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

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

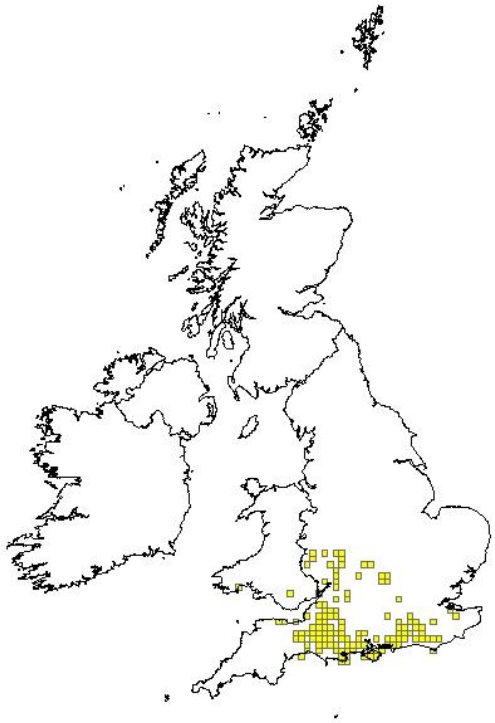
Species:

S1323 - Bechstein's bat (*Myotis bechsteinii*)

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

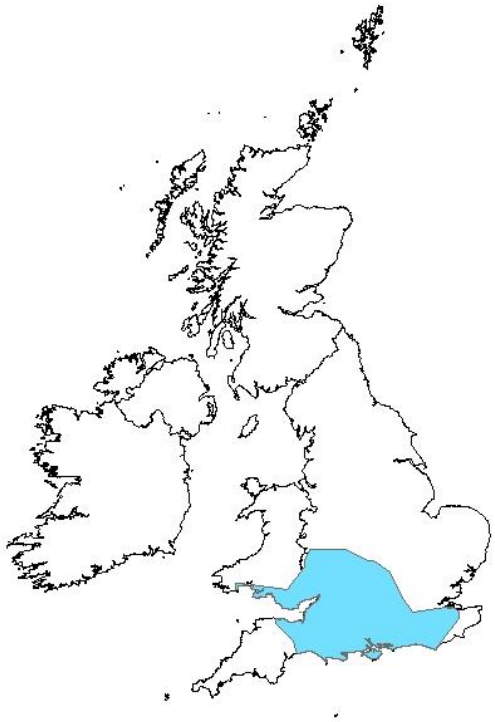
Field name	*Brief explanations*	
0.2 Species	**0.2.1 Species code**	**S1323**
	0.2.2 Species scientific name	***Myotis bechsteinii***
	0.2.3 Alternative species scientific name Optional	
	0.2.4 Common name Optional	

1.1 Maps			
1.1.1 Distribution map	**True**	**Sensitive**	**False**
	The distribution map is based on species records which are considered to be representative of the range within the current reporting period. For further details see the 2013 Article 17 UK Approach document.		



1.1.2 Method used - map	**Estimate based on partial data with some extrapolation and/or modelling**
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information
1.1.3 Year or period	**2002-2012**
	The distribution map is based on species records which are considered to be representative of the range within the current reporting period. For further details see the 2013 Article 17 UK Approach document.

1.1.4 Additional distribution map Optional	**False**
1.1.5 Range map	**True**
	The range map was produced by applying the UK range mapping tool to the distribution map presented in 1.1.4. The alpha value for this species was 45km. For further details see the 2013 Article 17 UK Approach document.



2.1 Biogeographical region & marine regions	**ATL**
2.2 Published sources	**BOYE, P. & DIETZ, M. 2005. Research Report No 661: Development of good practice guidelines for woodland management for bats. English Nature, Peterborough.** **DURRANT, C.J., BEEBEE, T,J,C., GREENAWAY, F. & HILL, D.A. 2009. Evidence of recent population bottlenects and inbreeding in British populations of Bechstein's bat Myotis bechsteinii. Conservation Genetics 10(2):589-496.** **GREENAWAY, F. & HILL, D.A. 2004. Woodland management advice for Bechstein's and barbastelle bat. English Nature Research Reports. 658.** **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.** **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.

