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:

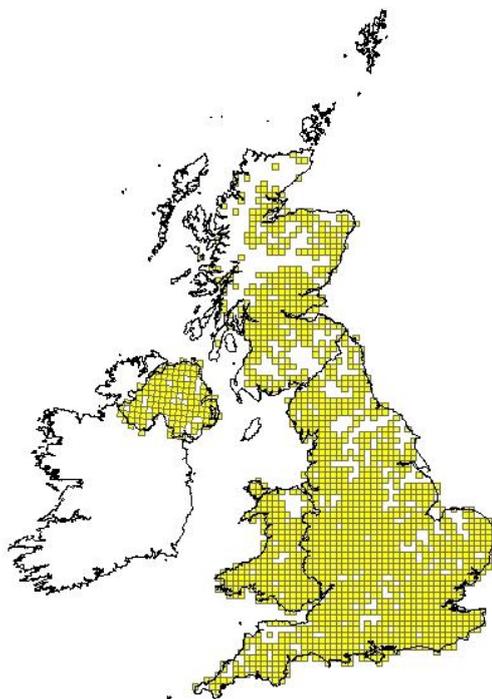S5009 - Soprano pipistrelle (*Pipistrellus pygmaeus*)

As of 1 April 2013, the Countryside Council for Wales, Environment Agency Wales and Forestry Commission Wales became Natural Resources Wales/Cyfoeth Naturiol Cymru

**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**	**S5009**
	0.2.2 Species scientific name	*Pipistrellus pygmaeus*
	0.2.3 Alternative species scientific name Optional	
	0.2.4 Common name Optional	**Soprano pipistrelle**

1.1 Maps		
1.1.1 Distribution map		**Sensitive** **False**
	Distribution map is based entirely on validated records, with no extrapolation or modelling. P. pygmaeus is widely distributed throughout England and Wales, with gaps in distribution probably reflecting an absence of survey data rather than an absence of the species or reports of pipistrelle spp, not confirmed to species (see also note 1.1.3).	

1.1.2 Method used - map	**Complete survey/Complete survey or a statistically robust estimate**
	P. pygmaeus commonly roosts in houses and many records come from requests for information or advice. The widespread use of bat detectors and structured surveys for the National bat Monitoring Programme has increased the number of records in recent years. The use of time expansion and frequency division detectors and sound analysis of bat

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	calls has probably increased the accuracy of identification to species.
1.1.3 Year or period	**2000-2012**
	Pipistrellus pipistrellus (s.l) was divided into P. pipistrellus (s.s.) and P. pygmaeus in 1999, so field records prior to this cannot be assigned to either species with confidence.
1.1.4 Additional distribution map	**False**
1.1.5 Range map	

2.1 Biogeographical region & marine regions	**ATL**
2.2 Published sources	**"BAT CONSERVATION TRUST, 2012. The National Bat Monitoring Programme. Annual Report 2011. Bat Conservation Trust, London. (www.bats.org.uk)**
	BARRATT, E.M., DEAVILLE, R., BURLAND, T.M., BRUFORD, M.W., JONES, G., RACEY, P.A., WAYNE, R.K. 1997. DNA answers the call of pipistrelle bat species. Nature (Lond.), 387:138-139.
	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.
	DAVIDSON-WATTS, I. AND JONES, G. (2006), Differences in foraging behaviour between Pipistrellus pipistrellus (Schreber, 1774) and Pipistrellus pygmaeus (Leach, 1825). Journal of Zoology, 268: 55–62.
	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.
	JONES, G. & BARRATT, E.M. 1999. Vespertilio pipistrellus Schreber, 1774 and V. pygmaeus Leach, 1825 (currently Pipistrellus pipistrellus and P. pygmaeus; Mammalia, Chiroptera): proposed designation of neotypes. Bulletin of Zoological Nomenclature, 56: 182-186.
	JONES, G & RACEY, P.A. 2008. Common pipistrelle Pipistrellus pipistrellus, Soprano pipistrelle Pipistrellus pygmaeus. Pages 343-351 In HARRIS, S & YALDEN, D.W. Mammals of the British Isles: Handbook, 4th edition. The Mammal Society, Southampton.799pp.
	MITCHELL-JONES, T.J. 2010. Bats in houses – the conservation challenge. Pp 365-378 in Species Management: challenges and solutions for the 21st century. BAXTER, J.M. & GALBRAITH, C.A. TSO Scotland, Edinburgh.
	MITCHELL-JONES, T.M.J & CARLIN, C (2009). TIN051 Bats and onshore wind turbines Interim Guidance. 2nd edition, February 2012.http://publications.naturalengland.org.uk/file/490077
	NICHOLLS, B. & RACEY, P. 2006a. Habitat selection as a mechanism of resource partitioning in two cryptic bat species Pipistrellus pipistrellus and Pipistrellus pygmaeus. Ecography, 29, 697-708.

