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:

S1331 - Leisler's bat (*Nyctalus leisleri*)

**IMPORTANT NOTE – PLEASE READ**

- The country-level reporting information contained in this document is a <u>contribution</u> to the Article 17 UK report for the habitat/species concerned.
- It has been provided by **Natural England** and refers <u>only</u> to the state of the habitat/species in **England** - it does <u>not</u> 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

Field name	Brief explanations	
0.2 Species	**0.2.1 Species code**	S1331
	0.2.2 Species scientific name	*Nyctalus leisleri*
	0.2.3 Alternative species scientific name Optional	
	0.2.4 Common name Optional	Leisler's bat

1.1 Maps			
1.1.1 Distribution map		**Sensitive**	**False**
	Historically, this is a poorly-recorded species, though the widespread use of broadband bat detectors has significantly increased the number of records and extended the known distribution. Leisler's bat is considered migratory in Europe and transient individuals have been widely recorded. Widely distributed through central and southern England, rarer in the north and the south-west.		
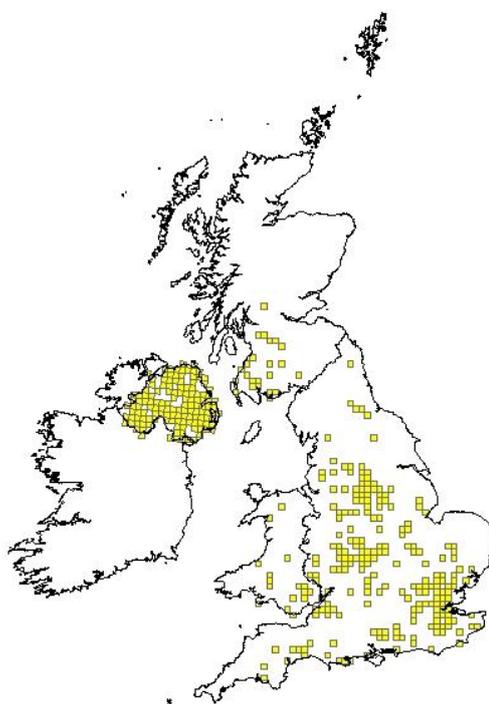
1.1.2 Method used - map	**Estimate based on partial data with some extrapolation and/or modelling**
1.1.3 Year or period	**2000-2012**

Third Report by the United Kingdom under Article 17 on the implementation of the Directive
from January 2007 to December 2012

Produced on 11/10/2013 16:19

Page 2

1.1.4 Additional distribution map	False
1.1.5 Range map	

2.1 Biogeographical region & marine regions	ATL
2.2 Published sources	"ALTRINGHAM, J.D. 2003. British Bats. The New Naturalist Library. BAT CONSERVATION TRUST, 2012. The National Bat Monitoring Programme. Annual Report 2011. Bat Conservation Trust, London. (www.bats.org.uk) BATTERSBY, J (Ed.). 2005. UK Mammals: Species Status and Population Trends. JNCC/Tracking Mammals Partnership. BOYE, P. & DIETZ, M. 2005. Research Report No 661: Development of good practice guidelines for woodland management for bats. English Nature, Peterborough. 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. MITCHELL-JONES, T.J. 2010. Bats in houses - the conservation challenge. Pp 365-378 in Species Management:challenges and solutions for the 21st century. NATURAL ENGLAND. 2012. Bats and Onshore Wind Turbines: Interim Guidance. Natural England Technical Information Note TIN051, Natural England, Sheffield. RICHARDSON, P. (2000) Distribution atlas of bats in Britain and Ireland 1980-1999. Bat Conservation Trust, London. SHEIL, C.B., JONES, G & WATERS, D. 2008. Leisler's bat Nyctalus leisleri. Pages 334-338 In HARRIS, S & YALDEN, D.W. Mammals of the British Isles: Handbook, 4th edition. The Mammal Society, Southampton.799pp."
	Leisler's bat is best monitored through bat detector surveys. The main problem with this relatively uncommon species is achieving an adequate sampling intensity to generate meaningful trend data. This has not yet been achieved.

2.3 Range	
2.3.1 Surface area Range	
	The range of the species has increased, compared with 2000 (Richardson, 2000) and 2007 (UK Article 17 report). This is believed to be the result of increased bat-detector survey efforts, particularly as part of the National Bat Monitoring Programme, though the possibility of actual range extension cannot be ruled out.
2.3.2 Method used Surface area of Range	Estimate based on partial data with some extrapolation and/or modelling

Third Report by the United Kingdom under Article 17 on the implementation of the Directive
from January 2007 to December 2012
Produced on 11/10/2013 16:19

Page 3

2.3.3 Short-term trend **Period**	**2000-2012**
	Since the early 1980's there has been an increase in the level of survey effort afforded to UK bat species following the increased level of protection in wildlife legislation, such as the Wildife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations (2010). There are no structured distribution surveys for this species and records are based on ad-hoc recording in the field and data gathered when advice is sought regarding building renovation or development.
2.3.4 Short term trend **Trend direction**	**increase**
	The range of the species has increased, to the north and west, compared with 2000 (Richardson 2000) and 2007 (UK Article 17 report). This is believed to be the result of increased bat-detector survey efforts, particularly as part of the National Bat Monitoring Programme (NBMP), though the possibility of actual range extension cannot be ruled out.

