

Report under The Conservation of Habitats and  
Species Regulations 2017 (as amended),  
Regulation 9A

**2019-2024**

Conservation status assessment for the species:

**S1329 - Grey long-eared bat**

***(Plecotus austriacus)***

**England**



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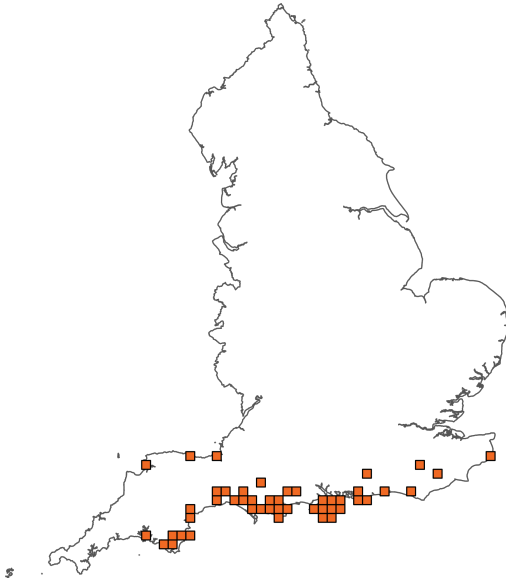
### **Important note - Please read**

- The information in this document represents the England Report under The Conservation of Habitats and Species Regulations 2017 (as amended), Regulation 9A, for the period 2019-2024.
- It is based on supporting information provided by Natural England, which is documented separately.
- The Habitats Regulations reporting 2019-2024 Approach Document provides details on how this supporting information contributed to the UK Report and the fields that were completed for each parameter.
- Maps showing the distribution and range of the species are included.
- Explanatory notes (where provided) are included at the end. These provide additional audit trail information to that included within the assessments. Further underpinning explanatory notes are available in the related country 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 National Site Network coverage for Annex II species).

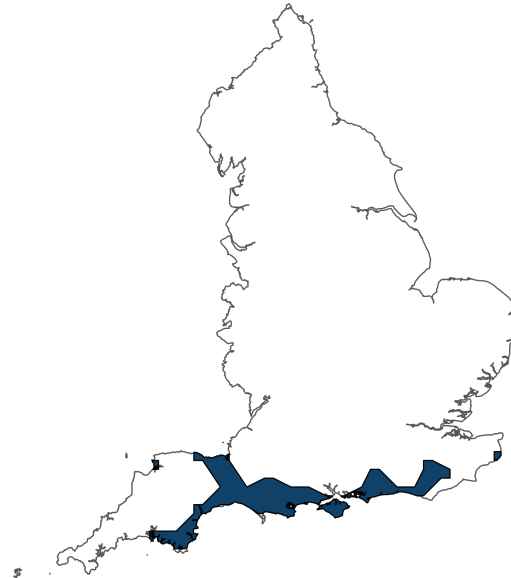
Further details on the approach to the Habitats Regulations Reporting 2019-2024 are available on the [JNCC website](#).

## Assessment Summary: Grey long-eared bat

### Distribution Map



### Range Map



**Figure 1:** England distribution and range map for S1329 - Grey long-eared bat (*Plecotus austriacus*). 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.

**Table 1:** Table summarising the conservation status for S1329 - Grey long-eared bat (*Plecotus austriacus*). Overall conservation status for species is based on assessments of range, population, habitat for the species, and future prospects.

### Overall Conservation Status (see section 11)

**Unfavourable-bad (U2)**

### Breakdown of Overall Conservation Status

**Range** (see section 5)

**Favourable (FV)**

**Population** (see section 6)

**Unfavourable-bad (U2)**

**Habitat for the species** (see section 7)

**Unknown (XX)**

**Future prospects** (see section 10)

**Unknown (XX)**

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## National Level

### 1. General information

<b>1.1 Country</b>	England
<b>1.2 Species code</b>	S1329
<b>1.3 Species scientific name</b>	<i>Plecotus austriacus</i>
<b>1.4 Alternative species scientific name</b>	
<b>1.5 Common name</b>	Grey long-eared bat
<b>Annex(es)</b>	IV

