

**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:

**S1304 - Greater horseshoe bat (*Rhinolophus  
ferrumequinum*)**

**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	1304
1.3 Species scientific name	Rhinolophus ferrumequinum
1.4 Alternative species scientific name	
1.5 Common name (in national language)	Greater horseshoe 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	Complete survey or a statistically robust estimate
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
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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.

Barrett-Hamilton, G.E., Hinton, M., 1910-1921. A history of British mammals. Gurney and Jackson, London.

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- Ransome R., Jones, G. 2008. Greater horseshoe bat (*Rhinolophus ferrumequinum*). Pp. 298-306 in Harris, S & Yalden, D.W. *Mammals of the British Isles: Handbook*, 4th edition. The Mammal Society, Southampton.
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- Wales
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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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## 5. Range

5.1 Surface area (km <sup>2</sup> )	43015
5.2 Short-term trend Period	2013-2018
5.3 Short-term trend Direction	Increasing (+)
5.4 Short-term trend Magnitude	a) Minimum b) Maximum
5.5 Short-term trend Method used	Complete survey or a statistically robust estimate
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	
5.10 Favourable reference range	a) Area (km <sup>2</sup> ) 43015 b) Operator c) Unknown d) Method <p>The FRR has changed since 2013. The new value is considered to be large enough to support a viable population and no lower than the range estimate when the Habitats Directive came into force in the UK. For further information see the 2019 Article 17 UK Approach document. The 2013 FRR value has been revised and is equal to the current range. The current range surface area has been calculated using the method outlined in Mathews et. al., (2018) and is based on presence data collected between 1995-2016. Areas that contain very isolated records may not have been included in the area of distribution. The new, more robust method of calculating range has reduced estimated range size for this species since 2013. This does not represent a real reduction in range.</p>
5.11 Change and reason for change in surface area of range	Genuine change Improved knowledge/more accurate data Use of different method The change is mainly due to: Use of different method
5.12 Additional information	Short term trend in range has been assessed by using the 2019 distribution data and the 2013 method for calculating range, and comparing the result with range surface area in 2013. For further information see the 2019 Article 17 UK Approach document and country assessments.

## 6. Population

6.1 Year or period	1995-2017
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# Report on the main results of the surveillance under Article 11 for Annex II, IV and V species (Annex B)

6.2 Population size (in reporting unit)	a) Unit                      number of individuals (i) b) Minimum                9245 c) Maximum                18530 d) Best single value      12951
6.3 Type of estimate	Best estimate
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	Complete survey or a statistically robust estimate
6.7 Short-term trend Period	2006-2017
6.8 Short-term trend Direction	Increasing (+)
6.9 Short-term trend Magnitude	a) Minimum b) Maximum c) Confidence interval
6.10 Short-term trend Method used	Complete survey or a statistically robust estimate
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        12951 with unit number of individuals (i) b) Operator c) Unknown d) Method <p>The FRP has changed since 2013. The new value is considered to be large enough to support a viable population and no less than the population estimate when the Habitats Directive came into force in the UK. For further information see the 2019 Article 17 UK Approach document. The FRP is the same as the new population estimate (Mathews et. al., 2018). The previous FRP was thought to be an underestimate of the population, currently, and when the Habitats Directive came into force in the UK.</p>
6.16 Change and reason for change in population size	Genuine change Improved knowledge/more accurate data The change is mainly due to:    Genuine change
6.17 Additional information	The UK National Bat Monitoring Programme (NBMP) has detected increases in both the maternity and hibernation indices and these changes have been



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

consistent over this reporting period. For further information see the 2019 Article 17 UK Approach document.

## 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)? Yes
- b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)?

### 7.2 Sufficiency of area and quality of occupied habitat Method used

Based mainly on extrapolation from a limited amount of data

### 7.3 Short-term trend Period

1995-2016

### 7.4 Short-term trend Direction

Stable (0)

### 7.5 Short-term trend Method used

Based mainly on extrapolation from a limited amount of data

### 7.6 Long-term trend Period

### 7.7 Long-term trend Direction

### 7.8 Long-term trend Method used

### 7.9 Additional information

This species uses a mosaic of habitats. Given that the population appears to be increasing and the range is stable, the habitat can also be considered to be stable

## 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)	H
Abandonment of grassland management (e.g. cessation of grazing or mowing) (A06)	H
Livestock farming (without grazing) (A14)	H
Logging without replanting or natural regrowth (B05)	M
Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (C01)	M
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	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
Reduced fecundity / genetic depression (e.g. inbreeding or endogamy) (L05)	M
Other natural catastrophes (M10)	M
Threat	Ranking
Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open	M

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

ditches, springs, solitary trees, etc.) (A05)

Abandonment of grassland management (e.g. cessation of grazing or mowing) (A06)	H
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Livestock farming (without grazing) (A14)	M
---	---

