

**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:

S1312 - Noctule (*Nyctalus noctula*)

IMPORTANT NOTE – PLEASE READ

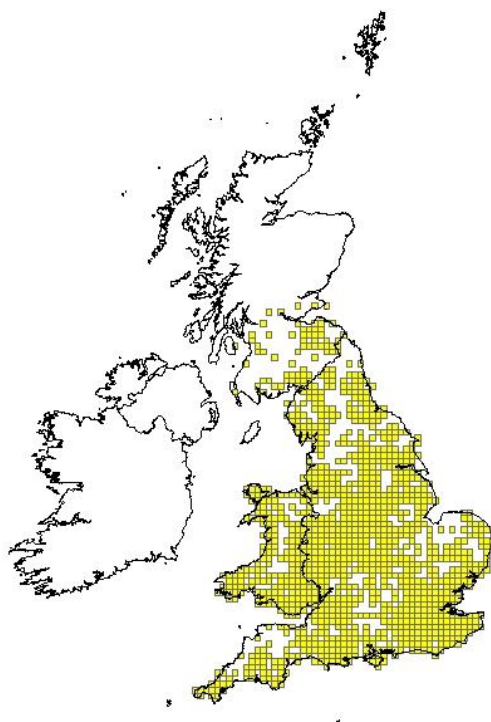
- The country-level reporting information contained in this document is a contribution to the Article 17 UK report for the habitat/species concerned.
- It has been provided by **Natural England** and refers only to the state of the habitat/species in **England** - it does not constitute an assessment 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	S1312
	0.2.2 Species scientific name	<i>Nyctalus noctula</i>
	0.2.3 Alternative species scientific name Optional	
	0.2.4 Common name Optional	Noctule

1.1 Maps

1.1.1 Distribution map		Sensitive	False
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1.1.2 Method used - map	Estimate based on partial data with some extrapolation and/or modelling
	<p>The noctule is widespread in England, but is absent from the uplands of northern England.</p> <p>Although there has been no structured distribution surveys, this species has been reasonably well recorded by local bat groups and during monitoring surveys organised by the National Bat Monitoring Programme.</p> <p>Biological Records Centre - Mammals Database 100m; Environment and Heritage Service - Species Dataset; Natural England - Batsites inventory</p>

	for Britain; Bat Conservation Trust National Bat Monitoring Programme NSP Field Survey (1998-2005) Bat Conservation Trust; Distribution atlas of bats in Britain and Ireland 1980-1999.
1.1.3 Year or period	1980-2012
	The date range has been selected to reflect the current range/surface area for the species for the following reasons: <ul style="list-style-type: none"> - There are limitations in the quality of the data available. The largest dataset (Richardson, 2000) has data ranging from 1980 - 1999, but the date of individual records within this dataset is not known. Deviating from this time period would mean having to exclude these records. - The greatest level of change affecting populations of this species probably occurred prior to 1980 and so 1980 to the present is likely to reflect current distribution and range.
1.1.4 Additional distribution map	False
1.1.5 Range map	

2.1 Biogeographical region & marine regions	ATL
2.2 Published sources	<p>"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.</p> <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 and Hydrology, Wallingford.</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>MACKIE, I.J. & RACEY, P.A. 2008. Noctule <i>Nyctalus noctula</i>. Pp 338-342 In HARRIS, S. & YALDEN, D.W. Mammals of the British Isles: Handbook 4th Edition. The Mammal Society,</p>