HILL, D. A, & GREENAWAY, F. 2005. Effectiveness of an acoustic lure for surveying bats in British woodlands. Mammal Review 35(1): 116-122.

MILLER, H. 2012. Bechstein's bat survey: final report September 2007-September 2011. Bat Conservation Trust, London.

QUINE et al (2011). Chapter 8 - Woodlands. In: The UK National Ecosystem Assessment Technical Report. UK National Ecosystem Assessment, UNEP -WCMC, Cambridge. Http://uknea.unep-wcmc.org/Resources/tabid/82/Default.aspx

SCHOFIELD. H.W. & GREENAWAY, F. 2008 Bechstein's bat Myotis bechsteinii. Pp 328-331 in HARRIS, S. & YALDEN, D.W. Mammals of the British Isles: Handbook, 4th edition. The Mammal Society, Southampton.799pp.
UK distribution map data sources

Batsites inventory for Britain
CCW HQ & Licence reports Record submitted to CCW HQ. Sent to JNCC 21/08/2012
Distribution Atlas of Bats in Britain and Ireland (1980-1999): data spreadsheet
Mammals Database
NBN Gateway Bristol Regional Environmental Records Centre GA001100 Extracted 21/08/2012 BRERC JNCC May 2012
NBN Gateway Dorset Environmental Records Centre GA001010 Extracted 21/08/2012 Dorset Important Species 2012 for Natural England use only
NBN Gateway Hampshire Biodiversity Information Centre GA001133 Extracted 21/08/2012 HBIC Protected and notable species
NBN Gateway Herefordshire Biological Records Centre GA001084 Extracted 21/08/2012 Herefordshire Biological Records Centre Species Records
NBN Gateway National Trust GA001105 Extracted 21/08/2012 Extract of National Trust species database covering Article 17 species
NBN Gateway Sussex Biodiversity Record Centre GA001058 Extracted 21/08/2012 UK Habitat Directive data
NBN Gateway Sussex Biodiversity Record Centre GA001076 Extracted 21/08/2012 SxBRC Full dataset for Environment Agency and Natural England use only.
NBN Gateway The Bat Conservation Trust GA000570 Extracted 21/08/2012 Bechstein's Bat Survey Project
NBN Gateway The Bat Conservation Trust GA000612 Extracted 21/08/2012 Hibernation Survey
NBN Gateway Wiltshire and Swindon Biological Records Centre GA000584 Extracted 21/08/2012 Wiltshire & Swindon Site-based Survey Records
NBN Gateway Wiltshire and Swindon Biological Records Centre