Logging without replanting or natural regrowth (B05)	M
--	---

Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (C01)	M
---	---

Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	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
--	---

Reduced fecundity / genetic depression (e.g. inbreeding or endogamy) (L05)	H
--	---

Other natural catastrophes (M10)	H
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## 8.2 Sources of information

## 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 mowing, grazing and other equivalent agricultural activities (CA05)

Manage the use of natural fertilisers and chemicals in agricultural (plant and animal) production (CA09)

Adapt/change forest management and exploitation practices (CB05)

Reduce impact of transport operation and infrastructure (CE01)

Manage/reduce/eliminate noise, light and other forms of pollution from transport (CE05)

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

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

Improvement of habitat of species from the directives (CS03)

## 9.6 Additional information

# 10. Future prospects

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

## 10.1 Future prospects of parameters

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

## 10.2 Additional information

Future trend in Range is Positive - increasing  $\leq 1\%$  (one percent or less) per year on average; Future trend in Population is Very Positive - increasing  $> 1\%$  (more than one percent) per year on average; 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

Favourable (FV)

### 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

Improving (+)

### 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 increasing; and (ii) the current Range surface area is approximately equal to the Favourable Reference Range.

Conclusion on Population reached because: (i) the short-term trend direction in Population size is increasing; and (ii) the current Population size is approximately equal to the Favourable Reference Population.

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 good; and (iii) the Future prospects for Habitat for the species are good.

Overall assessment of Conservation Status is Favourable because all of the conclusions are Favourable.

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

Overall assessment of Conservation Status has not changed since 2013.

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

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

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                      number of individuals (i)  
b) Minimum  
c) Maximum  
d) Best single value    4734

12.2 Type of estimate

Minimum

12.3 Population size inside the network Method used

Complete survey or a statistically robust estimate

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

Increasing (+)

