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:

S1322 - Natterer's bat (*Myotis nattereri*)

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.

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NATIONAL LEVEL

1. General information

1.1 Member State	**UK (Wales information only)**
1.2 Species code	**1322**
1.3 Species scientific name	**Myotis nattereri**
1.4 Alternative species scientific name	
1.5 Common name (in national language)	Natterer'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	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?	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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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

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Aberdeen
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5. Range

5.1 Surface area (km²)		
5.2 Short-term trend Period		
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		
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 (km²) b) Operator c) Unknown d) Method	
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
5.12 Additional information		

6. Population

6.1 Year or period	2016-2017	
6.2 Population size (in reporting unit)	a) Unit b) Minimum c) Maximum d) Best single value	number of map 1x1 km grid cells (grids1x1)

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6.3 Type of estimate	Best estimate	
6.4 Additional population size (using population unit other than reporting unit)	a) Unit	number of individuals (i)
	b) Minimum	1900
	c) Maximum	332000
	d) Best single value	
6.5 Type of estimate	95% confidence interval	
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	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	
	b) Operator	
	c) Unknown	
	d) 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)?	
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	1999-2016	
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	

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7.6 Long-term trend Period

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

Pressure	Ranking
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	H
Removal of dead and dying trees, including debris (B07)	H
Removal of old trees (excluding dead or dying trees) (B08)	H
Clear-cutting, removal of all trees (B09)	H
Construction or modification (e.g. of housing and settlements) in existing urban or recreational areas (F02)	H
Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.) (A05)	M
Sports, tourism and leisure activities (F07)	M
Use of other pest control methods in agriculture (excluding tillage) (A23)	M
Conversion from one type of agricultural land use to another (excluding drainage and burning) (A02)	M
Conversion to other types of forests including monocultures (B02)	M

Threat	Ranking
Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (E01)	H
Removal of dead and dying trees, including debris (B07)	H
Removal of old trees (excluding dead or dying trees) (B08)	H
Clear-cutting, removal of all trees (B09)	H
Construction or modification (e.g. of housing and settlements) in existing urban or recreational areas (F02)	H
Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.) (A05)	M
Sports, tourism and leisure activities (F07)	M
Use of other pest control methods in agriculture (excluding tillage) (A23)	M
Conversion from one type of agricultural land use to another (excluding drainage and burning) (A02)	M
Conversion to other types of forests including monocultures (B02)	M

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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		Long-term results (after 2030)

9.5 List of main conservation measures

- Adapt/manage reforestation and forest regeneration (CB04)
- Reduce impact of transport operation and infrastructure (CE01)
- Stop forest management and exploitation practices (CB06)
- Manage conversion of land for construction and development of infrastructure (CF01)
- Restore small landscape features on agricultural land (CA02)
- Reduce impact of outdoor sports, leisure and recreational activities (CF03)
- Other measures related to residential, commercial, industrial and recreational infrastructures, operations and activities (CF12)
- Adapt/change forest management and exploitation practices (CB05)

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

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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