	<p>Southampton. 799pp.</p> <p>RICHARDSON, P. 2000. Distribution atlas of bats in Britain and Ireland 1980-1999. Bat Conservation Trust, London.</p> <p>Distribution data: Biological Records Centre - Mammals Database 100m; Natural England - Batsites inventory for Britain; Bat Conservation Trust National Bat Monitoring Programme Field Survey, Bat Conservation Trust. Distribution atlas of bats in Britain and Ireland 1980 - 1999 GB data. David Dodds (pers comm)."</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	Structured field surveys for the species have been undertaken since 1998 through the National Bat Monitoring Programme (NBMP). There has not been a full survey of every 10km square within the species range and the species is not often encountered in dwelling houses. However, the level of recording is high for this species through surveys conducted by local bat groups and those conducted for development work.				
2.3.4 Short term trend Trend direction	stable The range does not appear to have changed since historic times suggesting that the range has been stable during the specified time period 2001-2012.				
2.3.5 Short-term trend Magnitude	<table border="1" style="width: 100%;"> <tr> <td style="width: 30%;">a) Minimum</td> <td></td> </tr> <tr> <td>b) Maximum</td> <td></td> </tr> </table>	a) Minimum		b) Maximum	
a) Minimum					
b) Maximum					
2.3.6 Long-term trend Period					
2.3.7 Long-term trend Trend direction	stable				
2.3.8 Long-term trend	<table border="1" style="width: 100%;"> <tr> <td style="width: 30%;">a) Minimum</td> <td></td> </tr> </table>	a) Minimum			
a) Minimum					

Magnitude	Optional	
	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 mainly due to...	a) Genuine change?	False
	b) Improved knowledge/more accurate data?	False
	c) Use of different method (e.g. "Range tool")?	False

2.4 Population		
2.4.1 Population size estimation (using individuals or agreed exceptions where possible)	a) Unit	number of individuals
	b) Minimum	45000
	c) Maximum	45000
2.4.2 Population size estimation (using population unit other than individuals)	a) Unit	

Optional (if 2.4.1 filled in)	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-	
2.4.5 Method used Population size	Estimate based on expert opinion with no or minimal sampling The estimates by Harris et al (1995) were based on expert judgement and extrapolation from limited field surveys. The 1995 population estimate for Great Britain was based on very limited information, extrapolating from the known size of <i>Pipistrellus pipistrellus</i> colonies in relation to size of <i>N. Noctula</i> colonies following the methods described by Speakman (1991) and taking into account the relative frequency of species in bats submitted for rabies testing. Harris et al's (1995) reliability rating of the estimate was 3, meaning that it is "based on a limited amount of information on the species" and the error margins around the estimate are thought to be +/- 50%. Although the estimates date from 1995, NBMP data indicate that there is no significant population trend for this species (1997-2012), so there is no justification for updating the estimate.	
2.4.6 Short-term trend Period	1997-2012	
2.4.7 Short-term trend Trend direction	stable	
2.4.8 Short-term trend Magnitude	a) Minimum	
	b) Maximum	
	c) Confidence interval	

2.4.9 Short-term trend Method used	Estimate based on expert opinion with no or minimal sampling	
2.4.10 Long-term trend – Period		
2.4.11 Long-term trend Trend direction		
2.4.12 Long-term trend Magnitude Optional	a) Minimum	
	b) Maximum	
	c) Confidence interval	
2.4.13 Long term trend 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	False