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

Complete survey or a statistically robust estimate

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

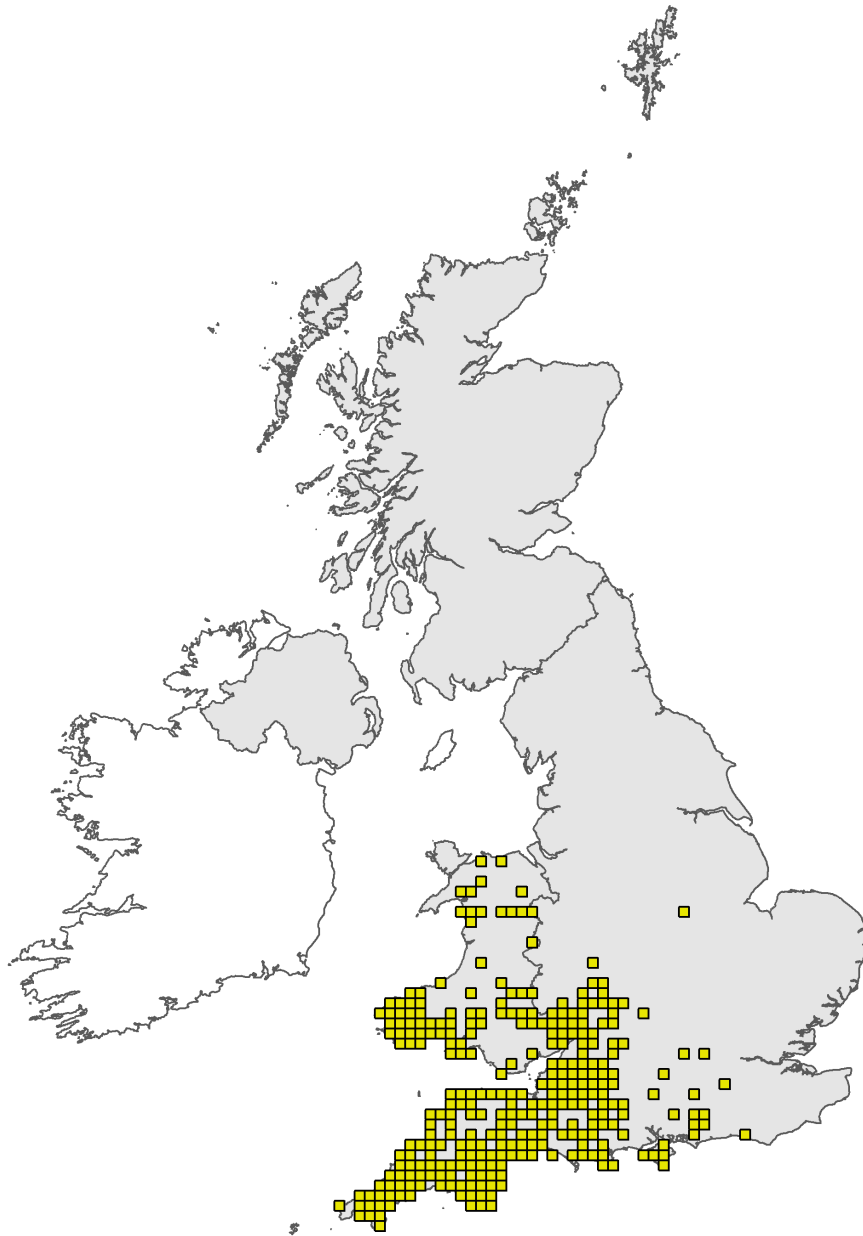


Figure 1: UK distribution map for S1304 - Greater horseshoe bat (*Rhinolophus ferrumequinum*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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

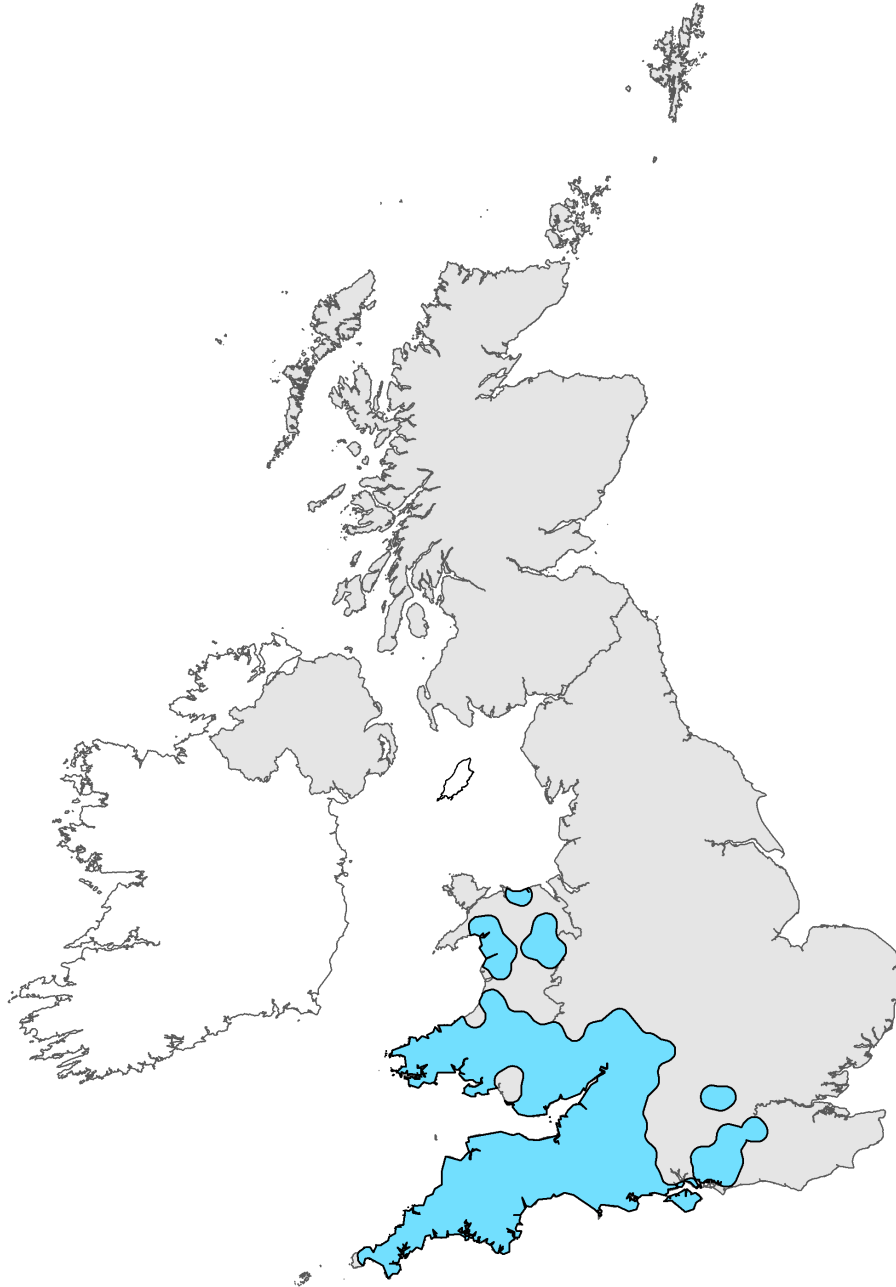


Figure 2: UK range map for S1304 - Greater horseshoe bat (*Rhinolophus ferrumequinum*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

The range map has been produced by The Mammal Society applying a range mapping tool as outlined in Matthews et al. (2018), to the 10km grid square distribution map presented in Figure 1. The alpha value for this species was 20km. For further details see the 2019 Article 17 UK Approach document.