

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

**Fourth Report by the United Kingdom
under Article 17**

on the implementation of the Directive
from January 2013 to December 2018

Conservation status assessment for the species:

S1320 - Brandt's bat (*Myotis brandtii*)

UNITED KINGDOM

IMPORTANT NOTE - PLEASE READ

- The information in this document represents the UK Report on the conservation status of this species, submitted to the European Commission as part of the 2019 UK Reporting under Article 17 of the EU Habitats Directive.
- It is based on supporting information provided by the geographically-relevant Statutory Nature Conservation Bodies, which is documented separately.
- The 2019 Article 17 UK Approach document provides details on how this supporting information contributed to the UK Report and the fields that were completed for each parameter.
- The reporting fields and options used are aligned to those set out in the European Commission guidance.
- Maps showing the distribution and range of the species are included (where available).
- Explanatory notes (where provided) are included at the end. These provide additional audit trail information to that included within the UK assessments. Further underpinning explanatory notes are available in the related country-level reports.
- Some of the reporting fields have been left blank because either: (i) there was insufficient information to complete the field; (ii) completion of the field was not obligatory; and/or (iii) the field was not relevant to this species (section 12 Natura 2000 coverage for Annex II species).
- The UK-level reporting information for all habitats and species is also available in spreadsheet format.

Visit the JNCC website, <https://jncc.gov.uk/article17>, for further information on UK Article 17 reporting.

Report on the main results of the surveillance under Article 11 for Annex II, IV and V species (Annex B)

NATIONAL LEVEL

1. General information

| | |
|---|------------------------|
| 1.1 Member State | UK |
| 1.2 Species code | 1320 |
| 1.3 Species scientific name | <i>Myotis brandtii</i> |
| 1.4 Alternative species scientific name | |
| 1.5 Common name (in national language) | Brandt's bat |

2. Maps

| | |
|----------------------------------|---|
| 2.1 Sensitive species | No |
| 2.2 Year or period | 1995-2016 |
| 2.3 Distribution map | Yes |
| 2.4 Distribution map Method used | Based mainly on expert opinion with very limited data |
| 2.5 Additional maps | No |

3. Information related to Annex V Species (Art. 14)

| | | | | | | | | | | | | | | | | | |
|---|--|---|----|---|----|---|----|--|----|--|----|---|----|---|----|-------------------|----|
| 3.1 Is the species taken in the wild/exploited? | No | | | | | | | | | | | | | | | | |
| 3.2 Which of the measures in Art. 14 have been taken? | <table> <tr> <td>a) regulations regarding access to property</td><td>No</td></tr> <tr> <td>b) temporary or local prohibition of the taking of specimens in the wild and exploitation</td><td>No</td></tr> <tr> <td>c) regulation of the periods and/or methods of taking specimens</td><td>No</td></tr> <tr> <td>d) application of hunting and fishing rules which take account of the conservation of such populations</td><td>No</td></tr> <tr> <td>e) establishment of a system of licences for taking specimens or of quotas</td><td>No</td></tr> <tr> <td>f) regulation of the purchase, sale, offering for sale, keeping for sale or transport for sale of specimens</td><td>No</td></tr> <tr> <td>g) breeding in captivity of animal species as well as artificial propagation of plant species</td><td>No</td></tr> <tr> <td>h) other measures</td><td>No</td></tr> </table> | a) regulations regarding access to property | No | b) temporary or local prohibition of the taking of specimens in the wild and exploitation | No | c) regulation of the periods and/or methods of taking specimens | No | d) application of hunting and fishing rules which take account of the conservation of such populations | No | e) establishment of a system of licences for taking specimens or of quotas | No | f) regulation of the purchase, sale, offering for sale, keeping for sale or transport for sale of specimens | No | g) breeding in captivity of animal species as well as artificial propagation of plant species | No | h) other measures | No |
| a) regulations regarding access to property | No | | | | | | | | | | | | | | | | |
| b) temporary or local prohibition of the taking of specimens in the wild and exploitation | No | | | | | | | | | | | | | | | | |
| c) regulation of the periods and/or methods of taking specimens | No | | | | | | | | | | | | | | | | |
| d) application of hunting and fishing rules which take account of the conservation of such populations | No | | | | | | | | | | | | | | | | |
| e) establishment of a system of licences for taking specimens or of quotas | No | | | | | | | | | | | | | | | | |
| f) regulation of the purchase, sale, offering for sale, keeping for sale or transport for sale of specimens | No | | | | | | | | | | | | | | | | |
| g) breeding in captivity of animal species as well as artificial propagation of plant species | No | | | | | | | | | | | | | | | | |
| h) other measures | No | | | | | | | | | | | | | | | | |