Distribution Map

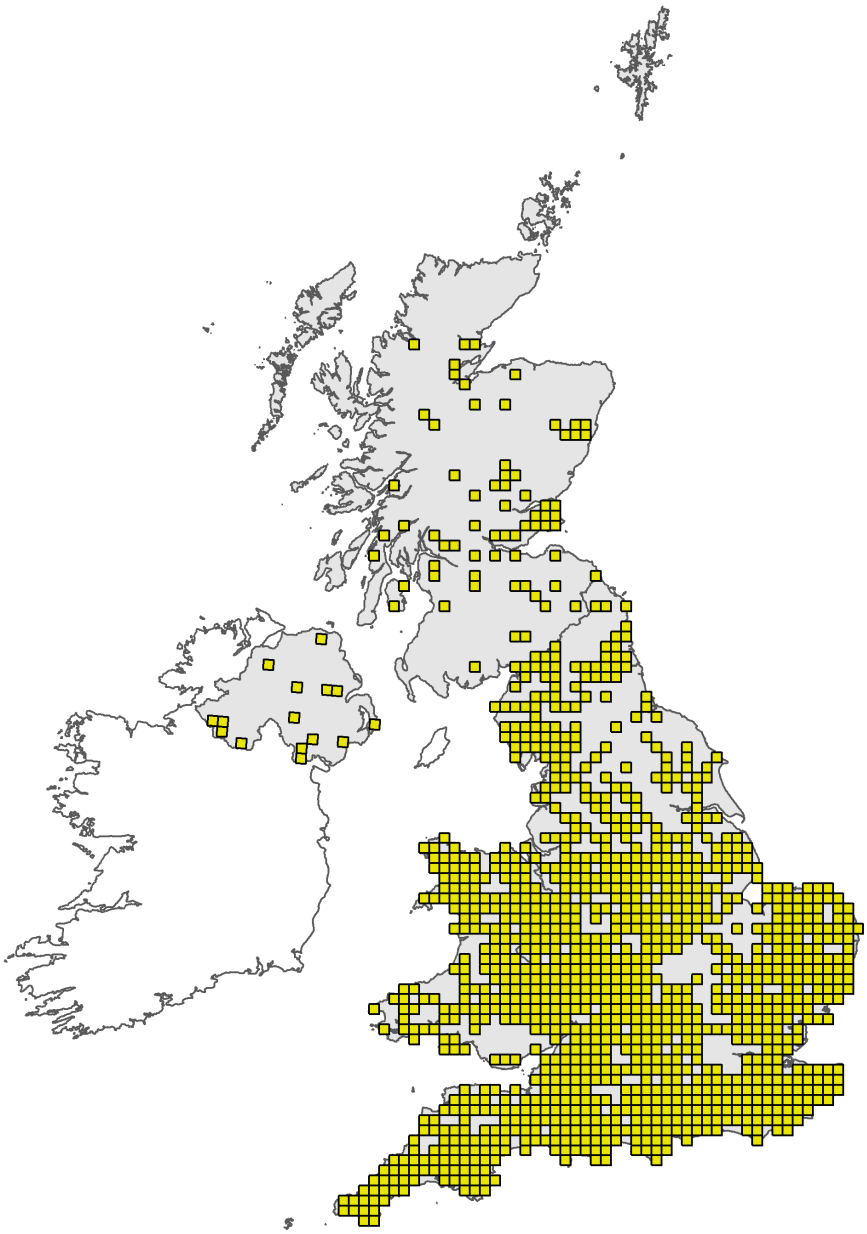

Figure 1: UK distribution map for S1322 - Natterer's bat (*Myotis nattereri*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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