	accurate data?	
	c) Use of different method (e.g. "Range tool")?	False

2.5 Habitat for the species			
2.5.1 Area estimation	<p>100000</p> <p>The noctule shows habitat associations with a range of habitats, feeding particularly over broadleaved woodland and pasture.</p> <p>In order to obtain an accurate estimate, 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, however, the SNCOs agreed that the area of habitat occupied by generalist species would be estimated by calculating the number of occupied 10km squares.</p> <p>MACKIE, I.J. & RACEY, P.A. 2008 Noctule <i>Nyctalus noctula</i> Pp 338-342 In HARRIS, S. & YALDEN, D.W. Mammals of the British Isles: Handbook, 4th Edition, The Mammal Society, Southampton. 799pp.</p> <p>There is thought to be a sufficient amount of habitat in the UK 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	Estimate based on expert opinion with no or minimal sampling		
2.5.4 Quality of the habitat	<table border="1"> <tr> <td>a) Habitat quality</td> <td>Unknown</td> </tr> </table> <p>N. Noctula requires a complex mosaic of habitats to support foraging, roosting and commuting behaviour. Boye and Dietz (2005) provide a good overview of this species' habitat requirements. Foraging areas may be in several parts of the landscape, all of which host a high abundance of insect fauna and offer the space needed by the fast flying N. Noctula. Large water bodies, valley pastures and open forests are preferred, but the bats also forage in other habitats and even above harvested fields and urban street lights. N. Noctula can easily make foraging flights more than 10 kilometres away from the roost site, up to a maximum of 20 kilometres. However, the main activity of a maternity colony is within a radius of about 2 kilometres from the colony's roost. Summer roosts are predominantly in woodlands and parks. Deciduous and flood forests with a high percentage of old and dead trees are of highest importance. Roosts are mostly in woodpecker holes in broad-leaved trees. Maternity colonies use several roost sites in a network, which means that the</p>	a) Habitat quality	Unknown
a) Habitat quality	Unknown		

	<p>individuals often change from one roost to another. Associations of males, which change their roost sites on average every second or third day, need at least eight tree holes suitable for roosting per square kilometre of forest. Besides tree holes, the bats also roost in bat boxes (flat constructions are preferred) and small spaces behind wall coverings of buildings or in houses. Winter roosts are mainly in forest and park trees, but large hibernation colonies also roost in buildings or rock crevices. Tree holes must provide a lot of space for a large number of bats to be a good hibernaculum for the species.</p> <p>There is no or insufficient reliable information available to determine the quality of the habitat.</p>	
	b) Assessment method	There is no or insufficient reliable information available to determine the quality of the habitat.
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	100000
	The same estimated figure that was used for 2.5.1 has been used for area of suitable habitat. It was agreed with all SNCO specialists that the same figure would be used for generalist species.	
	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	
A04: grazing	H	
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	

The noctule is predominantly a tree-roosting species, so would be vulnerable to loss of roost opportunities in dead, dying or damaged trees. Pressures that affect the biomass of flying insects, such as the widespread use of pesticides, could also affect this species.

MACKIE, I.J. & RACEY, P.A. 2008 Noctule *Nyctalus noctula* Pp 338-342 In HARRIS, S. & YALDEN, D.W. Mammals of the British Isles: Handbook, 4th Edition, The Mammal Society, Southampton. 799pp.

2.6.1 Method used – Pressures	based only on expert judgements
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2.7 Threats		
a) Threat	b) Ranking	c) Pollution qualifier
	H = high importance M = medium importance L = low importance	
A04: grazing	H	
A10: Restructuring agricultural land holding	H	
B02: Forest and Plantation management & use	H	
A07: use of biocides, hormones and chemicals	M	
C03: Renewable abiotic energy use	M	
J02: human induced changes in hydraulic conditions	M	

MACKIE, I.J. & RACEY, P.A. 2008. Noctule *Nyctalus noctula*. Pp 338-342 In HARRIS, S & YALDEN, D.W.

Mammals of the British Isles: Handbook, 4th edition. The Mammal Society, Southampton.799pp.
 NATURAL ENGLAND. 2012. Bats and Onshore wind Turbines: Interim Guidance. Natural England Technical Information Note TIN51, Natural England, Sheffield.

The noctule is predominantly a tree-roosting species, so would be vulnerable to loss of roost opportunities in dead, dying or damaged trees. Pressures that affect the biomass of flying insects, such as the widespread use of pesticides or the removal of uncultivated land, such as hedgerows or woodland, could also affect this species. This species is considered to be at high risk from onshore wind turbines, though specific data are lacking.

2.7.1 Method used – Threats	expert opinion
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2.8 Complementary information

2.8.1 Justification of % thresholds for trends	
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2.8.2 Other relevant information	
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2.8.3 Trans-boundary assessment	
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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	
	b) Minimum	
	c) Maximum	

3.1.2 Method used	
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3.1.3 Trend of population size within the network (short-term trend)	

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

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