Report on the main results of the surveillance under Article 11 for Annex II, IV and V species (Annex B)

3.3 Hunting bag or quantity taken in the wild for Mammals and Acipenseridae (Fish)

a) Unit

| b) Statistics/ quantity taken | Provide statistics/quantity per hunting season or per year (where season is not used) over the reporting period | | | | | |
|----------------------------------|---|-------------------|-------------------|-------------------|-------------------|-------------------|
| | Season/ year 1 | Season/ year 2 | Season/ year 3 | Season/ year 4 | Season/ year 5 | Season/ year 6 |
| Min. (raw, ie. not rounded) | | | | | | |
| Max. (raw, ie. not rounded) | | | | | | |
| Unknown | No | No | No | No | No | No |

3.4. Hunting bag or quantity taken in the wild Method used

3.5. Additional information

BIOGEOGRAPHICAL LEVEL

4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

Atlantic (ATL)

4.2 Sources of information

England

Arnold, H., 1993. Atlas of Mammals in Britain. (Institute of Terrestrial Ecology Research Publication no. 6), London.

Berge, L., 2007. Resource partitioning between the cryptic species Brandt's bat (*Myotis brandtii*) and the whiskered bat (*M. mystacinus*) in the UK, University of Bristol.

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Brown, P.A., 2016. The Cryptic Group of Small *Myotis* Bats (*M. Mystacinus*, *M. Brandtii* and *M. Alcaethoe*) and Habitat Use by Woodland Bats Species in Britain, University of Bristol.

Dietz, C., Kiefer, A. 2016. Bats of Britain and Europe. Bloomsbury, United Kingdom.

Ekman, M., de Jong, J. 1996. Local patterns of distribution and resource utilization of four bat species (*Myotis brandtii*, *Eptesicus nilssonii*, *Plecotus auritus* and *Pipistrellus pipistrellus*) in patchy and continuous environments. *Journal of Zoology* 238, 571-580.

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.

Jan, C.M., Frith, K., Glover, A.M., Butlin, R.K., Scott, C.D., Greenaway, F., Ruedi, M., Frantz, A.C., Dawson, D.A., Altringham, J.D. 2010. *Myotis alcaethoe* confirmed in the UK from mitochondrial and microsatellite DNA. *Acta Chiropterologica* 12, 471-483.

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Report on the main results of the surveillance under Article 11 for Annex II, IV and V species (Annex B)

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- Russ, J. 2012. British bat calls: a guide to species identification. Pelagic publishing.
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- Speakman, J. 1991. The impact of predation by birds on bat populations in the British Isles. Mammal Review. 21, 123-142.
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- Vaughan, N., 1997. The diets of British bats (Chiroptera). Mammal Review 27, 77-94.
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- Scotland
- Bat Conservation Trust, 2018. The National Bat Monitoring Programme. Annual Report 2017, Bat Conservation Trust, London.
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Report on the main results of the surveillance under Article 11 for Annex II, IV and V species (Annex B)

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Report on the main results of the surveillance under Article 11 for Annex II, IV and V species (Annex B)

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Schober W, Grimmberger E. 1989. Bats of Britain and Europe. Hamlyn, London

Speakman JR. 1991. The impact of predation by birds on bat populations in the British Isles. Mammal Review, 21, 123-142.

Vaughan N. 1997. The diet of British bats (Chiroptera). Mammal Review 27, 77-94

Von Helversen O, Heller KG, Nemeth A, Volleth M, Gombkoto P. 2001. Cryptic mammalian species: a new species of whiskered bat (Myotis alcathoe n. sp.) in Europe. Naturwissenschaft 88: 5, 217 - 223

5. Range

| | |
|-------------------------------------|---|
| 5.1 Surface area (km ²) | 144270 |
| 5.2 Short-term trend Period | 2013-2018 |
| 5.3 Short-term trend Direction | Stable (0) |
| 5.4 Short-term trend Magnitude | a) Minimum b) Maximum |
| 5.5 Short-term trend Method used | Based mainly on expert opinion with very limited data |
| 5.6 Long-term trend Period | |
| 5.7 Long-term trend Direction | |
| 5.8 Long-term trend Magnitude | a) Minimum b) Maximum |
| 5.9 Long-term trend Method used | |