### 2. Maps

<b>2.1 Sensitive species</b>	No
<b>2.2 Year or period</b>	1995-2024
<b>2.3 Distribution map</b>	Yes
<b>2.4 Distribution map; Method used</b>	Based mainly on extrapolation from a limited amount of data

#### 2.5 Additional information

The range map has been produced following the same methodology that was used in 2007 and 2013 whereby a 45km alpha hull value has been used for all species with a starting range unit of individual 10km squares. In 2018 range was taken from Mathews et al, whereby an alpha hull value of 20km was drawn around the presence records, which represented the best balance between the inclusion of unoccupied sites (i.e. where records are sparse but close enough for inclusion) and the exclusion of occupied areas due to gaps in the data (i.e. where records exist but are too isolated for inclusion). An additional 10km buffer was added to the final hull polygon to provide smoothing to the hull and to ensure that the hull covered the areas recorded rather than intersecting them. That process led to the production of much finer detailed maps being produced. Additionally, for the 2026 Regulation 9A reporting round the distribution datasets reported for all features have been created using existing Natural England source data and additional datasets made available to Natural England for Regulation 9a reporting under Open Government (OGL) or Creative Commons (CC-BY) license. The reinterpretation of source data is a methodological change which has resulted in

changes to mapped distribution and hence range for some features. In a few cases the available data is known to not reflect the full distribution of a feature. In order to attempt to overcome this issue, the date range for the collection of presence data for this species has been set at 1995-2024. Where apparent change is an artefact of the mapping approach, rather than real change in distribution it will be highlighted, and associated changes in range explained, in the assessment text.

### 3. Information related to Annex V Species

#### 3.1 Is the species taken in the wild / exploited?

#### 3.2 What measures have been taken?

##### a) Regulations regarding access to property

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##### b) Temporary or local prohibition on the taking of specimens in the wild and exploitation

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##### c) Regulation of the periods and/or methods of taking specimens

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##### d) Application of hunting and fishing rules which take account of the conservation of such populations

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##### e) Establishment of a system of licences for taking specimens or of quotas

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##### f) Regulation of the purchase, sale, offering for sale, keeping for sale, or transport for sale of specimens

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##### g) Breeding in captivity of animal species as well as artificial propagation of plant species

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##### Other measures

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##### Other measures description

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

##### a) Unit

---

**Table 2:** Quantity taken from the wild during the reporting period (see 3.3a for units). For species with defined hunting seasons, Season 1 refers to 2018/2019 (autumn 2018 to spring 2019), and Season 6 to 2023/2024. For species without hunting seasons, data are reported by calendar year: Year 1 is 2019, and Year 6 is 2024.

	Season/ year 1	Season/ year 2	Season/ year 3	Season/ year 4	Season/ year 5	Season/ year 6
<b>b) Minimum</b>	-	-	-	-	-	-
<b>c) Maximum</b>	-	-	-	-	-	-
<b>d) Unknown</b>	-	-	-	-	-	-

**3.4: Hunting bag or quantity taken in the wild; Method used**

**3.5: Additional information**

No additional information

**Biogeographical Level**

**4. Biogeographical and marine regions**

**4.1 Biogeographical or marine region where the species occurs** ATL

**4.2 Sources of information**

See section 14 References

**5. Range**

**5.1 Surface area (km<sup>2</sup>)** 8,055.75

**5.2 Short-term trend; Period** 2013-2024

**5.3 Short-term trend; Direction** Unknown

**5.4 Short-term trend; Magnitude**

**a) Estimated minimum**

---

**b) Estimated maximum**

---

**c) Pre-defined range**

---

**d) Unknown**

---

**e) Type of estimate**

---

**f) Rate of decrease**

---

**5.5 Short-term trend; Method used**      Insufficient or no data available

---

**5.6 Long-term trend; Period**

---

**5.7 Long-term trend; Direction**

---

**5.8 Long-term trend; Magnitude**

---

**a) Minimum**

---

**b) Maximum**

---

**c) Rate of decrease**

---

**5.9 Long-term trend; Method used**

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**5.10 Favourable Reference Range (FRR)**

