

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

**Second Report by the United Kingdom under
Article 17
on the implementation of the Directive
from January 2001 to December 2006**

**Conservation status assessment for :
S1317: *Pipistrellus nathusii* - Nathusius'
Pipistrelle**

Please note that this is a section of the report. For the complete report visit <http://www.jncc.gov.uk/article17>

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S1317 *Pipistrellus nathusii* Nathusius' Pipistrelle

Audit trail compiled and edited by JNCC and the Inter-Agency Mammal Working Group

This document is an audit of the data and judgements on conservation status in the UK's report on the implementation of the Habitats Directive (January 2001 to December 2006) for this species. Superscript numbers accompanying the headings below, cross-reference to headings in the corresponding Annex B reporting form. This supporting information should be read in conjunction with the UK approach for species (see 'Assessing Conservation Status: UK Approach').

1. Range Information^{2.3}

First recorded in the UK in Walsay, Shetland Islands in 1940 (Hermann 1992), this species has long been considered a vagrant in the UK, but is now confirmed as a resident species (Barlow & Jones 1996). Occurs mainly in east England and Northern Ireland, with a few records in Scotland and south-west England.

1.1 Surface area of range^{2.3.1}

Unknown

An estimate has been calculated within Alpha Hull software, using extent of occurrence as a proxy measure for range (see Map 1.1), in the same way as has been done for other UK resident bat species. However, the information for this species is so sparse that the range calculation is unlikely to reflect the true range for this species in the UK and is only provided as contextual information at this stage.

1.2 Date of range determination^{2.3.2}

1980 – 2006

The date range indicated has been selected to reflect current range/surface area for the species for the following reasons:

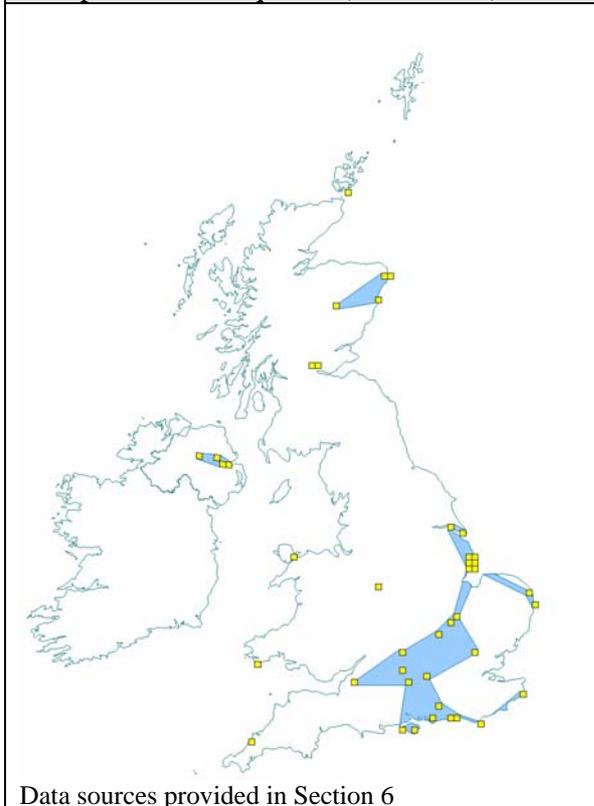
- There are limitations in the quality of the data available. The largest dataset used, Distribution atlas of bats in Britain and Ireland (Richardson 2000), has data ranging from 1980-1999 but the year of recording for individual records within this dataset is not known, making it impossible to divide the data into different date ranges. Deviating from this time period would mean having to exclude these records, and since other datasets may not be fully comprehensive in isolation of these, such exclusion would be inappropriate.
- 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.
- International treaties and national protective legislation affecting all European bat species came into force from 1980 onwards and is likely to have had an effect on their status.

1.3 Quality of range data^{2.3.3}

Poor

This species has only recently been identified as resident in the UK and there are very few records. There are 39 10-km squares with records of the species, but only four with records of roosts (Richardson 2000).

Map 1.1 Current extent of occurrence and occupied 10-km squares (1980-2006)



1.4 Range trend^{2.3.4} & Range trend magnitude^{2.3.5}

Unknown

It is possible that the species range is increasing in the UK as resident populations establish, but there are no data to confirm this at present. Knowledge of the extent of the range is still increasing, with 127 records up to 2001 and 337 records up to 2006 (<http://www.nathusius.org.uk/Distribution.htm>), but the increase in records may reflect increased sampling effort and expertise.

1.5 Range trend period^{2.3.6}

1994 – 2006

1.6 Reasons for reported trend in range^{2.3.7}

Not applicable

1.7 Favourable reference range^{2.7.1}

Unknown

The range of the species in the UK is not known at present and setting a favourable reference value for range would be inappropriate.