Report on the main results of the surveillance under Article 11 for Annex II, IV and V species (Annex B)

| | | |
|--|---|--|
| 5.10 Favourable reference range | a) Area (km ²) 126401 b) Operator c) Unknown d) Method | The FRR value is the same as in 2013. 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 information see the 2019 Article 17 UK Approach document. |
| 5.11 Change and reason for change in surface area of range | Use of different method The change is mainly due to: Use of different method | |
| 5.12 Additional information | <p>The range surface area for this species has been calculated using the UK 2013 approach and not the new approach outlined in Mathews et al. (2018). The trend in range is based on comparing current range with range in 2013 and expert opinion. Apparent change in range surface area since 2013 is due to the method of range data collection for this reporting round and not to genuine change. The difficulty of separating this species from <i>M. mystacinus</i> in terms of physical appearance and echolocation calls limits the availability of data. The estimated range is therefore likely to be less reliable for this species than for other UK bat species.</p> <p>There is no evidence to suggest that this species range has declined for the specified time period. The current range is above the FRR value and is considered to be large enough to support a viable population.</p> | |

6. Population

| | |
|--|---|
| 6.1 Year or period | 1995-2017 |
| 6.2 Population size (in reporting unit) | a) Unit number of map 1x1 km grid cells (grids1x1) b) Minimum c) Maximum d) Best single value 2662 |
| 6.3 Type of estimate | Minimum |
| 6.4 Additional population size (using population unit other than reporting unit) | a) Unit b) Minimum c) Maximum d) Best single value |
| 6.5 Type of estimate | |
| 6.6 Population size Method used | Based mainly on expert opinion with very limited data |
| 6.7 Short-term trend Period | 1999-2017 |
| 6.8 Short-term trend Direction | Stable (0) |
| 6.9 Short-term trend Magnitude | a) Minimum b) Maximum c) Confidence interval |

Report on the main results of the surveillance under Article 11 for Annex II, IV and V species (Annex B)

| | | |
|---|--|---|
| 6.10 Short-term trend Method used | Based mainly on extrapolation from a limited amount of data | |
| 6.11 Long-term trend Period | | |
| 6.12 Long-term trend Direction | | |
| 6.13 Long-term trend Magnitude | a) Minimum b) Maximum c) Confidence interval | |
| 6.14 Long-term trend Method used | | |
| 6.15 Favourable reference population (using the unit in 6.2 or 6.4) | a) Population size b) Operator c) Unknown d) Method | x The FRP for this species is unknown because there is insufficient information to set an FRP value. For further information see the 2019 Article 17 UK Approach document. |
| 6.16 Change and reason for change in population size | No change The change is mainly due to: | |
| 6.17 Additional information | <p>The 1km square count has been calculated from the UK count of 1km squares where the species has been recorded. This is a minimum count because it only includes number of recorded occupied 1km squares.</p> <p>Accurate predictions of population size cannot be made as very few roosts are known, and it is highly likely that there is considerable misidentification of the species, which is very similar to the whiskered bat (<i>Myotis mystacinus</i>) in physical appearance and echolocation calls.</p> <p>Trend information suggests the species populations are currently stable. However, lack of a population estimate and inability to set an FRP mean that the population status of this species is currently unknown.</p> | |

7. Habitat for the species

| | | |
|---|---|-----|
| 7.1 Sufficiency of area and quality of occupied habitat | a) Are area and quality of occupied habitat sufficient (for long-term survival)? b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)? | Yes |
| 7.2 Sufficiency of area and quality of occupied habitat Method used | Based mainly on expert opinion with very limited data | |
| 7.3 Short-term trend Period | 1995-2018 | |
| 7.4 Short-term trend Direction | Stable (0) | |
| 7.5 Short-term trend Method used | Based mainly on expert opinion with very limited data | |
| 7.6 Long-term trend Period | | |
| 7.7 Long-term trend Direction | | |
| 7.8 Long-term trend Method used | | |

Report on the main results of the surveillance under Article 11 for Annex II, IV and V species (Annex B)

7.9 Additional information

There is some detailed information on the habitat requirements and limitations of this species. This is a generalist species, using a mosaic of habitats across a large area and the short term trend is thought to be stable. It is assumed that there is sufficient habitat for the species, which does not appear to have declined in range or population.