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**a) Area (km<sup>2</sup>)**      7,250

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**b) Pre-defined increment**

---

**c) Unknown**      No

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**d) Method used**      Reference-based approach

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**e) Quality of information**      low

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**5.11 Change and reason for change in surface area of range**

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**a) Change**      Yes

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**b) Genuine change**      No

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**c) Improved knowledge or more accurate data**      No

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**d) Different method**      Yes

<b>e) No information</b>	No
<b>f) Other reason</b>	No
<b>g) Main reason</b>	Use of different method

### 5.12 Additional information

The apparent change in range is due to a change in methodology rather than an actual change in the range for the species. The range appears to have increased from the last reporting round (2013-2018) from 7,338km<sup>2</sup> to 8055.75km<sup>2</sup>. This is due to clusters of records having being joined up in this reporting round rather than having being smoothed as they were previously. This has resulted in an apparent range increase which is an artefact of the process rather than a real increase in range.

## 6. Population

**6.1 Year or period** 1995-2024

### 6.2 Population size (in reporting unit)

<b>a) Unit</b>	number of individuals
<b>b) Minimum</b>	400
<b>c) Maximum</b>	3,000
<b>d) Best single value</b>	1,000
<b>6.3 Type of estimate</b>	Best estimate

**6.4 Quality of extrapolation to reporting unit** low

### 6.5 Additional population size (using population unit other than reporting unit)

<b>a) Unit</b>	
<b>b) Minimum</b>	
<b>c) Maximum</b>	
<b>d) Best single value</b>	
<b>e) Type of estimate</b>	

<b>6.6 Population size; Method used</b>	Based mainly on extrapolation from a limited amount of data
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<b>6.7 Short-term trend; Period</b>	2013-2024
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<b>6.8 Short-term trend; Direction</b>	Unknown
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<b>6.9 Short-term trend; Magnitude</b>	
--	--

a) Estimated minimum	
----------------------	--

b) Estimated maximum	
----------------------	--

c) Pre-defined range	
----------------------	--

d) Unknown	
------------	--

e) Type of estimate	
---------------------	--

f) Rate of decrease	
---------------------	--

<b>6.10 Short-term trend; Method used</b>	Insufficient or no data available
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<b>6.11 Long-term trend; Period</b>	
-------------------------------------	--

<b>6.12 Long-term trend; Direction</b>	
--	--

<b>6.13 Long-term trend; Magnitude</b>	
--	--

a) Minimum	
------------	--

b) Maximum	
------------	--

c) Confidence interval	
------------------------	--

d) Rate of decrease	
---------------------	--

<b>6.14 Long-term trend; Method used</b>	
--	--

<b>6.15 Favourable Reference Population (FRP)</b>	
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ai) Population size	10,000
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aii) Unit	number of individuals
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b) Pre-defined increment	
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c) Unknown	No
d) Method used	Expert opinion
e) Quality of information	low

#### 6.16 Change and reason for change in population size

a) Change	No
b) Genuine change	
c) Improved knowledge or more accurate data	
d) Different method	
e) No information	
f) Other reason	
g) Main reason	

#### 6.17 Additional information

No additional information

**6.18 Age structure, mortality and reproduction deviation** Yes, but not strongly deviating from normal

## 7. Habitat for the species

### 7.1 Sufficiency of area and quality of occupied habitat (for long-term survival)

a) Is area of occupied habitat sufficient?	Unknown
b) Is quality of occupied habitat sufficient?	Unknown
c) If No or Unknown, is there a sufficiently large area of unoccupied habitat of suitable quality?	Unknown

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

a) Sufficiency of area of occupied habitat; Method used Insufficient or no data available

b) Sufficiency of quality of occupied habitat; Method used Insufficient or no data available

7.3 Short-term trend; Period 1995-2024

7.4 Short-term trend; Direction Unknown

7.5 Short-term trend; Method used Insufficient or no data available

7.6 Long-term trend; Period

7.7 Long-term trend; Direction

7.8 Long-term trend; Method used

### 7.9 Additional information

No additional information

## 8. Main pressures

### 8.1 Characterisation of pressures

**Table 3:** Pressures affecting the species, including timing and importance/impact ranking. Pressures are defined as factors acting currently and/or during the reporting period (2019–2024). Rankings are: High (direct/immediate influence and/or large spatial extent) and Medium (moderate direct/immediate influence, mainly indirect and/or regional extent).

