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

Supporting documentation for the
conservation status assessment for the species:

S1309 - Common pipistrelle (*Pipistrellus pipistrellus*)

WALES
IMPORTANT NOTE - PLEASE READ

• The information in this document is a country-level contribution to 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.

• The 2019 Article 17 UK Approach document provides details on how this supporting information was used to produce the UK Report.

• The UK Report on the conservation status of this species is provided in a separate document.

• The reporting fields and options used are aligned to those set out in the European Commission guidance.

• Explanatory notes (where provided) by the country are included at the end. These provide an audit trail of relevant supporting information.

• 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; (iii) the field was not relevant to this species (section 12 Natura 2000 coverage for Annex II species) and/or (iv) the field was only relevant at UK-level (sections 9 Future prospects and 10 Conclusions).

• For technical reasons, the country-level future trends for Range, Population and Habitat for the species are only available in a separate spreadsheet that contains all the country-level supporting information.

• The country-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

<table>
<thead>
<tr>
<th>1.1 Member State</th>
<th>UK (Wales information only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2 Species code</td>
<td>1309</td>
</tr>
<tr>
<td>1.3 Species scientific name</td>
<td>Pipistrellus pipistrellus</td>
</tr>
<tr>
<td>1.4 Alternative species scientific name</td>
<td></td>
</tr>
<tr>
<td>1.5 Common name (in national language)</td>
<td>Common pipistrelle</td>
</tr>
</tbody>
</table>

### 2. Maps

<table>
<thead>
<tr>
<th>2.1 Sensitive species</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.2 Year or period</td>
<td>1997-2016</td>
</tr>
<tr>
<td>2.3 Distribution map</td>
<td>Yes</td>
</tr>
<tr>
<td>2.4 Distribution map Method used</td>
<td>Complete survey or a statistically robust estimate</td>
</tr>
<tr>
<td>2.5 Additional maps</td>
<td>No</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>3.1 Is the species taken in the wild/exploited?</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.2 Which of the measures in Art. 14 have been taken?</td>
<td>No</td>
</tr>
<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>
</tbody>
</table>
### 3.3 Hunting bag or quantity taken in the wild for Mammals and Acipenseridae (Fish)

<table>
<thead>
<tr>
<th>a) Unit</th>
<th>b) Statistics/quantity taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide statistics/quantity per hunting season or per year (where season is not used) over the reporting period</td>
<td></td>
</tr>
<tr>
<td>Season/ year 1</td>
<td>Season/ year 2</td>
</tr>
<tr>
<td>Min. (raw, i.e. not rounded)</td>
<td></td>
</tr>
<tr>
<td>Max. (raw, i.e. not rounded)</td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td>No</td>
</tr>
</tbody>
</table>

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

### 3.5. Additional information

### BIOGEOGRAPHICAL LEVEL

#### 4. Biogeographical and marine regions

<table>
<thead>
<tr>
<th>4.1 Biogeographical or marine region where the species occurs</th>
<th>Atlantic (ATL)</th>
</tr>
</thead>
</table>
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Mathews F, Richardson SM, Hosken DJ. 2016. Understanding the risks to bat populations posed by wind turbines - Phase 2 - WC0753, Defra.


Oakley SF, Jones G. 1998. Habitat around maternity roosts of the 55 kHz phonic
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Waring SD, Essah E, Gunnell K, 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
Warren RD, Waters DA, Altringham JD, Bullock DJ. 2000. The distribution of Daubenton's bats (Myotis daubentonii) and pipistrelle bats (Pipistrellus pipistrellus) (Vespertilionidae) in relation to small-scale variation in riverine habitat. Biological Conservation, 92 (1), 85-91

5. Range

<table>
<thead>
<tr>
<th>5.1 Surface area (km²)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>5.2 Short-term trend Period</td>
<td>Uncertain (u)</td>
</tr>
<tr>
<td>5.3 Short-term trend Direction</td>
<td></td>
</tr>
<tr>
<td>5.4 Short-term trend Magnitude</td>
<td>a) Minimum</td>
</tr>
<tr>
<td>5.5 Short-term trend Method used</td>
<td></td>
</tr>
<tr>
<td>5.6 Long-term trend Period</td>
<td></td>
</tr>
<tr>
<td>5.7 Long-term trend Direction</td>
<td></td>
</tr>
<tr>
<td>5.8 Long-term trend Magnitude</td>
<td>a) Minimum</td>
</tr>
<tr>
<td>5.9 Long-term trend Method used</td>
<td></td>
</tr>
<tr>
<td>5.10 Favourable reference range</td>
<td>a) Area (km²)</td>
</tr>
</tbody>
</table>