8. Main pressures and threats

8.1 Characterisation of pressures/threats

| Pressure | Ranking |
|---|---------|
| Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.) (A05) | M |
| Abandonment of grassland management (e.g. cessation of grazing or mowing) (A06) | M |
| Logging without replanting or natural regrowth (B05) | H |
| Removal of dead and dying trees, including debris (B07) | H |
| Removal of old trees (excluding dead or dying trees) (B08) | M |
| Clear-cutting, removal of all trees (B09) | M |
| Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01) | H |
| Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions) (F01) | M |
| Construction or modification (e.g. of housing and settlements) in existing urban or recreational areas (F02) | H |
| Sports, tourism and leisure activities (F07) | M |

| Threat | Ranking |
|---|---------|
| Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.) (A05) | M |
| Abandonment of grassland management (e.g. cessation of grazing or mowing) (A06) | M |
| Logging without replanting or natural regrowth (B05) | M |
| Removal of dead and dying trees, including debris (B07) | H |
| Removal of old trees (excluding dead or dying trees) (B08) | H |
| Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01) | H |
| Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions) (F01) | H |
| Construction or modification (e.g. of housing and settlements) in existing urban or recreational areas (F02) | H |
| Sports, tourism and leisure activities (F07) | M |

8.2 Sources of information

Report on the main results of the surveillance under Article 11 for Annex II, IV and V species (Annex B)

8.3 Additional information

9. Conservation measures

9.1 Status of measures

- a) Are measures needed? Yes
- b) Indicate the status of measures Measures identified and taken

9.2 Main purpose of the measures taken

Maintain the current range, population and/or habitat for the species

9.3 Location of the measures taken

Both inside and outside Natura 2000

9.4 Response to the measures

Medium-term results (within the next two reporting periods, 2019-2030)

9.5 List of main conservation measures

Restore small landscape features on agricultural land (CA02)

Adapt/manage reforestation and forest regeneration (CB04)

Stop forest management and exploitation practices (CB06)

Reduce impact of transport operation and infrastructure (CE01)

Manage conversion of land for construction and development of infrastructure (CF01)

Reduce impact of outdoor sports, leisure and recreational activities (CF03)

Other measures related to residential, commercial, industrial and recreational infrastructures, operations and activities (CF12)

9.6 Additional information

10. Future prospects

10.1 Future prospects of parameters

- a) Range Good
- b) Population Unknown
- c) Habitat of the species Good

10.2 Additional information

Future trend in Range is Overall stable; Future trend in Population is Overall stable; and Future trend in Habitat for the species is Overall stable. For further information on how future trends inform the Future Prospects conclusion see the 2019 Article 17 UK Approach document.

11. Conclusions

11.1. Range

Favourable (FV)

11.2. Population

Unknown (XX)

11.3. Habitat for the species

Favourable (FV)

11.4. Future prospects

Favourable (FV)

11.5 Overall assessment of Conservation Status

Favourable (FV)

11.6 Overall trend in Conservation Status

Stable (=)

Report on the main results of the surveillance under Article 11 for Annex II, IV and V species (Annex B)

11.7 Change and reasons for change in conservation status and conservation status trend

a) Overall assessment of conservation status

No change

The change is mainly due to:

b) Overall trend in conservation status

No change

The change is mainly due to:

11.8 Additional information

Conclusion on Range reached because: (i) the short-term trend direction in Range surface area is stable and (ii) the current Range surface area is not less than the Favourable Reference Range.

Conclusion on Population reached because: (i) the short-term trend direction in Population size is stable; and (ii) the current Population size is unknown.

Conclusion on Habitat for the species reached because: (i) the area of occupied habitat is sufficiently large and (ii) the habitat quality is suitable for the long-term survival of the species; and (iii) the short-term trend in area and quality of habitat is stable.

Conclusion on Future prospects reached because: (i) the Future prospects for Range are good; (ii) the Future prospects for Population are unknown; and (iii) the Future prospects for Habitat for the species are good.

Overall assessment of Conservation Status is Favourable because three of the conclusions are Favourable and one is Unknown.

Overall trend in Conservation Status is based on the combination of the short-term trends for Range – stable Population – stable, and Habitat for the species – stable.

Overall assessment of Conservation Status has not changed since 2013.

Overall trend in conservation status was not reported for this species in 2013. However, from the information available the overall trend would have been stable in 2013 and so there has been no change since the last reporting round.