	GA000630 Extracted 21/08/2012 Wiltshire & Swindon Incidental Species Records **NBN Gateway Wiltshire and Swindon Biological Records Centre GA001098 Extracted 21/08/2012 Wiltshire and Swindon Habitats Directive (Article 17) Species - Reporting Group Use Only** **NBN Gateway Worcestershire Biological Records Centre GA000712 Extracted 21/08/2012 WBRC Species data for Worcestershire collated by date.** **T. Mitchell Jones, NE (pers. comm.)** **The Vincent Wildlife Trust Bat Box data. Sent to JNCC (LH) via Jean Matthews (CCW) 23/08/2012** **Wales LRC Priority & Protected Species layer Bat records from Matt Zeale WWBIC. Sent to JNCC 21/08/2012** UK Distribution Map data sources Batsites inventory for Britain CCW HQ & Licence reports Record submitted to CCW HQ. Sent to JNCC 21/08/2012 Distribution Atlas of Bats in Britain and Ireland (1980-1999): data spreadsheet Mammals Database NBN Gateway Bristol Regional Environmental Records Centre GA001100 Extracted 21/08/2012 BRERC JNCC May 2012 NBN Gateway Dorset Environmental Records Centre GA001010 Extracted 21/08/2012 Dorset Important Species 2012 for Natural England use only NBN Gateway Hampshire Biodiversity Information Centre GA001133 Extracted 21/08/2012 HBIC Protected and notable species NBN Gateway Herefordshire Biological Records Centre GA001084 Extracted 21/08/2012 Herefordshire Biological Records Centre Species Records NBN Gateway National Trust GA001105 Extracted 21/08/2012 Extract of National Trust species database covering Article 17 species NBN Gateway Sussex Biodiversity Record Centre GA001058 Extracted 21/08/2012 UK Habitat Directive data NBN Gateway Sussex Biodiversity Record Centre GA001076 Extracted 21/08/2012 SxBRC Full dataset for Environment Agency and Natural England use only. NBN Gateway The Bat Conservation Trust GA000570 Extracted 21/08/2012 Bechstein's Bat Survey Project NBN Gateway The Bat Conservation Trust GA000612 Extracted 21/08/2012 Hibernation Survey NBN Gateway Wiltshire and Swindon Biological Records Centre GA000584 Extracted 21/08/2012 Wiltshire & Swindon Site-based Survey Records NBN Gateway Wiltshire and Swindon Biological Records Centre GA000630 Extracted 21/08/2012 Wiltshire & Swindon Incidental Species Records NBN Gateway Wiltshire and Swindon Biological Records Centre GA001098 Extracted 21/08/2012 Wiltshire and Swindon Habitats Directive (Article 17) Species - Reporting Group Use Only NBN Gateway Worcestershire Biological Records Centre GA000712

	Extracted 21/08/2012 WBRC Species data for Worcestershire collated by date. T. Mitchell Jones, NE (pers. comm.) The Vincent Wildlife Trust Bat Box data. Sent to JNCC (LH) via Jean Matthews (CCW) 23/08/2012 Wales LRC Priority & Protected Species layer Bat records from Matt Zeale WWBIC. Sent to JNCC 21/08/2012

2.3 Range		
2.3.1 Surface area Range	**37916.43**	
	The surface area of the range was calculated from the map presented in 1.1.5. For further details see the 2013 Article 17 UK Approach document.	
2.3.2 Method used Surface area of Range	**Estimate based on partial data with some extrapolation and/or modelling**	
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information	
2.3.3 Short-term trend Period	**2001-2012**	
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information	
2.3.4 Short term trend Trend direction	**stable**	
	The short term trend direction was derived by comparing the range map in 1.1.5 with the range map produced in the 2007 report, by considering the range trend in the 2007 report, and by considering any further information provided by the UK country conservation agencies. For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.	
2.3.5 Short-term trend Magnitude Optional	**a) Minimum**	
	b) Maximum	
2.3.6 Long-term trend Period Optional	**1989-2012**	
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information	
2.3.7 Long-term trend Trend direction Optional	**unknown**	
	The long term trend direction was derived by comparing the range map in 1.1.5 with the range map produced in the 2007 report, by considering the range trend in the 2007 report, and by considering any further information provided by the UK country conservation agencies. For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.	
2.3.8 Long-term trend	**a) Minimum**	

Magnitude Optional		
	b) Maximum	
2.3.9 Favourable reference range	**a) Value in km²**	**30580**
	The FRV reported in 2007 has been updated by running the data used for reporting in 2007 through the revised UK range mapping tool. For further details see the 2013 Article 17 UK Approach document.	
	b) Operator for FRR	
	c) FRR is unknown (indicated by "true")	**False**
	d) Method used to set FRR	**The FRV reported in 2007 has been updated by running the data used for reporting in 2007 through the revised UK range mapping tool. The value is considered to be large enough to support a viable population and no lower than the range estimate from when the Habitats Directive came into force in the UK. For further details please see the 2013 Article 17 UK Approach document.**
	The FRV reported in 2007 has been updated by running the data used for reporting in 2007 through the revised UK range mapping tool. The value is considered to be large enough to support a viable population and no lower than the range estimate from when the Habitats Directive came into force in the UK. For further details please see the 2013 Article 17 UK Approach document.	
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**
	There is insufficient information to determine if the increase in range area is genine.	
	b) Improved knowledge/more accurate data?	**True**
	There has been improved knowledge of this species' range since the 2007 report.	
	c) Use of different method (e.g. "Range tool")?	**False**
	Use of a revised UK range mapping tool had little effect on the calculation for surface area of range.	