5.11 Change and reason for change in surface area of range

Improved knowledge/more accurate data
Use of different method
The change is mainly due to: Use of different method

6. Population

6.1 Year or period
2016-2017

6.2 Population size (in reporting unit)
a) Unit number of map 1x1 km grid cells (grids1x1)
b) Minimum

6.3 Type of estimate
Best estimate
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### 6. Additional population size (using population unit other than reporting unit)

<table>
<thead>
<tr>
<th></th>
<th>a) Unit</th>
<th>number of individuals (i)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b) Minimum</td>
<td>96600</td>
</tr>
<tr>
<td></td>
<td>c) Maximum</td>
<td>732000</td>
</tr>
<tr>
<td></td>
<td>d) Best single value</td>
<td>95% confidence interval</td>
</tr>
</tbody>
</table>

### 6.5 Type of estimate

Complete survey or a statistically robust estimate

### 6.6 Population size Method used

Based mainly on extrapolation from a limited amount of data

### 6.7 Short-term trend Period

2006-2017

### 6.8 Short-term trend Direction

Unknown (x)

### 6.9 Short-term trend Magnitude

- a) Minimum
- b) Maximum
- c) Confidence interval

### 6.10 Short-term trend Method used

Insufficient or no data available

### 6.11 Long-term trend Period

2006-2017

### 6.12 Long-term trend Direction

Unknown (x)

### 6.13 Long-term trend Magnitude

- a) Minimum
- b) Maximum
- c) Confidence interval

### 6.14 Long-term trend Method used

Insufficient or no data available

### 6.15 Favourable reference population (using the unit in 6.2 or 6.4)

#### a) Population size

#### b) Operator

#### c) Unknown

#### d) Method

Genuine change

#### Improved knowledge/more accurate data

#### Use of different method

The change is mainly due to: Use of different method

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

#### Genuine change

#### Improved knowledge/more accurate data

#### Use of different method

The change is mainly due to: Use of different method

### 6.17 Additional information

### 7. Habitat for the species

#### 7.1 Sufficiency of area and quality of occupied habitat

- a) Are area and quality of occupied habitat sufficient (to maintain the species at FCS)? Yes

- b) Is there a sufficiently large area of occupied AND unoccupied habitat of suitable quality (to maintain the species at FCS)?

Based mainly on extrapolation from a limited amount of data

### 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

1997-2016

### 7.4 Short-term trend Direction

Unknown (x)

### 7.5 Short-term trend Method used

### 7.6 Long-term trend Period
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7.7 Long-term trend Direction
7.8 Long-term trend Method used
7.9 Additional information

8. Main pressures and threats

8.1 Characterisation of pressures/threats

<table>
<thead>
<tr>
<th>Pressure</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential or recreational activities and structures generating noise, light, heat or other forms of pollution (F24)</td>
<td>H</td>
</tr>
<tr>
<td>Industrial or commercial activities and structures generating noise, light, heat or other forms of pollution (F25)</td>
<td>H</td>
</tr>
<tr>
<td>Construction or modification (e.g. of housing and settlements) in existing urban or recreational areas (F02)</td>
<td>H</td>
</tr>
<tr>
<td>Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)</td>
<td>H</td>
</tr>
<tr>
<td>Wind, wave and tidal power, including infrastructure (D01)</td>
<td>H</td>
</tr>
<tr>
<td>Conversion from one type of agricultural land use to another (excluding drainage and burning) (A02)</td>
<td>M</td>
</tr>
<tr>
<td>Use of plant protection chemicals in agriculture (A21)</td>
<td>M</td>
</tr>
<tr>
<td>Conversion to other types of forests including monocultures (B02)</td>
<td>M</td>
</tr>
<tr>
<td>Logging without replanting or natural regrowth (B05)</td>
<td>M</td>
</tr>
<tr>
<td>Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.) (A05)</td>
<td>M</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Threat</th>
<th>Ranking</th>
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<td>M</td>
</tr>
</tbody>
</table>
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
Adapt/manage renewable energy installation, facilities and operation (CC03)
Reduce impact of transport operation and infrastructure (CE01)
Reduce/eliminate noise, light, heat or other forms pollution from industrial, commercial, residential and recreational areas and activities (CF09)
Manage conversion of land for construction and development of infrastructure (CF01)
Reduce/eliminate diffuse pollution to surface or ground waters from industrial, commercial, residential and recreational areas and activities (CF05)
Prevent conversion of natural and semi-natural habitats, and habitats of species into agricultural land (CA01)
Other measures related to agricultural practices (CA16)
Prevent conversion of (semi-) natural habitats into forests and of (semi-)natural forests into intensive forest plantation (CB01)
Adapt/manage reforestation and forest regeneration (CB04)
Restore small landscape features on agricultural land (CA02)