12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)

- a) Unit
- b) Minimum
- c) Maximum
- d) Best single value

12.2 Type of estimate

12.3 Population size inside the network Method used

Report on the main results of the surveillance under Article 11 for Annex II, IV and V species (Annex B)

12.4 Short-term trend of population size within the network Direction

12.5 Short-term trend of population size within the network Method used

12.6 Additional information

13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

Distribution Map

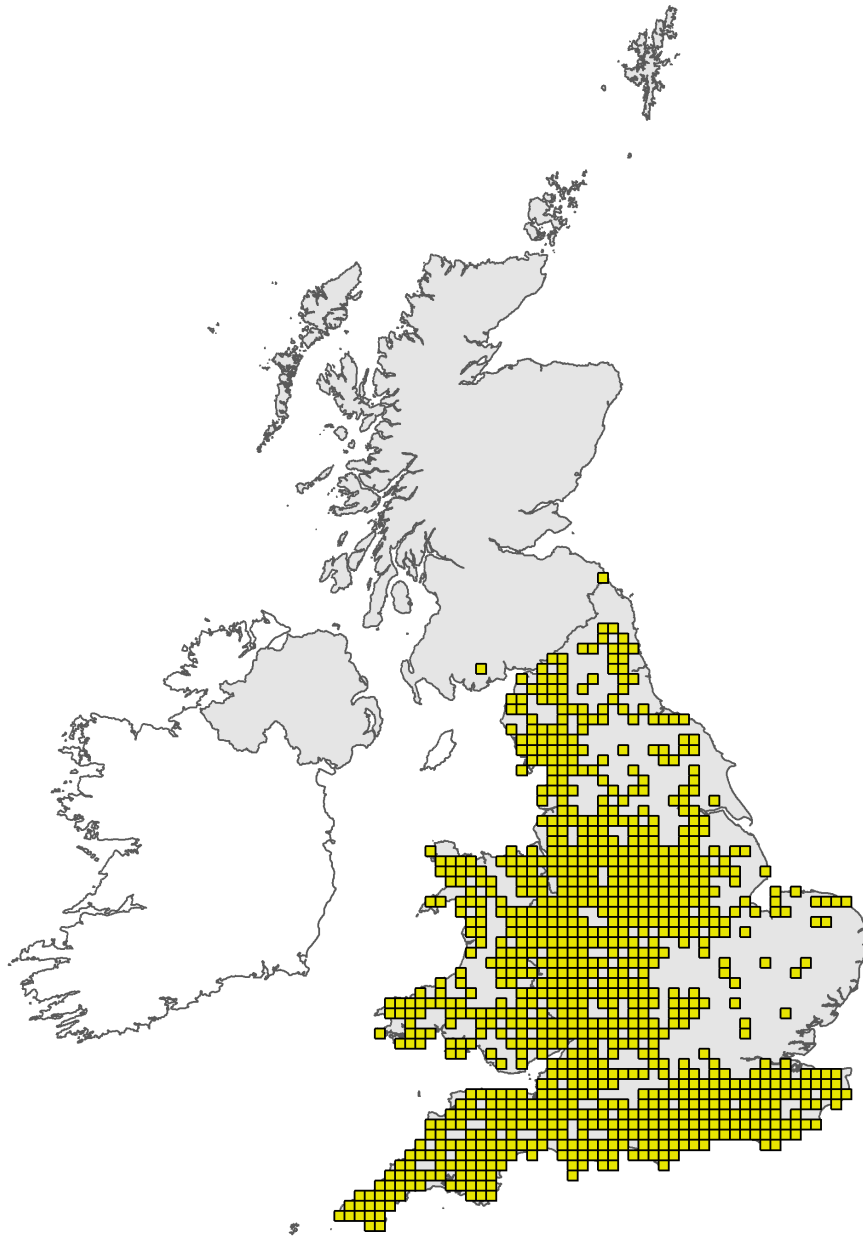


Figure 1: UK distribution map for S1320 - Brandt's bat (*Myotis brandtii*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

The 10km grid square distribution map is based on available species records within the current reporting period. For further details see the 2019 Article 17 UK Approach document.

Range Map



Figure 2: UK range map for S1320 - Brandt's bat (*Myotis brandtii*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

The range map has been produced by applying a bespoke range mapping tool for Article 17 reporting (produced by JNCC) to the 10km grid square distribution map presented in Figure 1. The alpha value for this species was 45km. For further details see the 2019 Article 17 UK Approach document.