peterborough.</p> <p>MACDONALD, D.W. & TATTERSALL, F. (2001) Britain's Mammals: The Challenge for Conservation. People's Trust for Endangered Species, London.</p> <p>MCLEOD, C.R., YEO, M., BROWN, A.E., BURN, A.J., HOPKINS, J.J. & WAY, S.F., eds. 2002. The Habitats Directive: Selection of Special Areas of Conservation in the UK, 2nd edn. Joint Nature Conservation Committee, Peterborough</p> <p>RICHARDSON, P. (2000) Distribution atlas of bats in Britain and Ireland 1980-1999. Bat Conservation Trust, London.</p> <p>MACDONALD, D.W. & BURNHAM, D. (2011). The State of Britain's Mammals 2011. The People's Trust for Endangered Species.</p> <p>ZEALE, M.R.K. 2011. Conservation biology of the barbastelle (<i>Barbastella barbastellus</i>): applications of spatial modelling, ecology and molecular analysis of diet. PhD Thesis, University of Bristol."</p>

2.3 Range	
2.3.1 Surface area Range	
2.3.2 Method used Surface area of Range	Estimate based on partial data with some extrapolation and/or modelling

2.3.3 Short-term trend Period	2001-2012	
2.3.4 Short term trend Trend direction	increase	
	The widespread use of bat detectors and sound analysis software has greatly increased the number of records of the species and this improved detection has consolidated and increased slightly its known range.	
2.3.5 Short-term trend Magnitude	a) Minimum	
	b) Maximum	
2.3.6 Long-term trend Period		
2.3.7 Long-term trend Trend direction		
2.3.8 Long-term trend Magnitude Optional	a) Minimum	
	b) Maximum	
2.3.9 Favourable reference range	a) Value in km²	
	b) Operator for FRR	
	c) FRR is unknown (indicated by "true")	False
	d) Method used to set FRR	
2.3.10 Reason for change Is the difference between the reported value in 2.3.1 and the previous reporting round	a) Genuine change?	True

mainly due to...	b) Improved knowledge/more accurate data?	True
	B. <i>Barbastellus</i> is a rare species throughout its UK range, with relatively few roosts known. The widespread use of bat detectors and sound analysis software has greatly increased the number of records of the species and this improved detection has consolidated and increased slightly its known range.	
	c) Use of different method (e.g. "Range tool")?	False

2.4 Population		
2.4.1 Population size estimation (using individuals or agreed exceptions where possible)	a) Unit	number of individuals
	b) Minimum	4500
	c) Maximum	4500
2.4.2 Population size estimation (using population unit other than individuals) Optional (<i>if 2.4.1 filled in</i>)	a) Unit	
	b) Minimum	
	c) Maximum	
2.4.3 Additional information on population estimates / conversion Optional	a) Definition of "locality"	
	b) Method to convert data	
	c) Problems encountered to provide population size estimation	
2.4.4 Year or period	1995-	
	The population estimate quoted was based on subjective estimates of relative abundance because there were few density estimates and a paucity of quantified data on bat numbers in relation to habitat associations and patterns of land use. For this species the estimate was believed on subjective criteria to be within the right order of magnitude but no greater degree of accuracy was thought to have been achieved. Source - HARRIS, S., MORRIS, P., WRAY, S. & YALDEN, D. 1995. A	

	review of British Mammals: population estimates and conservation status of British mammals other than cetaceans. JNCC, Peterborough	
2.4.5 Method used	Estimate based on expert opinion with no or minimal sampling	
Population size		
2.4.6 Short-term trend	2001-2012	
Period		
2.4.7 Short-term trend	unknown	
Trend direction	This is a rare species throughout its UK range. Insufficient data are currently available to detect any trend. Source - BAT CONSERVATION TRUST, 2012. The National Bat Monitoring Programme. Annual Report 2011. Bat Conservation Trust, London. (www.bats.org.uk)	
2.4.8 Short-term trend	Magnitude	
	a) Minimum	
	b) Maximum	
	c) Confidence interval	
2.4.9 Short-term trend	Absent data	
Method used		
2.4.10 Long-term trend –		
Period		
2.4.11 Long-term trend	unknown	
Trend direction	This is a rare species throughout its UK range. Insufficient data are currently available to detect any trend.	
2.4.12 Long-term trend	Magnitude	
	a) Minimum	
	b) Maximum	
	c) Confidence interval	
2.4.13 Long term trend	0	

Method used		
2.4.14 Favourable reference population	a) Number of individuals/agreed exceptions/other units	
	b) Operator	
	c) FRP is unknown indicated by "true"	False
	d) Method used to set FRP	
2.4.15 Reason for change Is the difference between the value reported at 2.4.1 or 2.4.2 and the previous reporting round mainly due to:	a) Genuine change?	False
	b) Improved knowledge/more accurate data?	False
	c) Use of different method (e.g. "Range tool")?	False

2.5 Habitat for the species	
2.5.1 Area estimation	<p>23800</p> <p>B. Barbastellus requires a complex mosaic of habitats to support foraging, roosting and commuting behaviour. Boye & Dietz (2005) provides a good overview of this species' habitat requirements. Foraging areas are predominantly in woodlands or parks but they can also stretch along forest edges, tree rows, hedges, waterways, or field roads with trees. The home range extends up to 8-10 km around the roost.</p> <p>Most summer roosts are found in narrow crevices in trees or buildings but the preferred natural roost sites seem to be behind loose bark. Sometimes woodpecker holes are used and the species is frequently found behind window shutters or wall cover (shingles from wood or slate) on houses. On rare occasions the species is observed in bat boxes. During spring and summer, roost sites are changed frequently, sometimes every day, so that the group composition varies</p>