9.6 Additional information

10. Future prospects

10.1 Future prospects of parameters
a) Range
b) Population
c) Habitat of the species

10.2 Additional information

11. Conclusions

11.1. Range
11.2. Population
11.3. Habitat for the species
11.4. Future prospects
11.5 Overall assessment of Conservation Status
### 11.6 Overall trend in Conservation Status

### 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

### 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**

**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**
Figure 1: UK distribution map for S1309 - Common pipistrelle (*Pipistrellus pipistrellus*). 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.
Figure 2: UK range map for S1309 - Common pipistrelle (*Pipistrellus pipistrellus*). 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.
### Species name: Pipistrellus pipistrellus (1309) Region code: ATL

<table>
<thead>
<tr>
<th>Field label</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.3 Short term trend; Direction</td>
<td>Given the significant change to the method for range determination we are uncertain of the nature and degree of change in short-term range trend for this species.</td>
</tr>
<tr>
<td>5.11 Change and reason for change in surface area of range</td>
<td>Area of land (including unsuitable habitat) contained within the range is given as 20,601 km² (Mathews et al. 2018). Range 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 range has been taken from Mathews et al. 2018, 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. This differs from the approach taken in 2013 and 2007 whereby a 45km alpha hull value was used for all species with a starting range unit of individual 10km squares. The new method has led to much finer detail maps being produced underpinned by data gathered at a much finer resolution, leading to the production of a more accurate FRR. Added to which acoustic detectors have changed considerably over the years in both accuracy and sensitivity, which also adds to the production of this value. As P. pipistrellus is a widespread species occupying a wide variety of habitat types it is assumed that the range is equal to the favourable reference range.</td>
</tr>
</tbody>
</table>
6.4 Additional population size

Mathews et al. 2018 population estimates were derived by first calculating the adult bat density (bats/km²) within poor, average and good habitat and then multiplying this with the total habitable area within their range to give lower, median and upper population estimates. Habitable area was defined as all area within the range excluding montane habitat since this is unlikely to include suitable locations for maternity roosts. Details of calculations are as follows: Adult bat density (bats/km²) Median density=[(median n. bats/roost[1]) * (p female [2]) * (n roosts/typical km² average habitat)]* 2 Lower limit=[(lower plausible n. bats/roost) * (p female min) * (plausible n. roosts/typical km² poor habitat)]* 2 Upper limit = [(upper plausible n. bats/roost) * (p female max) * (plausible n. roosts/typical km² good habitat)]* 2 [1] roost is typical maternity roost in the pre-parturition period. n. is number of adults. [2] p female : proportion female. p female min and p female max are lowest and highest plausible proportions of adult females in typical maternity roost Population size Total Adult Population = Median adult density (bats/km²) * total habitable area within range (km²) Lower Limit=Lower limit adult density (bats/km²) * total habitable area within range (km²) Upper Limit=Upper limit adult density (bats/km²) * total habitable area within range (km²) The estimates excluded colonies that contained less than 30 bats in order to ensure that counts did not include individuals in formation roosts that were then counted again at maternity sites. This may have led to some over-estimation of population size; when all roosts were included the bat population density estimate fell by approximately a third. However, most data were derived from NBMP data and here all roosts were included regardless of size since they were part of a longitudinal monitoring programme. Given that the estimated roost size is close to expert opinion and published data, it is likely to be a reasonable basis for the calculations.

6.7 Short term trend; Period

Based on Bat Conservation Trust (2018a) NBMP short-term period for Great Britain.

6.8 Short term trend; Direction

The GB short-term trend covering the period 2006-2017 drawn from the Bat Conservation Trust (2018a) National Bat Monitoring Programme data shows a statistically significant increase in population for the field surveys. Data from the colony counts suggest a significant decline, however, it is likely that for this species, frequent roost switching results in a negative bias in roost count data. The Roost Count trend is therefore not considered a reliable measure of population change for these species. Mathews et al. 2018 records the trend as being unknown as acoustic detectors used to record bat activity in the field have changed considerably over time and have become much more sensitive. There is considerable misidentification between the common pipistrelle and soprano pipistrelle especially when using heterodyne detectors and there is also confusion with the Myotis species. The true trend probably lies between the trend that has been reported for the two phonic types (common and soprano pipistrelle).