2.4 Population		
2.4.1 Population size estimation (using individuals or agreed exceptions where possible)	**a) Unit**	**number of individuals**
	The population unit is the same as reported in 2007.	
	b) Minimum	**1500**
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information	
	c) Maximum	**1500**
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information	
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 provide population size estimation	**This species is rare and poorly recorded. Quiet echolocation calls mean this species cannot be monitored with bat detectors. Roosts are difficult to detect. Surveys with lures and netting have successfully located new populations in England but are resource intensive.**
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information	
2.4.4 Year or period	**1995**	
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information	
2.4.5 Method used Population size	**Estimate based on expert opinion with no or minimal sampling**	
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information	
2.4.6 Short-term trend Period	**2001-2012**	
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information	
2.4.7 Short-term trend Trend direction	**unknown**	
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information	
2.4.8 Short-term trend Magnitude Optional	**a) Minimum**	

	b) Maximum	
	c) Confidence interval	
2.4.9 Short-term trend Method used	**Absent data**	
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information	
2.4.10 Long-term trend – Period Optional	**1989-2001**	
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information	
2.4.11 Long-term trend Trend direction Optional	**unknown**	
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information	
2.4.12 Long-term trend Magnitude Optional	**a) Minimum**	
	b) Maximum	
	c) Confidence interval	
2.4.13 Long term trend Method used Optional	**Absent data**	
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information	
2.4.14 Favourable reference population	**a) Number of individuals/agreed exceptions/other units**	**2000**
	The FRV for population is the same as reported in 2007. The value is considered to be large enough for the population to be viable and no lower than the population estimate from when the Habitats Directive came into force in the UK. For further details please see the 2013 Article 17 UK Approach document and relevant country-level reporting information.	
	b) Operator	

	c) FRP is unknown (indicated by "true")	**False**
	d) Method used to set FRP	**The FRV for population is the same as reported in 2007. The value is considered to be large enough for the population to be viable and no lower than the population estimate from when the Habitats Directive came into force in the UK. For further details please see the 2013 Article 17 UK Approach document and relevant country-level reporting information.**
	The FRV for population is the same as reported in 2007. The value is considered to be large enough for the population to be viable and no lower than the population estimate from when the Habitats Directive came into force in the UK. For further details please see the 2013 Article 17 UK Approach document and relevant country-level reporting information.	
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**
	The population estimate is the same as reported in 2007	
	b) Improved knowledge/more accurate data?	**False**
	The population estimate is the same as reported in 2007	
	c) Use of different method (e.g. "Range tool")?	**False**
	The population estimate is the same as reported in 2007	

2.5 Habitat for the species		
2.5.1 Area estimation	**12100**	
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information. It is unknown whether the amount of habitat in the UK is sufficient to support a viable population of the species.	
2.5.2 Year or period	**2000-2012**	
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.	
2.5.3 Method used Habitat for the species	**Estimate based on expert opinion with no or minimal sampling**	
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.	
2.5.4 Quality of the habitat	**a) Habitat quality**	**Unknown**
	For further details see the 2013 Article 17 UK Approach document and	

