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

2019-2024

Conservation status assessment for the species:

S1323 - Bechstein's bat

(*Myotis bechsteinii*)

Wales

Cyfoeth Naturiol Cymru
Natural Resources Wales

JNCC

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This report was produced by JNCC in collaboration with Natural Resources Wales.

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Important note - Please read

- The information in this document represents the Wales 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 Resources Wales, 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: Bechstein's bat

Distribution Map

Range Map

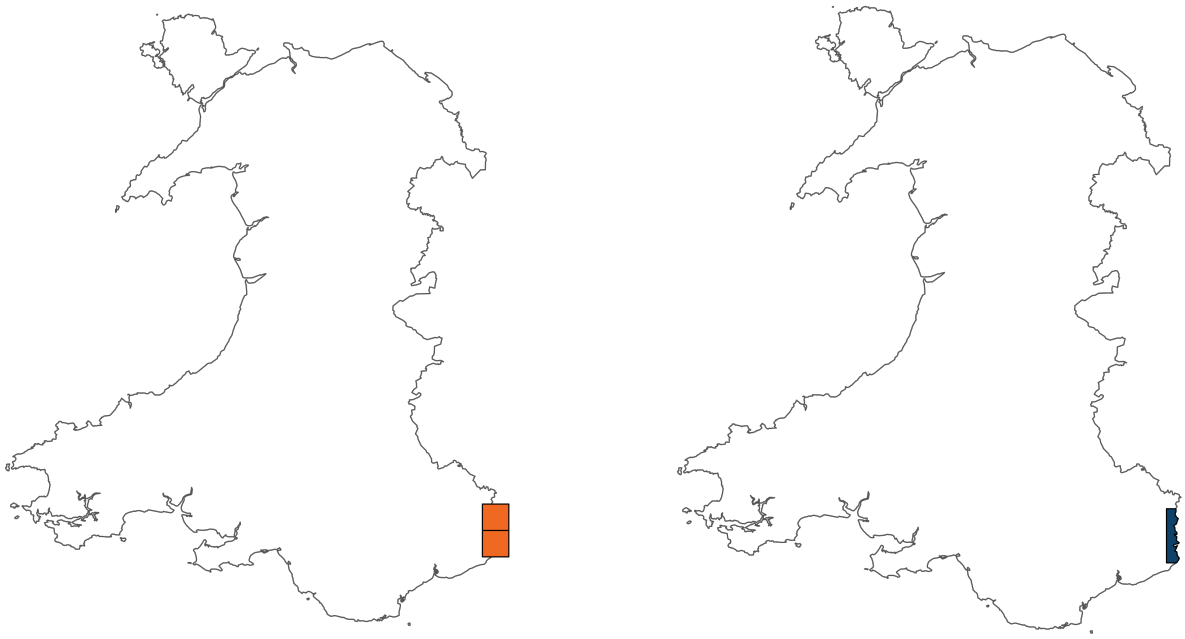

Figure 1: Wales distribution and range map for S1323 - Bechstein's bat (*Myotis bechsteinii*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority. 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 S1323 - Bechstein's bat (*Myotis bechsteinii*). 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)	**Unfavourable-bad (U2)**
Population (see section 6)	**Unknown (XX)**
Habitat for the species (see section 7)	**Unknown (XX)**
Future prospects (see section 10)	**Unknown (XX)**

List of Sections

National Level

1. General information

1.1 Country	Wales
1.2 Species code	S1323
1.3 Species scientific name	*Myotis bechsteinii*
1.4 Alternative species scientific name	
1.5 Common name	Bechstein's bat
Annex(es)	II, IV

2. Maps

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

2.5 Additional information

No additional information

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
b) Temporary or local prohibition on the taking of specimens in the wild and exploitation
c) Regulation of the periods and/or methods of taking specimens
d) Application of hunting and fishing rules which take account of the conservation of such populations

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

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

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

Other measures

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) Minimum	-	-	-	-	-	-
c) Maximum	-	-	-	-	-	-
d) Unknown	-	-	-	-	-	-