6.10 Short term trend; Method used

A reliable trend cannot be drawn for Wales due to insufficient available data.

6.16 Change and reason for change in population size

Data from the NBMP indicates that there has been a statistically significant increase in P. pipistrellus between 2006-2017 at a GB level and this is assumed to also be reflected in Wales. Also improved knowledge; acoustic detectors used to record bat activity in the field have changed considerably over time and have become much more sensitive. Primarily the change is due to Mathews et al. 2018 utilising a different method of calculating population size.
7.1 Sufficiency of area and quality of occupied habitat

Area: 20,600 km². Habitable area as given by Mathews et al. 2018 has been used as a proxy for occupied habitat. The habitable area calculation defined all the area within the range as habitable excluding montane habitat since this is unlikely to include suitable locations for maternity roosts. Quality: No or insufficient reliable information is available. Although we do not have a reliable measure of the quality of the occupied habitat, the population trend for the species population is increasing and therefore the area and quality of occupied habitat is likely to be sufficient to maintain the species at FCS. P. pipistrellus is an extremely widespread species and is found in almost any habitat type ranging from grasslands to urban and suburban environments. However, the species requires a complex mosaic of habitats to support foraging, roosting and commuting behaviour. Boye & Dietz (2005) and Jones & Racey (2008) provides a good overview of this species’ habitat requirements. Although, most maternity colonies are in buildings, forests of any type are used as roosting and foraging areas. Foraging areas are mainly along woodland edge and riparian woodland (Davidson-Watts & Jones 2006; Nicholls & Racey 2006a, 2006b), hedges, foot paths and forest roads, water banks and at street lights. P. pipistrellus frequently forage over pasture and foraging activity is higher where grazing livestock are present (Fuentes-Montemayor et al. 2013). Linear features in a landscape are important elements for orientation either during foraging or in commuting flights. Foraging activity is generally within 2km of the roost. The size of an individual home range is dependent on the abundance of prey insects and may have a total size of more than 50 hectares. The species mainly roosts in settlements and is even present in city centres. Recent evidence shows that there is a strong negative response of P. pipistrellus to urbanisation at a relatively local scale (1km; Lintott et al 2016). However, the reverse association has also been reported (Warren et al. 2000, Glendell & Vaughan 2002, Lintott et al. 2015). In summer the roost sites are predominantly in crevices in buildings, especially between tiles and the underlying roofing felt or behind boards on the gable. Furthermore, individuals and maternity colonies use tree holes, wood crevices and bird or bat boxes as roosts. The species disperses to temporary sites and mating roosts during the autumn post weaning period. Overall: Yes

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

As a widespread, common species, using a mosaic of habitats, 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. Previously calculated from the area of the filled 10km squares in the distribution map, the estimate given for occupied habitat is now derived from Mathews et al. 2018. supporting data set which is more accurate and gives occupied 1km squares. The habitable area given by Mathews et al. 2018 is 20,600 km², which defined all the area within the range as habitable excluding montane habitat since this is unlikely to include suitable locations for maternity roosts, and range calculation utilises 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.

7.4 Short term trend; Direction

The trend for area would appear to be stable as the estimates are broadly in line with each other. The 2013 Article 17 report for this species calculated the habitat for the species at 19,274 km², calculated from the area of the filled 10km squares in the distribution map. The given estimate for 2016 is 20,600 km² which is taken form the habitable area given by Mathews et al. 2018, which defined all the area within the range as habitable excluding montane habitat since this is unlikely to include suitable locations for maternity roosts. However due to the poor information on quality of occupied habitat, unknown must be selected for short term trend direction.
8.1 Characterisation of pressures/threats