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	NICHOLLS, B. & RACEY, P. 2006b. Contrasting home-range size and spatial partitioning in cryptic and sympatric pipistrelle bats. Behavioural Ecology and Sociobiology, 61, 131-142. RICHARDSON, P. (2000) Distribution atlas of bats in Britain and Ireland 1980-1999. Bat Conservation Trust, London. SPEAKMAN, J.R. 1991. The impact of predation by birds on bat populations in the British Isles. Mammal Review, 21, 123-142."

2.3 Range	
2.3.1 Surface area Range	
2.3.2 Method used Surface area of Range	**Complete survey/Complete survey or a statistically robust estimate**
	See Notes 1.1.2 and 1.1.3.
2.3.3 Short-term trend Period	**2001-2012**
	See Note 1.1.3
2.3.4 Short term trend Trend direction	**unknown**
	See Note 2.3.10b
2.3.5 Short-term trend Magnitude	**a) Minimum**
	b) Maximum
2.3.6 Long-term trend Period	**1999-2012**
	See Note 1.1.3.
2.3.7 Long-term trend Trend direction	**unknown**
	See Notes 1.1.2 and 2.3.10b
2.3.8 Long-term trend Magnitude _Optional_	**a) Minimum**
	b) Maximum
2.3.9 Favourable reference range	**a) Value in km²**

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	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?	**True**
	There has been increased survey effort due to surveys for developments as well as more systematic survey methodology using time expansion / frequency division bat detectors and recording of bat calls leading to more accurate indentification to species.	
	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	**72000**
	For this report, the GB population estimate given in Battersby (2005) has then been split between the 3 countries in the same ratio as the estimate for 'pipistrelle' from Harris et al (1995) (E: 0.625, S: 0.275, W: 0.100). See also Note 2.4.5	
	c) Maximum	**72000**
	See Note 2.4.1b	
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	

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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	**2005-**	
	A population estimate (for P. pipistrellus s.l.) was published by Harris et al (1995) and updated to account for the split into two species by Battersby (2005), though the latter estimate did not split the population between England, Scotland and Wales.	
2.4.5 Method used **Population size**	**Estimate based on partial data with some extrapolation and/or modelling**	
	The estimates were based on expert judgement and extrapolation from limited field surveys. The 1995 population estimate for P. pipistrellus (s.l.) in GB was based on very limited information, extrapolating from known size and distribution of colonies in Scotland following the methods described by Speakman (1991) and Harris et al. (1995). The estimate of approximately 2,000,000 individuals included the undescribed P. pygmaeus. A GB estimate for P. pipistrellus was obtained in 2005, using ratio of P. pipistrellus to P. pygmaeus encountered in the UK National Bat Monitoring Programme (NBMP) Field Survey (BCT 2006), which was approximately two P. pipistrellus to each P. pygmaeus. For this report, the GB population has then been split between the 3 countries in the same ratio as the estimate for 'pipistrelle' from Harris et al (1995) (E: 0.625, S: 0.275, W: 0.100). The ratio of P. pygmaeus to P. pipistrellus should be taken with caution, because the two species display different foraging behaviour, with P. pipistrellus having smaller colonies and foraging at greater distances from roosts (Nicholls & Racey, 2006a, 2006b). This would suggest that P. pipistrellus might have a more even and widespread distribution across the landscape and might be encountered more frequently in randomly designed survey schemes. P. pygmaeus forages preferentially near water and have larger colonies with smaller foraging distances. It might, therefore, be expected to have a patchier distribution than P. pipistrellus with less frequent foraging in the wider landscape and encountered less in random surveys.	
2.4.6 Short-term trend **Period**	**2001-2012**	
	See Notes also 2.4.5 and 2.3.10b.	
2.4.7 Short-term trend **Trend direction**	**unknown**	
	The data from the National Bat Monitoring Programme suggests that on the basis of results of the Field Survey, the soprano pipistrelle population is increasing. Data from the Colony Counts suggest a significant decline, though these data are thought to be less robust. Lower counts at roost sites may be an indication of movement between roosts, rather than a reduction in the population.	

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Soprano pipistrelle (Pipistrellus pygmaeus)

WALES

2.4.8 Short-term trend Magnitude	**a) Minimum**	
	b) Maximum	
	c) Confidence interval	
2.4.9 Short-term trend Method used	**Absent data** See Note 2.4.7	
2.4.10 Long-term trend – Period	**1989-2012**	
2.4.11 Long-term trend Trend direction	**unknown** See Note 2.4.7	
2.4.12 Long-term trend Magnitude Optional	**a) Minimum**	
	b) Maximum	
	c) Confidence interval	
2.4.13 Long term trend Method used	**0**	
2.4.14 Favourable reference population	**a) Number of individuals/agreed exceptions/other units**	
	b) Operator	
	c) FRP is unknown indicated by	**False**