Pressure	Timing	Ranking
PA02: Conversion from one type of agricultural land use to another (excluding drainage and burning)	Ongoing and likely to be in the future	High (H)
PA04: Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.)	Ongoing and likely to be in the future	High (H)
PA05: Abandonment of management/use of grasslands and other agricultural and	Ongoing and likely to be in the future	High (H)

agroforestry systems (e.g. cessation of grazing, mowing or traditional farming)		
PA14: Use of plant protection chemicals in agriculture	Ongoing and likely to be in the future	High (H)
PB02: Conversion from one type of forestry land use to another	Ongoing	Medium (M)
PB05: Logging without replanting or natural regrowth	Ongoing	Medium (M)
PF02: Construction or modification (e.g. of housing and settlements) in existing built-up areas	Ongoing and likely to be in the future	High (H)

## 8.2 Sources of information

See section 14 References

## 8.3 Additional information

No 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	Restore the habitat of the species (related to 'Habitat for the species')
9.3 Location of the measures taken	Both inside and outside National Site Network
9.4 Response to measures	Medium-term results (within the next two reporting periods, 2025–2036)

### 9.5 List of main conservation measures

**Table 4:** Key conservation measures addressing current pressures and/or anticipated threats during the next two reporting periods (2025–2036). Measures are ranked by importance/impact: High (direct/immediate influence and/or large spatial extent) and Medium (moderate direct/immediate influence, mainly indirect and/or regional extent).

Conservation measure	Ranking
MA01: Prevent conversion of natural and semi-natural habitats, and habitats of species into agricultural land	High (H)
MA02: Restore small landscape features on agricultural land	High (H)
MA03: Maintain existing extensive agricultural practices and agricultural landscape features	High (H)
MA04: Reinstate appropriate agricultural practices to address abandonment, including mowing, grazing, burning or equivalent measures	High (H)
MA09: Manage the use of natural and synthetic fertilisers as well as chemicals in agricultural for plant and animal production	Medium (M)
MB01: Prevent conversion of (semi-) natural habitats into forests and of (semi-) natural forests into intensive forest plantation	Medium (M)
MB04: Adapt/manage reforestation and forest regeneration	Medium (M)
MF10: Other measures related to residential, commercial, industrial and recreational infrastructures, operations and activities	High (H)

## 9.6 Additional information

No additional information

## 10. Future prospects

### 10.1a Future trends of parameters

<b>ai) Range</b>	Overall stable
<b>bi) Population</b>	Very Negative - decreasing >1% (more than one percent) per year on average
<b>ci) Habitat for the species</b>	Unknown

### 10.1b Future prospects of parameters

<b>aii) Range</b>	Unknown
<b>bii) Population</b>	Unknown
<b>cii) Habitat for the species</b>	Unknown

## 10.2 Additional information

Future trend for range, population and Habitat for the species are unknown.

## 11. Conclusions

**11.1 Range** Favourable (FV)

**11.2 Population** Unfavourable-bad (U2)

**11.3 Habitat for the species** Unknown (XX)

**11.4 Future prospects** Unknown (XX)

**11.5 Overall assessment of Conservation Status** Unfavourable-bad (U2)

**11.6 Overall trend in Conservation Status** Unknown

### 11.7 Change and reason for change in conservation status

This field is not reported as the period 2019-2024 marks the first instance in which conservation status has been assessed at the national level, meaning no comparisons to previous reports can be drawn.

### 11.7 Change and reason for change in conservation status trend

This field is not reported as the period 2019-2024 marks the first instance in which conservation status has been assessed at the national level, meaning no comparisons to previous reports can be drawn.