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**	**a) Minimum**	
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**

Third Report by the United Kingdom under Article 17 on the implementation of the Directive
from January 2007 to December 2012

Produced on 11/10/2013 16:19   Page 4

	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?	**True**
	The range of the species has increased, compared with 2000 (Richardson, 2000) and 2007 (UK Article 17 report). This is believed to be the result of increased bat-detector survey efforts, particularly as part of the National Bat Monitoring Programme, though the possibility of actual range extension cannot be ruled out.	
	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**
	The estimate by Harris et al (1995) was based largely on expert opinion, taking into account the ratio of Leislers roosts to pipistrelle roosts or the ratio of Leislers bats to serotines.	
	b) Minimum	**9750**
	c) Maximum	**9750**
2.4.2 Population size estimation (using population unit other than individuals) Optional *(if 2.4.1 filled in)*	**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	**No clear habitat associations, so no way of calculating a density in different**

Third Report by the United Kingdom under Article 17 on the implementation of the Directive
from January 2007 to December 2012
Produced on 11/10/2013 16:19   Page 5

	provide population size estimation	habitats.
2.4.4 Year or period	**1995-**	
2.4.5 Method used Population size	**Estimate based on expert opinion with no or minimal sampling**	
2.4.6 Short-term trend Period	**2001-2012**	
2.4.7 Short-term trend Trend direction	**unknown**	
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**	
	Although, Leisler's bat is included in the National Bat Monitoring Programme too few data are currently available to permit the calculation of a trend. Population size estimate - The estimate by Harris et al (1995) was based largely on expert opinion, taking into account the ratio of Leisler's roosts to pipistrelle roosts or the ratio of Leisler's bats to serotines. The estimate was considered to have poor reliability. No data are available to update these estimates.	
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	

Third Report by the United Kingdom under Article 17 on the implementation of the Directive
from January 2007 to December 2012
Produced on 11/10/2013 16:19   Page 6

	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**	**28000**
	There is no information on population trends for this species but the species is fairly widespread and the indications are that this species was viable in 1994. The current population estimate is considered to represent population size in 1994 and can be set as the favourable reference population.	
	b) Operator	
	c) FRP is unknown indicated by "true"	**False**
	d) Method used to set FRP	**There is no information on population trends for this species but the species is fairly widespread and the indications are that this species was viable in 1994. The current population estimate is considered to represent population size in 1994 and can be set as the favourable reference population.**
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**

Third Report by the United Kingdom under Article 17 on the implementation of the Directive
from January 2007 to December 2012
Produced on 11/10/2013 16:19   Page 7

2.5 Habitat for the species		
2.5.1 Area estimation	**21100**	
	N.lesileri forages in woodland, pasture and riparian habitats and along woodland margins, even close to major roads and around street lights (Sheil et al, 2008). It has been seen foraging over beaches and sand dunes. The average home range area can approach 18 square km and foraging flights can be up to 13km from the roost. N. Leisleri is not as dependent on tree roosts as N. Noctula and uses a wide range of buildings. Little is known about hibernation sites but the species probably utilises tree holes like N. Noctula In order to obtain an 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. Therefore, area estimate is Unknown. There is thought to be a sufficient amount of habitat in the UK to support a viable population of the species.	
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	**a) Habitat quality**	**Unknown**
	b) Assessment method	**Leislers bat shows no clear habitat associations.** **In order to obtain an 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.** **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.**

Third Report by the United Kingdom under Article 17 on the implementation of the Directive
from January 2007 to December 2012
Produced on 11/10/2013 16:19   Page 8

2.5.5 Short-term trend Period	2001-2012	
2.5.6 Short-term trend Trend direction	increase	
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	21100
	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 H = high importance M = medium importance L = low importance	c) Pollution qualifier
A10: Restructuring agricultural land holding	H	
B02: Forest and Plantation management & use	H	
E06: Other urbanisation, industrial and similar activities	H	
A04: grazing	M	
A07: use of biocides, hormones and chemicals	M	
J02: human induced changes in hydraulic conditions	M	

Third Report by the United Kingdom under Article 17 on the implementation of the Directive
from January 2007 to December 2012
Produced on 11/10/2013 16:19

Page 9

Leisler's bat is primarily a tree-roosting species, so would be vulnerable to loss of roost opportunities in dead, dying or damaged trees. The species also utilises buildings as maternity sites, so could be vulnerable to roost loss through the demolition or alteration of buildings or changes to construction methods (Mitchell-Jones, 2010). Pressures that affect the biomass of flying insects, such as the widespread use of pesticides, could also affect this species. Bats generally follow linear features for navigation and hunt along such features, woodland edges, though Leisler's bat is less closely associated with linear features than many other species. Nevertheless, the loss of these features might be expected to impact on the species.

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	
E06: Other urbanisation, industrial and similar activities	H	
A04: grazing	M	
A07: use of biocides, hormones and chemicals	M	
C03: Renewable abiotic energy use	M	
J02: human induced changes in hydraulic conditions	M	

Leisler's bat is primarily a tree-roosting species, so would be vulnerable to loss of roost opportunities in dead, dying or damaged trees. The species also utilises buildings as maternity sites, so could be vulnerable to roost loss through the demolition or alteration of buildings or changes to construction methods (Mitchell-Jones, 2010). Threats that affect the biomass of flying insects, such as the widespread use of pesticides, could also affect this species. Bats generally follow linear features for navigation and hunt along such features, woodland edges, though Leisler's bat is less closely associated with linear features than many other species. Nevertheless, the loss of these features might be expected to impact on the 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

2.8 Complementary information

Third Report by the United Kingdom under Article 17 on the implementation of the Directive
from January 2007 to December 2012

Produced on 11/10/2013 16:19

Page 10

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 <u>in the SAC network</u>	a) Unit	
	b) Minimum	
	c) Maximum	
3.1.2 Method used		
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.

Third Report by the United Kingdom under Article 17 on the implementation of the Directive
from January 2007 to December 2012
Produced on 11/10/2013 16:19   Page 11

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

Third Report by the United Kingdom under Article 17 on the implementation of the Directive from January 2007 to December 2012

Produced on 11/10/2013 16:19   Page 12