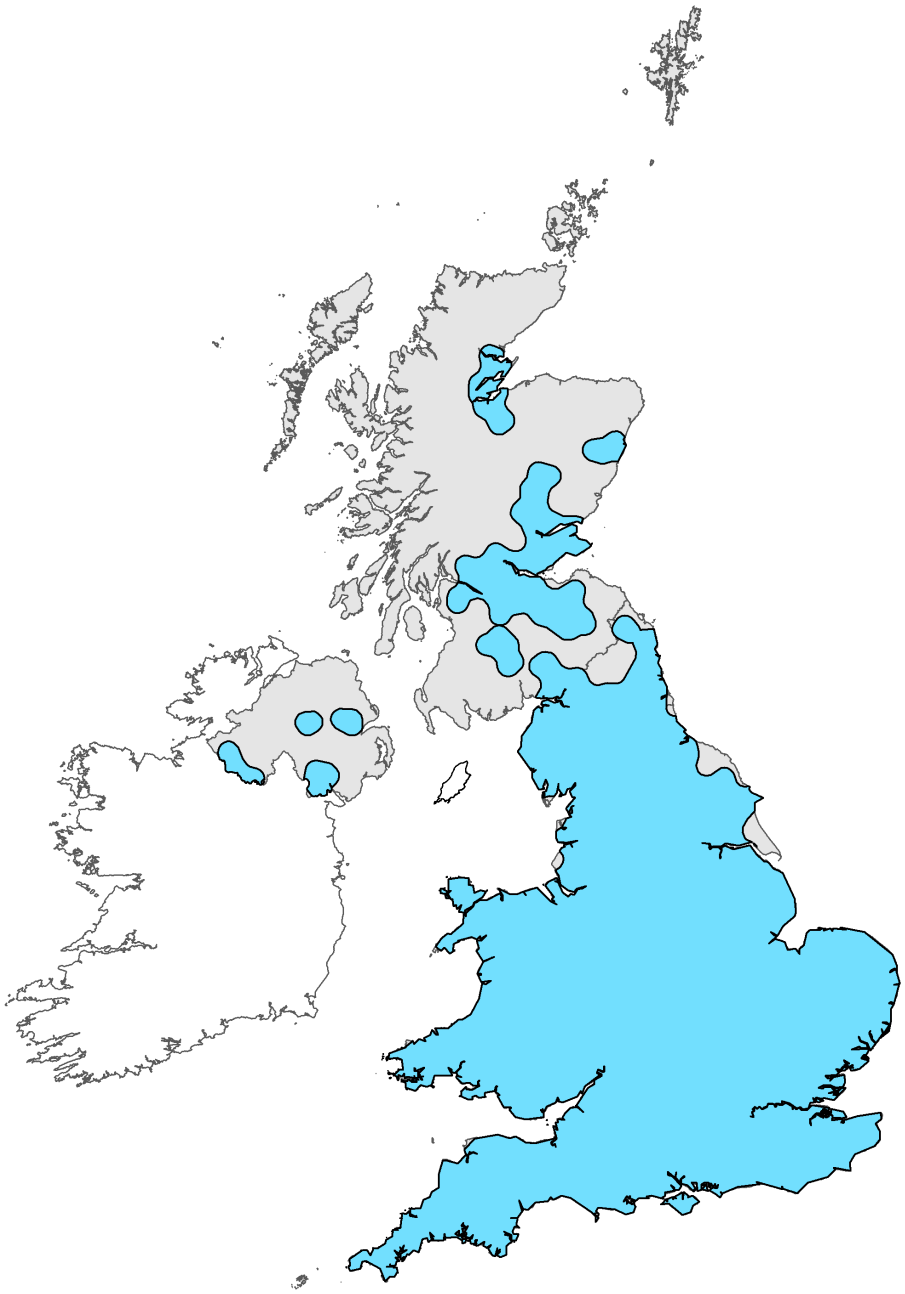

Figure 2: UK range map for S1322 - Natterer's bat (*Myotis nattereri*).Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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.

Explanatory Notes

Species name: Myotis nattereri (1322)

Field label	Note
2.2 Year or Period	This time period has been selected as distribution has been calculated using data from Mathews et al. 2018.
2.4 Distribution map; Method used	Natterer's bat is widespread in the UK and has been recorded throughout Wales in all wooded landscapes. Although there have been no structured distribution surveys, it has been reasonably well recorded by local bat groups and during hibernation monitoring surveys organised by the National Bat Monitoring Programme. The distribution map is believed to represent the actual distribution of the species well.

Species name: Myotis nattereri (1322) Region code: ATL

Field label	Note
5.3 Short term trend; Direction	Myotis nattereri is a widely distributed species, commonly recorded in areas associated with trees, including broadleaf woodland, tree lined river corridors, parkland and hedgerow trees adjacent to pasture. Gaps in range in Wales are likely due to a lack of records and the methodology rather than true absence. The short-term range trend is considered stable for this species.
5.11 Change and reason for change in surface area of range	Area of land contained within the range is given as 20,611 km2 for Wales (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 bat 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. Whilst, roosts for this species undoubtedly remain significantly under-recorded due to the fact that they are not commonly encountered in houses. Although there have been no structured distribution surveys, it has been reasonably well recorded by local bat groups and during monitoring surveys organised by the National Bat Monitoring Programme and the increased use of advanced / full spectrum bat detectors combined with increased survey effort due to surveys for development is likely to have resulted in increased detector records of this species.

6.4 Additional population size	Based on Mathews et al. 2018 methodology: a)Unit = Individuals b)Minimum = 1,900 c) Maximum = 332,000 d)Best Single Value: 52,300. 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 habitats within the range excluding montane habitats since these are unlikely to provide suitable locations for roosts. Because of the landscape-wide movements of bats and their dependency on a matrix of habitats and roosting locations, it is not currently possible to make more refined estimates of the area of suitable habitat to be used for population calculations. 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 (Mixed Habitats) 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 plausible range of the estimated population size for Natterer's bats is extremely wide. This is partly because of uncertainty about roost density. Alternative population sizes were also calculated based on woodland data only where higher densities have been reported however mixed habitat calculations are felt to be more reflective of Wales as a whole and due to uncertainty regarding density estimates for woodland where data is based on bat box monitoring data.
6.6 Population size; Method used	The reported figure in 6.2 is based on occupied 1km grid squares and is therefore reliant on existing records. The reported figure in 6.4 is based mainly on extrapolation from a limited amount of data.
6.8 Short term trend; Direction	The NBMP coordinates long-term hibernation studies in Wales to give trend data for the species. The NBMP (BCT, 2018) data shows an increasing short-term trend direction (2006-2017) for the population of M. nattereri in Wales. Longer term the smoothed index is currently 72.5% above the 1999 base year value, equivalent to an annual increase of 3.1%. Overall there has been a significant increase in the smoothed index since the baseline year.
6.16 Change and reason for change in population size	The difference in population size between reporting rounds is most attributable to a change in methodology, although more data are also available, and the trend data shows there will have been some genuine increase in population. In NRW 2013, population was reported as individuals however the given EU reporting unit is 1x1km grid squares for this report; this figure is based on the supporting datasets produced by Mathews et al. 2018. The reported Alternative Population (see 6.4) is also based on Mathews et al. 2018 with a best estimate that differs markedly from that provided by Harris et al. 1995 (value 12,500). The change in value is principally due to the use of a different method, though the Harris value does fall within the plausible limit estimates of Mathews et al. 2018. The new estimate, taken from Mathews et al. 2018 is considered to be more robust.
6.17 Additional information	The following information is from section 6.18 in the evidence pack: There is no evidence to suggest reproduction, mortality or age structure is deviating from normal given the population data.