### 11.8 Additional information

No additional information

## 12. UK National Site Network (pSCIs, SCIs, SACs) coverage for Annex II species

### 12.1 Population size inside the pSCIs, SCIs and SACs network

a) Unit

b) Minimum

---

**c) Maximum**

---

**d) Best single value**

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**12.2 Type of estimate**

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**12.3 Population size inside the network; Method used**

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

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

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**12.6 Short-term trend of habitat for the species inside the pSCIs, SCIs and SACs network; Direction**

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**12.7 Short-term trend of habitat for the species inside the pSCIs, SCIs and SACs network; Method used**

**12.8 Additional information**

No additional information

## **13. Complementary information**

**13.1 Justification of percentage thresholds for trends**

No justification information

**13.2 Trans-boundary assessment**

No trans-boundary assessment information

**13.2 Other relevant information**

No other relevant information

## 14. References

### Biogeographical and marine regions

#### 4.2 Sources of information

Frankham, R., Briscoe, D.A. and Ballou, J.D. (2010). Introduction to conservation genetics, Cambridge University Press.

Joint Nature Conservation Committee (2019). Fourth Report by the UK under Article 17 on the implementation of the Habitats Directive from January 2013 to December 2018. Peterborough: JNCC.

Mathews, F., Kubasiewicz, L.M., Gurnell, J., Harrower, C., McDonald, R.A., Shore, R.F. (2018). A review of the population and conservation status of British Mammals. A report by the Mammal Society under contract to Natural England, Natural Resources Wales and Scottish Natural Heritage.

Mitchell-Jones, T.J. (2010). Bats in houses - the conservation challenge. pp 365-378 in Species Management: challenges and solutions for the 21st century. (Eds Baxter, J.J and Galbraith, C.A. TSO Scotland, Edinburgh.

Pettett, C and Pouget D (2021). Definition of Favourable Conservation Status for the Grey long-eared bat, *Plecotus austriacus*. RP2953. Natural England.

Razgour, O., Hanmer, J. and Jones, G., (2011). Using multi-scale modelling to predict habitat suitability for species of conservation concern: the grey long-eared bat as a case study. *Biological Conservation*, 144(12), pp.2922-2930.

Razgour, O.N. (2012). From genes to landscapes: conservation biology of the grey long-eared bat, *Plecotus austriacus*, across spatio-temporal scales. PhD Thesis, University of Bristol.

Razgour, O., Whitby, D., Dahlberg, E., Barlow, K., Hanmer, J., Haysom, K., Mcfarlane, H., Wicks, L., Williams, C. and Jones, G. (2013). Conserving grey long-eared bats (*Plecotus asutriacus*) in our landscape: a conservation management plan.

Razgour, O., Juste, J., Ibanez, C., Kiefer, A., Rebelo, H., Puechmaille, S.J., Arlettaz, R., Burke, T., Dawson, D.A. and Beaumont, M. (2013a). The shaping of genetic variation in edge-of-range populations under past and future climate change. *Ecology Letters*, 16, 1258-1266

Razgour, O., Rebelo, H., Puechmaille, S.J., Juste, J., Ibáñez, C., Kiefer, A., Burke, T., Dawson, D.A. and Jones, G., (2014). Scale-dependent effects of landscape variables on

gene flow and population structure in bats. *Diversity and Distributions*, 20(10), pp.1173-1185.

Razgour, O., Taggart, J.B., Manel, S., Juste, J., Ibanez, C., Rebelo, H., Alberdi, A., Jones, G. and Park, K., (2017). An integrated framework to identify wildlife populations under threat from climate change. *Molecular ecology resources*, 18(1), pp.18-31.

Waring, S.D., Essah, E., Gunnell, K and Bonser, R (2013). Double jeopardy: the potential for problems when bats interact with breathable roofing membranes in the United Kingdom. *Architecture and Environment*, 1 1-3