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	"true"	
	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**
	See Note 2.4.5and 2.3.10b	
	b) Improved knowledge/more accurate data?	**True**
	See Notes 2.3.10b and 2.4.7	
	c) Use of different method (e.g. "Range tool")?	**False**

2.5 Habitat for the species	
2.5.1 Area estimation	**17585** P. pygmaeus requires a complex mosaic of habitats to support foraging, roosting and commuting behaviour. Summer roosts tend to be found in tree holes, behind loose bark, in bat boxes and within the cracks and crevices of new and old buildings. Winter roost sites tend to be within trees, and the wall crevices of buildings. The species prefers to forage over riparian habitat and around the canopy of broad-leaved trees. Thus, it does not occur in large, dense woodlands but forages along river banks, forest edges and in settlements. It requires hedgerows and treelines to provide habitat connectivity for foraging and commuting between foraging sites (Davidson-Watts & Jones 2006; Nicholls & Racey, 2006a, 2006b). See also Note 2.5.4b 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-** See also Note 2.5.1
2.5.3 Method used Habitat for the species	**Estimate based on partial data with some extrapolation and/or modelling**
2.5.4 Quality of the habitat	**a) Habitat quality**　　**Unknown** See Note 2.5.4b
	b) Assessment method　　**No or insufficient reliable information available. The area of occupied habitat has been used as a proxy for the area of**

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		suitable habitat in the absence of other information.
	P. pygmaeus requires a complex mosaic of habitats to support foraging, roosting and commuting behaviour. In order to obtain an estimate of habitat extent, 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 has been used as an estimate of habitat area. As a widespread species and common species, it has been assumed that the area of distribution can be used as a proxy for the area of suitable habitat in the absence of other information. The area of distribution was calculated from the area of the 10km squares in the distribution map.	
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	**1999-2012**	
	See Note 1.1.3	
2.5.8 Long-term trend Trend direction	**unknown**	
2.5.9 Area of suitable habitat for the species	**a) Value in km²**	**17585**
	See Note 2.5.4b	
	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?	**True**
	c) Use of different method (e.g. "Range tool")?	**True**

2.6 Main pressures

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a) Pressure	b) Ranking	c) Pollution qualifier
	H = high importance M = medium importance L = low importance	
A10: Restructuring agricultural land holding	H	
G05: Other human intrusions and disturbances	H	
A02: modification of cultivation practices	M	
A07: use of biocides, hormones and chemicals	M	
B02: Forest and Plantation management & use	M	
D01: Roads, paths and railroads	M	
E06: Other urbanisation, industrial and similar activities	M	
H01: Pollution to surface waters (limnic & terrestrial, marine & brackish)	L	
J02: human induced changes in hydraulic conditions	L	

Pressures can generally be divided into those that affect roosts and those that affect commuting and foraging (including prey availability). Although roosts are strictly protected, a variable number of licences permitting exclusion is issued every year. In addition, changes in building practices to improve energy efficiency mean that new buildings may offer fewer roosting opportunities (Mitchell-Jones, 2010). Pipistrelles forage along linear features, over wetlands and in woodland clearings. Agricultural and forestry practices that remove or simplify these habitats, or affect the biomass of insect prey could negatively affect populations.	
2.6.1 Method used – Pressures	**mainly based on expert judgement and other data** Pressures have been identified based on knowledge of the species ecology and current and predicted land use changes.

2.7 Threats		
a) Threat	b) Ranking	c) Pollution qualifier
	H = high importance M = medium importance L = low importance	
G05: Other human intrusions and disturbances	H	
A07: use of biocides, hormones and chemicals	M	
B02: Forest and Plantation management & use	M	
C03: Renewable abiotic energy use	M	

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D01: Roads, paths and railroads	M	
E06: Other urbanisation, industrial and similar activities	M	
H01: Pollution to surface waters (limnic & terrestrial, marine & brackish)	L	
J02: human induced changes in hydraulic conditions	L	

Threats can generally be divided into those that affect roosts and those that affect commuting and foraging (including prey availability). Although roosts are strictly protected, a variable number of licences permitting exclusion is issued every year. In addition, changes in building practices to improve energy efficiency mean that new buildings may offer fewer roosting opportunities (Mitchell-Jones, 2010). Pipistrelles forage along linear features, over wetlands and in woodland clearings. Agricultural and forestry practices that remove or simplify these habitats, or affect the biomass of insect prey could negatively affect populations. In addition this species is one that is considered to be at medium risk from fatalities associated with wind farms from studies in the European Continent, but the threat at the population level was considered to be low, Mitchell-Jones and Carlin (2009). Current research is considering this, but it is too soon to assess the risk that wind turbines pose to common pipistrelle bat populations in the UK.	
2.7.1 Method used – Threats	**expert opinion**
	Threats have been identified based on knowledge of the species ecology and current and predicted land use changes. The possible threat to the species from wind turbines identified on the Continent is assumed to apply to the species in the UK in the absence of information to the contrary.

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

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(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.

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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