Pressures: Pressures can generally be divided into those that affect roosts and those that affect commuting and foraging (including prey availability). A02 - Conversion from one type of agricultural land use to another (excluding drainage and burning), A05 - Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.), A21 - Use of plant protection chemicals in agriculture, B02 - Conversion to other types of forests including monocultures, B05 - Logging without replanting or natural regrowth: P. pipistrellus forage across a mosaic of habitat types, though they are frequently found foraging over pasture, especially at sites with grazing livestock (Fuentes-Montemayor et al, 2013). Agricultural and forestry practices that remove or simplify these habitats or affect the biomass of insect prey could negatively affect populations. D01 - Wind, wave and tidal power, including infrastructure and E01 - Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels): This is one of the primary species killed at wind turbine sites and in road collisions. It is unclear whether the scale of casualties is sufficient to impact on local populations, Mathews et al., (2016) and Fensome & Mathews, (2016). F02 - Construction or modification (of e.g. housing and settlements) in existing urban or recreational areas, F24 - Residential or recreational activities and structures generating noise, light, heat or other forms of pollution and F25 - Industrial or commercial activities and structures generating noise, light, heat or other forms of pollution: 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., 2014). A31 (Drainage) & J01 (Mixed source pollution) are considered low pressures and consequently not formally reported in line with JNCC guidance. Threats: Threats can also generally be divided into those that affect roosts and those that affect commuting and foraging (including prey availability). A02 - Conversion from one type of agricultural land use to another (excluding drainage and burning), A05 - Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.), A21 - Use of plant protection chemicals in agriculture, B02 - Conversion to other types of forests including monocultures, B05 - Logging without replanting or natural regrowth: P. pipistrellus forage across a mosaic of habitat types, though they are frequently found foraging over pasture, especially at sites with grazing livestock (Fuentes-Montemayor et al, 2013). Agricultural and forestry practices that remove or simplify these habitats or affect the biomass of insect prey could negatively affect populations and this is a situation that is unlikely to change in the future. D01 - Wind, wave and tidal power, including infrastructure and E01 - Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels): This is one of the primary species killed at wind turbine sites and in road collisions. It is unclear whether the scale of casualties is sufficient to impact on local populations, Mathews et al., (2016) and Fensome & Mathews, (2016). Construction of new turbines along with the continued widening/realignment of existing linear infrastructure projects in the future is likely to continue. F02 - Construction or modification (of e.g. housing and settlements) in existing urban or recreational areas, F24 - Residential or recreational activities and structures generating noise, light, heat or other forms of pollution and F25 - Industrial or commercial activities and structures generating noise, light, heat or other forms of pollution: 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., 2014). The rate of developments and building works which may impact bats is likely to increase in the future. A31 (Drainage) & J01 (Mixed source pollution) are considered
9.5 List of main conservation measures

| CC03 - Adapt/manage renewable energy installation, facilities and operation: Guidance is being developed and will shortly be available from the agencies to help planners, developers and ecological consultants to consider the potential effects of onshore wind energy developments on bats. Guidance is available for land managers on how to manage their land holdings for bats. Addressing D01. CE01 - Reduce impact of transport operation and infrastructure: Road design construction and operation need to take into account the likely impact on bats, for example, in relation to the provision of safe crossing structures and the loss and severance of bat habitat and lighting. Addressing E01. CF09 - Reduce/eliminate noise, light, heat or other forms pollution from industrial, commercial, residential and recreational areas and activities, CF01 - Manage conversion of land for construction and development of infrastructures, CB01 - Prevent conversion of (semi-) natural habitats into forests and of (semi-)natural forests into intensive forest plantation, CB04 - Adapt/manage reforestation and forest regeneration, CF05 - Reduce/eliminate diffuse pollution to surface or ground waters from industrial, commercial, residential and recreational areas and activities: Legal and administrative measures continue to be required to ensure that the protection provided by the legislation is effective. If roosts are to be destroyed, damaged or lost due to development, adequate mitigation/compensation methods must be put in place to maintain the favourable conservation status of the species. Addressing F02, F24 and F05. CF05 - Reduce/eliminate diffuse pollution to surface or ground waters from industrial, commercial, residential and recreational areas and activities, CA01 - Prevent conversion of natural and semi-natural habitats, and habitats of species into agricultural land, CA16 - Other measures related to agricultural practices, CA02 - Restore small landscape features on agricultural land: Agricultural related measures are implemented via agri-environmental schemes. Addressing A05, A02, A21, J01, A31.

10.1 Future prospects of parameters

| 10.1a Future prospects of Range. The future prospects of range for this species is considered to be overall stable in Wales. P. pipistrellus is widely distributed throughout Wales, with gaps in distribution probably reflecting an absence of survey data rather than an absence of the species therefore the future range is likely to remain as overall stable 10.1b Future prospects of Population The future prospects of population for this species is considered to be very positive in Wales. P. pipistrellus is a common species within Wales and trend data from the NBMP indicates that there has been a statistically significant increase in P. pipistrellus between 2006-2017 at a GB level and this is assumed to also be reflected in Wales. There is no reason to believe that this increase will not continue in the future. 10.1c Future prospects of Habitat of the species The future prospects of habitat of the species is considered to be overall stable in Wales. P. pipistrellus is widely distributed throughout Wales, currently available habitat is considered sufficient to maintain the species at FCS and there are no specific wide scale threats to the habitat for the species. There is therefore no reason to assume that the current situation will not continue over the next 12 years. |