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 (km²)	73.28
5.2 Short-term trend; Period	2013-2024
5.3 Short-term trend; Direction	Uncertain
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	Based mainly on expert opinion with very limited data
5.6 Long-term trend; Period	
5.7 Long-term trend; Direction	
5.8 Long-term trend; Magnitude	
a) Minimum	
b) Maximum	
c) Rate of decrease	

5.9 Long-term trend; Method used	

5.10 Favourable Reference Range (FRR)

a) Area (km²)	
b) Pre-defined increment	Current range is between 51% and 100% smaller than the FRR
c) Unknown	No
d) Method used	Expert opinion
e) Quality of information	

5.11 Change and reason for change in surface area of range

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

5.12 Additional information

No additional information

6. Population

6.1 Year or period	2019-2024

6.2 Population size (in reporting unit)

a) Unit	number of individuals
b) Minimum	116
c) Maximum	626

d) Best single value	249
6.3 Type of estimate	Best estimate
6.4 Quality of extrapolation to reporting unit	

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

a) Unit	number of map 1x1 km grid cells
b) Minimum	
c) Maximum	
d) Best single value	5
e) Type of estimate	Best estimate
6.6 Population size; Method used	Based mainly on extrapolation from a limited amount of data
6.7 Short-term trend; Period	2017-2022
6.8 Short-term trend; Direction	Unknown
6.9 Short-term trend; Magnitude	
a) Estimated minimum	
b) Estimated maximum	
c) Pre-defined range	
d) Unknown	
e) Type of estimate	
f) Rate of decrease	
6.10 Short-term trend; Method used	Insufficient or no data available
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	
d) Rate of decrease	
6.14 Long-term trend; Method used	

6.15 Favourable Reference Population (FRP)

ai) Population size	
aii) Unit	
b) Pre-defined increment	
c) Unknown	Yes
d) Method used	
e) Quality of information	

6.16 Change and reason for change in population size

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

6.17 Additional information

No additional information

6.18 Age structure, mortality and reproduction deviation	Unknown

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	2013-2024
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
PB02: Conversion from one type of forestry land use to another	Ongoing and likely to be in the future	High (H)
PB06: Logging or thinning (excluding clear cutting)	Ongoing and likely to be in the future	High (H)
PB07: Removal of dead and dying trees (including debris)	Ongoing and likely to be in the future	High (H)
PB08: Removal of old trees (excluding dead or dying trees)	Ongoing and likely to be in the future	High (H)
PB09: Clear-cutting, removal of all trees	Ongoing and likely to be in the future	High (H)
PE01: Roads, paths, railroads and related infrastructure	Ongoing and likely to be in the future	High (H)
PB05: Logging without replanting or natural regrowth	Ongoing and likely to be in the future	High (H)
PB16: Application of natural or synthetic fertilisers in forestry	Ongoing and likely to be in the future	Medium (M)
PI02: Other invasive alien species (other than species of Union concern)	Ongoing and likely to be in the future	Medium (M)
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	Medium (M)

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	Maintain the current range, population and/or habitat for the species
9.3 Location of the measures taken	Both inside and outside National Site Network
9.4 Response to measures	Long-term results (after 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
MA02: Restore small landscape features on agricultural land	Medium (M)
MB01: Prevent conversion of (semi-) natural habitats into forests and of (semi-) natural forests into intensive forest plantation	High (H)
MB04: Adapt/manage reforestation and forest regeneration	High (H)
MB05: Adapt/change forest management and exploitation practices	High (H)
MB06: Stop forest management and exploitation practices	High (H)
MB09: Manage the use of natural and synthetic fertilisers, liming and pest control in forestry	High (H)