## **Main pressures**

### **8.2 Sources of information**

No sources of information

## 15. Explanatory Notes

Field label	Note
1.5: Common name	<p>The Grey long-eared bat is a cryptic species, very similar in morphology and flight pattern to the Brown long-eared bat. Very few colonies are known in GB and these are almost exclusively found in lowland regions of Southern England, close to the coast (Mathews et al, 2018). The recorded distribution of the species is along the south coast of England, north Devon and north Somerset. There are thought to be approximately 10 maternity colonies in England. All maternity roosts in England are in the loft spaces of residential buildings. The roof spaces tend to be large and include a roof lining of wood or bitumastic felt, no hibernation roosts are known in England (Mathews et al, 2018). Ecological niche modelling suggests that the distribution of the Grey long-eared bat in the UK is mainly limited by low winter temperatures, high summer rainfall, the availability of grasslands and suitable environmental conditions that do not extend much beyond the current distribution. However, future climate change may alter this situation (Razgour et al., 2011b).</p>
5.3: Short-term trend; Direction	<p>The Grey long-eared bat is a poorly recorded species. There is insufficient data at present to allow for any confidence in an estimation of trend.</p>
5.5: Short-term trend; Method used	<p>Range is based on presence data collected between 1995-2024. Areas that contain very isolated records may not have been included in the distribution. The range map has been produced following the same methodology that was used in 2007 and 2013 whereby a 45km alpha hull value has been used for all species with a starting range unit of individual 10km squares. In 2018 range was taken from Mathews et al, whereby an alpha hull value of 20km was drawn around the presence records, which represented the best balance between the inclusion of unoccupied sites (i.e. where records are sparse but close enough for inclusion) and the exclusion of occupied areas due to gaps in the data (i.e. where records exist but are too</p>

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isolated for inclusion). An additional 10km buffer was added to the final hull polygon to provide smoothing to the hull and to ensure that the hull covered the areas recorded rather than intersecting them. That process led to the production of much finer detailed maps being produced. However, this approach to mapping was not an option for this reporting round (2018-2024). In this case this has resulted in an apparent range increase from 7,338km<sup>2</sup> to 8055.75km<sup>2</sup>. This changed methodology has included areas where the species has not been recorded as being present.

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5.10: Favourable Reference Range (FRR)

It is deemed that the current occupied range of 7250km<sup>2</sup> is favourable in England as this range is consistent with limited historic records and the species climatic niche. However, this may change under future climate change scenarios (Pettett and Pouget 2021). Models that take into account future changes in climate predict that the climatic niche for the grey long-eared bat in England will increase in the next 100 years, thus there is potential for increases in the species range northwards in England (Razgor et al 2013a). However, the English populations may not be adapted to warm and dry conditions experienced by the species in the Mediterranean and therefore the species may decline within the current range (Razgour et al 2017).

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6.2: Population size

Mathews et al (2018) provides estimates of 400 individuals (lower plausible limit) to 3,000 (upper plausible limit and a main estimate of 1,000 individuals for the adult population size. Although, plausible estimates for the adult population size could be as high as 3,000 bats (Razgour, 2012), this is based on the broad principle that for mammals generally, effective population sizes are approximately 10 times lower than true population sizes for populations in Hardy-Weinberg equilibrium (true populations being on average 10 times larger than the effective population size) (Frankham, 2010). However, in this species because most adult females appear to breed (F Mathews pers obs) in a given year, there is no evidence of staging of reproduction and it is unclear whether the population is in equilibrium. In addition, the estimated effective population size takes into

	<p>account the genetic contribution of migrants: given the genetic connectivity between the east in England and France, this influence may be quite high. So, whilst the molecular data are consistent with a population of around 1,000 individuals, the true number may be much lower (Razgour pers comms)(JNCC 2019). There is no further information available for this reporting round to alter the existing population estimates.</p>
<p>6.8: Short-term trend; Direction</p>	<p>There are thought to be approximately 10 maternity colonies in England (8 sites studied by Razgour in 2012, which were visits to previously identified maternity colonies and 2 new colonies in Devon. There have also been a small number of additional sites confirmed by molecular analysis (including 2 in East Devon, 1 in South Devon and 1 in North Somerset, Barlow and Briggs 2012; F Mathews pers obs, C Williams pers com). It's unclear as to whether these are maternity sites. However, it is notable that most of the sites historically recorded as having Grey long-eared bat roosts no longer had any evidence of the species when they were revisited by Razgour (2012); JNCC (2019). There is no further information to draw upon for this reporting round that would aid this assessment, so the trend direction is unknown.</p>
<p>6.15: Favourable Reference Population (FRP)</p>	<p>The favourable reference range has been given as 10,000 individuals (Pettett and Pouget 2021). This was calculated to be the number of individuals required to prevent inbreeding in the long term. This would mean that 250 maternity colonies of at least 20 breeding females is the favourable population size. In the short term 13 colonies of median size, 20 breeding females, are required to prevent inbreeding. These numbers are highly speculative and are mainly based on expert opinion but can be updated in the light of future research (Pettett and Pouget, 2021).</p>
<p>6.18: Age structure, mortality and reproduction</p>	<p>The low number of maternity roosts and the low number of individuals in them, ranging from seven to 34 adults (Mathews et al 2018), indicates that the population is small and so vulnerable to the effects of inbreeding and stochastic events (Razgour et al 2014). Molecular studies</p>