1.8 Range conclusion^{2.8}

Unknown

There is insufficient information to make an assessment at present.

2. Population of the species^{2.4}

2.1 Population estimate^{2.4.1}

16,000 individuals

4,000 in Great Britain (Battersby & Tracking Mammals Partnership (TMP) 2005); 12,000 in Northern Ireland (Russ 1999).

2.2 Date of population estimate^{2.4.2}

2005

UK population estimate was reported in Battersby & TMP (2005).

2.3 Method of population estimate^{2.4.3}

1 = based on expert opinion

2.4 Quality of population data^{2.4.4}

Poor

2.5 Population trend^{2.4.5} & Population trend magnitude^{2.4.6}

Unknown

It's likely that the UK lies in a transitional region in Europe with migratory individuals returning from the north-east of the species' range supplementing the resident bats during the winter (Russ *et al.* 2001). Three maternity colonies have been discovered, one in Lincolnshire (Hutson 1997) and two in County Antrim in Northern Ireland (Russ *et al.* 1998; 2001) showing that there are resident breeding populations, but there is no information currently available on population trends for this species.

2.6 Population trend period^{2.4.7}

1994 – 2006

2.7 Reasons for reported trend in population^{2.4.8}

Not applicable

2.8 Justification of % thresholds for trends^{2.4.9}

Not applicable

2.9 Main pressures^{2.4.10}

Unknown

2.10 Threats^{2.4.11}

151 Removal of hedges and copses

164 Forestry clearance

165 Removal of undergrowth

166 Removal of dead and dying trees

490 Other urbanisation, industrial and similar activities (development, roost destruction, disturbance)

701 water pollution

803 infilling of ditches, dykes, ponds, pools, marshes or pits

810 Drainage

811 management of aquatic and bank vegetation for drainage purposes

2.11 Favourable reference population^{2.7.2}

Unknown

The species is a recent resident in the UK and there is no information concerning population viability, thus it is not possible to set a favourable reference population value at present.

2.12 Population conclusion^{2.8}

Unknown

3. Habitat for the species in the Biogeographic region or sea^{2.5}

Pipistrellus nathusii typically hunts along paths, rides and woodland edges, but also over water and feeds on small to medium sized flying insects, mainly Chironomidae, so can be affected by changes in water quality. Less often found near human settlements than other *Pipistrellus* species (Macdonald & Tattersall 2001).

P. nathusii preferred summer roosts are hollow trees, bat and bird boxes, also residential buildings. The species is a crevice dweller and small numbers have been reported roosting in cracks in walls, under soffit boards, fissures in rocks and tree hollows. In the UK only a small number of maternity colonies have been reported and these have been in the walls of traditionally built buildings of stone and red brick in wall cavities and under flat roofs. Maternity roosts are frequently shared with *Pipistrellus pygmaeus*. The majority of roosts are located close to large freshwater lakes. Winter roosts are not known in the UK, only two hibernation records exist, but the species is thought to hibernate in hollow trees, cracks in buildings or crevices in caves (Mitchell-Jones *et al.* 1999). The majority of winter records are of grounded individuals.

3.1 Surface area of habitat^{2.5.2}

Unknown

In order to obtain this 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.

3.2 Date of estimation^{2.5.3}

2006

3.3 Quality of data on habitat area^{2.5.4}

Poor

Limited information is available on the habitat requirements of this species in the UK and there are no estimates of area of habitat use. Quality of data is therefore taken to be poor.

3.4 Habitat trend^{2.5.5}

Unknown

Indications are that broadleaved, mixed and yew woodland have increased by about 5% in the UK since 1990 and there has been a small increase in tree lines and hedgerows, and some loss of pasture (Haines-Young *et al.* 2000). However, this is very limited information on which to

base an assessment of trend in habitat suitable for this particular species. The assessment is, therefore, Unknown.

3.5 Habitat trend period^{2.5.6}

1990 – 1998

The time period selected reflects the results of two Countryside Surveys carried out in 1990 and 1998 (Haines-Young *et al.* 2000).

3.6 Reasons for reported trend in habitat^{2.5.7}

Not applicable

The trend during the time period considered is unknown and it is not appropriate to consider reasons for an unknown trend.

3.7 Suitable habitat for the species (in km²)^{2.7.3}

Unknown

Since current area of habitat is unknown, it would be inappropriate to suggest an area of 'suitable habitat'.

3.8 Habitat conclusion^{2.8}

Unknown

The habitat requirements for this species in the UK are not well studied and there has been no attempt to correlate population density with suitable habitat availability. There is evidence of historic loss of suitable habitat for all bat species, but also evidence of recent improvements, making it difficult to be sure of the situation regarding habitat extent and quality. The conclusion is, therefore, Unknown at present.