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 and is considered sufficient. 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: Whilst we do not have a reliable measure of the quality of the occupied habitat, the population trend is positive and the species continues to be widespread across a mosaic of habitats. It is therefore assumed that quality is sufficient to support a viable population of the species and maintain FCS. M. nattereri requires a complex mosaic of habitats to support foraging, roosting and commuting behaviour. The species is commonly associated with trees, particularly broad-leaved woodland, but also tree-lined river corridors, parkland and hedgerows adjacent to pasture (Parsons & Jones, 2003; Smith & Racey, 2008; Zeale et al, 2016). They have also been observed along roadsides (Swift, 1997) and using mature Corsican pine plantations in Scotland (Mortimer, 2006). During the spring, most foraging activity is in open habitats such as orchards, fields and pastures with hedgerows and trees, or near water bodies. However, in summer, foraging activity moves more to woodlands, including dense coniferous forests (Boye & Dietz, 2005). Maternity roosts are located in trees, bat boxes and buildings (predominantly barns, churches and old dwelling houses) and tend to be located close to woodland habitats (Smith & Racey, 2005; Boughey et al., 2011). Underground sites, including tunnels, caves and ice-houses are used for hibernation though the extent of use of trees is unclear (Dietz & Keifer, 2016; Smith, 2001). In order to obtain an estimate of actual occupied habitat, it would be necessary to first identify all of the foraging and roosting habitat located within the current range boundary; determine whether or not each of these features were being used and subsequently calculate the combined area of all currently used habitats. This process would require very detailed habitat information at a fine scale across the UK. We do not currently have this level of information. However the population trend is increasing and the species is widespread, using a mosaic of habitats; it is therefore assumed that quality is sufficient to support a viable population of the species and maintain FCS.
7.2 Sufficiency of area and quality of occupied habitat; Method used	Habitable area was defined as all habitats within the range excluding montane habitats since these are unlikely to provide suitable locations for roosts. Because of the landscape-wide movements of bats and their dependency on a matrix of habitats and roosting locations, it is not currently possible to make more refined estimates of the area of suitable habitat within the range. The habitable area within the range is estimated to be 20,600km2.
7.4 Short term trend; Direction	M. nattereri is a widespread and mobile species utilising a range of habitats in a flexible way. Although the estimated area of suitable habitat for this species appears to have increased since the last Article 17 report, it is likely that this results from mapping species records at a finer scale, using an alpha hull value of 20km an adding an additional 10km buffer to the final hull polygon to provide smoothing to ensure that the hull covered the areas recorded.