	relevant country-level reporting information.	
	b) Assessment method	**M. bechsteinii is a rare species with inadequate data, and requires a complex mosaic of habitats not amenable to mapping**
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.	
2.5.5 Short-term trend Period	**2001-2012**	
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.	
2.5.6 Short-term trend Trend direction	**unknown**	
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.	
2.5.7 Long-term trend Period Optional	**1989-2012**	
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.	
2.5.8 Long-term trend Trend direction Optional	**unknown**	
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.	
2.5.9 Area of suitable habitat for the species	**a) Value in km²**	
	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**
	Surface area of habitat was reported as unknown in 2007 so no comparison is possible.	
	b) Improved knowledge/more accurate data?	**False**
	Surface area of habitat was reported as unknown in 2007 so no comparison is possible.	
	c) Use of different method (e.g. "Range tool")?	**False**
	Surface area of habitat was reported as unknown in 2007 so no comparison is possible.	

2.6 Main pressures		
a) Pressure	**b) Ranking**	**c) Pollution qualifier**
	H = high importance (max 5 entries)	

	M = medium importance L = low importance	
A10: Restructuring agricultural land holding	H	
B02: Forest and Plantation management & use	H	
B07: Forestry activities not referred to above	H	
A07: use of biocides, hormones and chemicals	M	

For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.	
2.6.1 Method used – Pressures	**mainly based on expert judgement and other data**
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.

2.7 Threats		
a) Threat	**b) Ranking**	**c) Pollution qualifier**
	H = high importance (max 5 entries) M = medium importance L = low importance	
A10: Restructuring agricultural land holding	H	
B02: Forest and Plantation management & use	H	
B07: Forestry activities not referred to above	H	
A07: use of biocides, hormones and chemicals	M	
K04: Interspecific floral relations	L	

For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.	
2.7.1 Method used – Threats	**expert opinion**
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.

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)*		
2.9.1 Range	**a) Conclusion**	**Favourable**
	Range has been assessed as Favourable because range is greater than FRV and the short term range trend is stable.	
	b) Qualifier	
2.9.2 Population	**a) Conclusion**	**Inadequate**
	Population has been assessed as Inadequate because the population estimate is below the FRV for population but not by more than 25%. The short term trend is unknown.	
	b) Qualifier	**unknown**
	The short term population trend is unknown.	
2.9.3 Habitat for the species	**a) Conclusion**	**Unknown**
	Habitat has been assessed as unknown bceause it is unknown whether there is sufficient habitat to support a viable population. The habitat quality and trend is unknown.	
	b) Qualifier	
2.9.4 Future prospects	**a) Conclusion**	**Unknown**
	Future prospects is assessed as unknown on the basis of assessments of the future prospects of the three parameters, range, population and habitat for species: Range future prospects: Good Population future prospects: Unknown Habitat future prospects: Unknown Overall future prospects: Unknown The ecology of this species is poorly understood; while there are general conservation measures to improve woodland habitats, it is unknown how this will impact the species.	
	b) Qualifier	

2.9.5 Overall assessment of Conservation Status	**Inadequate**
	The overall assessment is Inadequate because the assessment for population is Inadequate.
2.9.6 Overall trend in Conservation Status	**unknown**
	On balance, the overall trend is unknown.

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	
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.	
	c) Maximum	
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.	
3.1.2 Method used	**Absent data**	
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.	
3.1.3 Trend of population size within the network (short-term trend) Optional	**unknown**	
	For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.	

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	**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	M = medium importance L = low importance	a) Inside	b) Outside	c) Both inside & outside	a) Maintain	b) Enhance	c) Long term	d) No effect	e) Unknown	f) Not evaluated
1.3: No measure known/ impossible to carry out specific measures	Y	Y	Y	Y	Y	L			Y					Y	Y
3.0: Other forestry-related measures				Y		M			Y			Y			
3.1: Restoring/improving forest habitats		Y		Y		H			Y		Y				
6.1: Establish protected areas/sites	Y					M			Y		Y				
6.3: Legal protection of habitats and species	Y				Y	H			Y		Y				
6.4: Manage landscape features		Y		Y		M			Y		Y				

For further details see the 2013 Article 17 UK Approach document and relevant country-level reporting information.