4. Future Prospects^{2.6}

Unknown

There is very little information on the occurrence of this species in the UK. There is some evidence from increasing numbers of records that numbers may be increasing, but bat detector records have probably increased due to the greater availability of bat detectors, an increase in the expertise of surveyors and an increase in the number of systematic bat surveys. More information is required to make a robust assessment on prospects for this species.

4.1 Future prospects conclusion^{2.8}

Unknown

5. Overall Conclusion^{2.8}

Unknown

This species has only recently been regarded as a UK resident and information on its range, population status and habitat use is very limited. Future prospects are also hard to estimate, given the lack of other information. The overall assessment is, therefore, Unknown at present.

Table 5.1. Summary of conclusions

Parameter	Judgement	Grounds for Judgement (in accordance with Annex C)	Reliability*
Range	Unknown	No or insufficient reliable information available	N/A
Population	Unknown	No or insufficient reliable information available	N/A
Habitat	Unknown	No or insufficient reliable information available	N/A
Future Prospects	Unknown	No or insufficient reliable information available	N/A
Overall Assessment	Unknown	All unknown	N/A

*1=High, 2=Moderate, 3=Low

High – Expert opinion is that the concluding judgement accurately reflects the current situation based on a professional understanding of the species. For range, population, and habitat, quality of data used to establish the current estimate has been identified as “good”; data used to inform trends is comprehensive and up to date.

Moderate – A greater understanding of the feature, or the factors affecting it, is required before a confident concluding judgement can be made by experts. For range, population, and habitat, the current estimate and/or trend are based on recent, but incomplete or limited survey data; or alternately, a comprehensive, but outdated (pre-1994) review.

Low – Judgements, and comprising estimates, are based predominately on expert opinion.

N/A – Assessment conclusion is “unknown”, on the basis of insufficient reliable information.

6. References

BATTERSBY, J. (Ed.) & TRACKING MAMMALS PARTNERSHIP. 2005. *UK Mammals: Species Status and Population Trends*. JNCC/Tracking Mammals Partnership.

BARLOW, K.E. & JONES, G. 1996. *Pipistrellus nathusii* (Chiroptera: Vespertilionidae) in Britain in the mating season. *Journal of Zoology, London*, **240**, 767-773.

HAINES-YOUNG, R.H., BARR, C.J., BLACK, H.I.J., BRIGGS, D.J., BUNCE, R.G.H., CLARKE, R.T., COOPER, A., DAWSON, F.H., FIRBANK, L.G., FULLER, R.M., FURSE, M.T., GILLESPIE, M.K., HILL, R., HORNUNG, M., HOWARD, D.C., McCANN, T., MORECROFT, M.D., PETIT, S., SIER, A.R.J., SMART, S.M., SMITH, G.M., STOTT, A.P., STUART, R.C. & WATKINS, J.W. 2000. *Accounting for nature: assessing habitats in the UK countryside*. Countryside Survey 2000. DETR, HMSO, London.

HERMANN, J.S. 1992. The earliest record of *Nathusius' pipistrelle* from the British Isles *Scottish Bats*, **1**, 48.

HUTSON, A.M. 1997. Two species of bat new to the UK. *Bat News*, **46**, 2.

MACDONALD, D.W. & TATTERSALL, F. 2001. *Britain's Mammals: The Challenge for Conservation*. People's Trust for Endangered Species, London.

MITCHELL-JONES, A.J., AMORI, G., BOGDANOWICZ, W., KRYŠTUFEK, B., REIJNDERS, P.J.H., SPITZENBERGER, F., STUBBE, M., THISSEN, J.B.M.,

VOHRALÍK, V. & ZIMA, J. 1999. *The Atlas of European Mammals*. Poyser Natural History, London.

RICHARDSON, P. 2000. *Distribution atlas of bats in Britain and Ireland 1980-1999*. Bat Conservation Trust, London.

RUSS, J.M., O'NEILL, J.K. & MONTGOMERY, W.I. 1998. Nathusius' pipistrelle bats (*Pipistrellus nathusii*, Keyserling & Blasius 1839) breeding in Ireland. *Journal of Zoology, London*, **245**, 345-349.

RUSS, J.M., HUTSON, A.M., MONTGOMERY, W.I. RACEY, P.A. & SPEAKMAN, J.R. 2001 The status of Nathusius' pipistrelle (*Pipistrellus nathusii*) Keyserling & Blasius 1839) in the British Isles. *Journal of Zoology, London*, **254**, 91-100.

Map Data Sources

Bat Conservation Trust Distribution atlas of bats in Britain and Ireland 1980-1999.