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). B07: Removal of dead and dying trees, including debris, B08: Removal of old trees (excluding dead or dying trees), B09: Clear-cutting, removal of all trees, F02: Construction or modification (of e.g. housing and settlements) in existing urban or recreational areas, F07 - Sports, tourism and leisure activities, B02: Conversion to other types of forests including monocultures: The species is vulnerable to loss of roosts through development, renovation or conversion of buildings, impacts and loss of tree roosts and to disturbance at (underground) hibernation and swarming sites. Although roosts are strictly protected, a small number of licences permitting exclusion or roost destruction are issued every year. In addition, changes in building practices to improve energy efficiency mean that new buildings may offer fewer roosting opportunities (Mitchell-Jones, 2010).Pressures mostly affecting commuting and foraging: A05: Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.), E01: Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels), A23: Use of other pest control methods in agriculture (excluding tillage), A02: Conversion from one type of agricultural land use to another (excluding drainage and burning), B20: Use of plant protection chemicals in forestry, J01: Mixed source pollution to surface and ground waters (limnic and terrestrial): Natterer's bats forage within broadleaf woodland, tree lined river corridors, parkland and hedgerow trees adjacent to pasture. Agricultural and forestry practices that remove, modify or fragment these habitats, or affect the biomass of suitable insect prey (including changes to water quality and use of avermectins (Swift, 1997)) could negatively affect populations. The negative impact of transport infrastructure; along with artificial night lighting potentially impacting on commuting routes and prey availability (Zeale et al, 2016; Plummer et al, 2016) are further pressures. Threats: Threats can also generally be divided into those that affect roosts and those that affect commuting and foraging (including prey availability). B07: Removal of dead and dying trees, including debris, B08: Removal of old trees (excluding dead or dying trees), B09: Clear-cutting, removal of all trees, F02: Construction or modification (of e.g. housing and settlements) in existing urban or recreational areas, F07 - Sports, tourism and leisure activities, B02: Conversion to other types of forests including monocultures: The species will remain vulnerable to loss of roosts through development, renovation or conversion of buildings, impacts and loss of tree roosts and to disturbance at (underground) hibernation and swarming sites. Although roosts are strictly protected, a small number of licences permitting exclusion or roost destruction are issued every year which will continue. In addition, changes in building practices to improve energy efficiency mean that new buildings may offer fewer roosting opportunities (Mitchell-Jones, 2010), a trend which will also continue. Threats mostly affecting commuting and foraging: A05: Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.), E01: Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels), A23: Use of other pest control methods in agriculture (excluding tillage), A02: Conversion from one type of agricultural land use to another (excluding drainage and burning), B20: Use of plant protection chemicals in forestry, J01: Mixed source pollution to surface and ground waters (limnic and terrestrial): Natterer's bats forage within broadleaf woodland, tree lined river corridors, parkland and hedgerow trees adjacent to pasture. Agricultural and forestry practices that continue to remove, modify or fragment these habitats, or affect the biomass of suitable insect prey (including changes to water quality and use of avermectins (Swift, 1997)) could negatively affect populations into the future. The negative impact of transport infrastructure; along with artificial night lighting potentially impacting on commuting routes and prey availability (Zeale et al., 2016; Plummer et al., 2016) are further threats, the impacts of which are still being studied.

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 and that protected habitats for the species are managed appropriately. CE01: Reduce impact of transport operation and infrastructure: Road design, construction and operation need to take into account the likely impact on bats, e.g. in relation to the provision of safe crossing structures and the loss of and severance of bat habitat and lighting. CB04: Adapt/manage reforestation and forest regeneration, CB06: Stop forest management and exploitation practices, CF01: Manage conversion of land for construction and development of infrastructures, CA02: Restore small landscape features on agricultural land, CB05: Adapt/change forest management and exploitation practices: Natterer's bats forage within broadleaf woodland, tree lined river corridors, parkland and hedgerow trees adjacent to pasture. Environmental land management schemes in the agricultural and forestry sectors are now widely used to ensure these habitats in the vicinity of roosts are well-managed and provide appropriate insect food at the correct time of year. CF12: Other measures related to residential, commercial, industrial and recreational infrastructures, operations and activities: Planning at landscape scale is required to conserve commuting routes and foraging areas. CF03: Reduce impact of outdoor sports, leisure and recreational activities: Impacts of recreation (caving) on swarming and hibernation sites need to be limited.
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. M. nattereri range is widespread through Wales; no specific short-term drivers for expansion or contraction have been identified and therefore there is no reason to assume that range will vary significantly within the next 12 years unless population crashes occur. 10.1b Future prospects of -Population The future prospects of population for this species is considered to be positive in Wales. The NBMP (BCT, 2018) data shows an increasing short-term trend direction (2006-2017) for the population of M. nattereri in Wales. Longer term the smoothed index is currently 72.5% above the 1999 base year value, equivalent to an annual increase of 3.1%. Overall there has been a significant increase in the smoothed index since the baseline year. There is no reason to assume this trend will change within the next 12 years. 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. We do not have a reliable measure of the quality of the occupied habitat, however M. nattereri is widespread and uses a mosaic of habitats and there are no specific identified drivers of change across these habitats. There is therefore no reason to assume that the current reported trend will not continue over the next 12 years.