	<p>continuously.</p> <p>Winter roosts are known in caves, old inns and bunkers. Most of the population probably hibernates in tree crevices and walls of houses. Summer and winter roosts seem to be a maximum of 20km apart.</p> <p>It is unknown whether the amount of habitat in the UK is sufficient to support a viable population of the species.</p>	
2.5.2 Year or period	2012-	
2.5.3 Method used Habitat for the species	<p>Estimate based on expert opinion with no or minimal sampling</p> <p>Detailed information is available on the habitat requirements/limitations of this species. Although there is some information on the roosting and foraging requirements for this species. It is not possible to quantify the habitat required for a population to be at favourable conservation status, nor state whether that area or quality of habitat is available within the range of the species in the UK.</p> <p>To obtain an estimate of habitat used by the species, it would be necessary to first identify all of the foraging and roosting habitat located within the current range boundary; determine whether or not each of these features were being used and subsequently calculate the combined area of all currently used habitats. This process would require very detailed habitat information at a fine scale across the UK. We do not currently have this level of information.</p> <p>As this is a generalist species, using a mosaic of habitats, the area of distribution is used as an estimate of habitat area. This is calculated from the number of occupied 10km squares in the distribution map.</p>	
2.5.4 Quality of the habitat	a) Habitat quality	Unknown
	b) Assessment method	There is no/or insufficient reliable information to assess the quality of the habitat where the species occurs at this time.
2.5.5 Short-term trend Period	2001-2012	
2.5.6 Short-term trend Trend direction	unknown	
2.5.7 Long-term trend Period		
2.5.8 Long-term trend Trend direction		
2.5.9 Area of suitable habitat for the species	a) Value in km²	23800
	b) Absence of data indicated as '0'	

2.5.10 Reason for change Is the difference between the value reported at 2.5.1 and the previous reporting round mainly due to	a) Genuine change?	False
	b) Improved knowledge/more accurate data?	False
	c) Use of different method (e.g. "Range tool")?	False

2.6 Main pressures		
a) Pressure	b) Ranking	c) Pollution qualifier
	H = high importance M = medium importance L = low importance	
A10: Restructuring agricultural land holding	H	
B02: Forest and Plantation management & use	H	
A07: use of biocides, hormones and chemicals	M	
J02: human induced changes in hydraulic conditions	M	
E01: Urbanised areas, human habitation	L	

B. *Barbastellus* is predominantly a woodland species, roosting most commonly under loose bark on large old trees. Forestry operations which prevent the maintenance or development of this resource are likely to have an adverse effect. This species feeds mainly on moths, so it is likely to be adversely affected by agricultural operations, including pesticide use that affect the biomass of suitable prey.

2.6.1 Method used – Pressures	based only on expert judgements

2.7 Threats		
a) Threat	b) Ranking	c) Pollution qualifier
	H = high importance M = medium importance L = low importance	
A10: Restructuring agricultural land holding	H	

B02: Forest and Plantation management & use	H	
A07: use of biocides, hormones and chemicals	M	
E01: Urbanised areas, human habitation	L	

B. *Barbastellus* is predominantly a woodland species, roosting most commonly under loose bark on large old trees. Forestry operations which prevent the maintenance or development of this resource are likely to have an adverse effect. This species feeds mainly on moths, so is likely to be adversely affected by agricultural operations, including pesticide use that affect the biomass of suitable prey.

2.7.1 Method used – Threats expert opinion

2.8 Complementary information

2.8.1 Justification of % thresholds for trends

2.8.2 Other relevant information

2.8.3 Trans-boundary assessment

2.9 Conclusions (*assessment of conservation status at end of reporting period*)

Please refer to the United Kingdom assessment for this species.

3 Natura 2000 coverage & conservation measures - Annex II species (*only applies to species listed under Annex II of the Directive*)

3.1 Population

3.1.1 Population size

Estimation of population size included in the SAC network

a) Unit

number of individuals

b) Minimum

	c) Maximum	
3.1.2 Method used	Absent data	Due to the difficulties in conducting surveys for this species it is not possible to provide an accurate figure for the size of the Barbastelle bat population within the SAC sites which have been notified for this species interest. However, 99% of the habitat which has been notified as a SAC site for this species is in favourable or unfavourable recovering condition.
3.1.3 Trend of population size within the network (short-term trend)	unknown	

3.2 Conservation measures															
Conservation measures taken (i.e. already being implemented) within the reporting period and provided information about their importance, location and evaluation.															
3.2.1 Measure	3.2.2 Type					3.2.3 Ranking H = high importance M = medium importance L = low importance	3.2.4 Location where the measure is PRIMARILY applied			3.2.5 Broad evaluation of the measure					
	a) Legal/statutory	b) Administrative	c) Contractual	d) Recurrent	e) One-off		a) Inside	b) Outside	c) Both inside & outside	a) Maintain	b) Enhance	c) Long term	d) No effect	e) Unknown	f) Not evaluated
2.0: Other agriculture-related measures				Y		M			Y			Y			
3.0: Other forestry-related measures				Y		M			Y			Y			
6.1: Establish protected areas/sites	Y					M			Y	Y					
6.3: Legal protection of habitats and species	Y					H			Y	Y					

6.4: Manage landscape features				Y		M				Y		Y				
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B. *Barbastellus* is a rare woodland species, roosting under loose bark and in tree splits and crevices. It's diet consists primarily of moths. Improvements to woodland management, assisted by land management schemes, may increase the quality of this habitat. B. *Barbastellus* travels long distances, utilising features in the landscape, so maintaining and improving these linkages will assist with its conservation.