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indicate that in the long term, the population of grey long-eared bats in England is not large enough to survive. However, the population is not closed and there may be gene flow from Europe (Razgour et al 2013a, Razgour et al 2014). Migration rates from the EU population are expected to increase under future climate change as suitable conditions for this species will shift north-westwards. As the population size grows, the proportion of individuals with EU ancestry will not necessarily grow in the same manner to maintain the same proportion of the population because the number of individuals migrating into the UK population will not necessarily increase (Razgour, pers com, 2019). So, the future recruitment of individuals to maintain a long term viable population continues to be highly uncertain.

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7.1: Sufficiency of area and quality of occupied habitat

The area and quality of habitat for the species has been assessed as unknown as there is insufficient information available for this species to undertake this assessment. The grey long-eared bat is primarily an open or edge habitat forager. The species prefers to forage in semi-unimproved (unmanaged) lowland grasslands including meadows and marshes, woody riparian vegetation and broadleaved woodland. Out of the available habitats within the colony range they use to the least extent arable fields, conifer woods and open water. When foraging within the agricultural landscape, grey long-eared bats mainly use field margins, hedgerows and scattered trees (Razgour et al 2013). This habitat niche occupancy is related to the species being a specialist moth feeder. However, in order to assess whether there is sufficient area and quality of habitat for this species, 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 England, which we do not currently have (JNCC 2019).

7.2: Sufficiency of area and quality of occupied habitat; Methods used	It is not possible to assess this parameter as we do not have the information required at a fine enough scale in order to undertake a meaningful assessment.
7.4: Short-term trend; Direction	As the area and quality of known occupied and unknown habitat cannot be assessed the short term trend direction is unknown.
7.5: Short-term trend; Method used	There is insufficient information to assess the trend.
8.1: Characterisation of pressures	The Grey long-eared bat is primarily an open or edge habitat forager. Grey long-eared bats across England prefer to forage in semi-improved (unmanaged) lowland grasslands (including meadows and marshes), woody riparian vegetation and broadleaved woodland (Razgour et al., 2013). Agricultural practices that remove or simplify these habitats or affect the biomass of insect prey could negatively affect populations. Although, roosts are strictly protected through legislation a variable number of licences are issued every year permitting exclusion, destruction and damage. Changes to building regulations and efforts to make buildings more energy-efficient have tended to reduce their accessibility and thermal suitability for bats. Breathable roofing membranes also pose a threat of entanglement, (Mitchell-Jones, 2010 and Waring et al, 2013).
9.5: List of main conservation measures	Legal and administrative measures continue to be required to ensure that the protection provided by the legislation is effective. The HLF Back from the Brink Project which ran from 2017-2021 aimed to ensure that four of the most vulnerable maternity roosts had sufficiently high quality foraging habitats surrounding them to support these colonies, to facilitate connectivity between roosts to prevent isolated colonies declining due to inbreeding. During the project over 80 hectares of foraging habitat was enhanced for the species. Awareness raising exercises took place with over 200 landholdings to assist with the conservation of the species.

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11.5: Overall  
assessment of  
Conservation Status

The overall assessment for this species has been determined as unfavourable bad due to the current estimated population size being more than 25% below the favourable reference population.