9.6 Additional information

No additional information

10. Future prospects

10.1a Future trends of parameters

ai) Range	Unknown
bi) Population	Unknown
ci) Habitat for the species	Unknown

10.1b Future prospects of parameters

aii) Range	Unknown
bii) Population	Unknown
cii) Habitat for the species	Unknown

10.2 Additional information

No additional information

11. Conclusions

11.1 Range	Unfavourable-bad (U2)
11.2 Population	Unknown (XX)
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	number of individuals
b) Minimum	
c) Maximum	
d) Best single value	
12.2 Type of estimate	
12.3 Population size inside the network; Method used	Insufficient or no data available
12.4 Short-term trend of population size within the network; Direction	Unknown
12.5 Short-term trend of population size within the network; Method used	Insufficient or no data available
12.6 Short-term trend of habitat for the species inside the pSCIs, SCIs and SACs network; Direction	Unknown
12.7 Short-term trend of habitat for the species inside the pSCIs, SCIs and SACs network; Method used	Insufficient or no data available

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

Aderyn, LERC Wales' Biodiversity Information & Reporting Database. Data downloads under NRW licence 2024.

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Main pressures

8.2 Sources of information

No sources of information

15. Explanatory Notes

Field label	Note
2.2: Year or Period	The time period has been selected as distribution has been calculated using data from Mathews et al. 2018, and updated with recent records from Aderyn.
2.4: Distribution map; Method used	Bechstein's bat is a rare and poorly-recorded species. Recent projects run by Bat Conservation Trust and Vincent Wildlife Trust have greatly improved our knowledge of the range of the species in England, but there is very little information for Wales. The personal studies of a bat researcher undertaking trapping surveys close to the English border in southern Monmouthshire has recorded multiple individuals over several seasons. During the 2018 survey season a pregnant female was radio-tracked to a roost shared with a number of other individuals suggesting that this species should now be considered as breeding and resident within Wales (S. Davidson pers. comms.).Quiet echolocation calls with significant overlap in it call parameters with other Myotis species mean this species cannot be monitored with bat detectors. Roosts are difficult to detect. Catching surveys with lures have successfully located new populations in England, and now in Wales, but are resource intensive. NRW commissioned targeted trapping surveys of NRW managed woodlands in the South West which have resulted in additional records of species presence in the region (Whitby & Binet, 2020). Further targeted survey effort is required to further determine the status and distribution of the species in Wales.
5.3: Short-term trend; Direction	Given the significant changes to the method for range determination and recent discovery of presence that may have gone undetected previously, we are uncertain of the nature and degree of change in short-term range trend for this species.
5.11: Change and reason for change in surface area of range	In the 2019 Article 17 report, the area of land (including unsuitable habitat) contained within the range was given as 155 km2 (Mathews et al. 2018).

Mathews et al. 2018, applied an alpha hull value of 20km 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 this reporting round, and also the 2013 and 2007 reports, whereby a 45km alpha hull value was used for all species with a starting range unit of individual 10km squares.

To produce the range maps JNCC were provided with any additional 10km x 10km grid squares where bats roost records were located between 2018 and 2024, along with the 2019 Article 17 report data. No grid squares have been removed as there have not been any widespread surveys that could indicate loss of a species from any area.

The resulting updated maps produced by JNCC indicate a range of 73 km2. This decrease in range is likely mainly due to a change in methodology rather than a genuine change in range.

Bechstein's bat is a rare and poorly-recorded species. Recent projects run by Bat Conservation Trust and Vincent Wildlife Trust have greatly improved our knowledge of the range of the species in England, but there is very little information for Wales. The personal studies of a bat researcher undertaking trapping surveys close to the English border in southern Monmouthshire has recorded multiple individuals over several seasons. During the 2018 survey season a pregnant female was radio-tracked to a roost shared with a number of other individuals suggesting that this species should now be considered as breeding

	and resident within Wales (S. Davidson pers. comms.). Quiet echolocation calls with significant overlap in it call parameters with other Myotis species mean this species cannot be monitored with bat detectors. Roosts are difficult to detect. Catching surveys with lures have successfully located new populations in England, and now in Wales, but are resource intensive. NRW commissioned targeted trapping surveys of NRW managed woodlands in the South West which have resulted in additional records of species presence in the region (Whitby & Binet, 2020). Further targeted survey effort is required to further determine the status and distribution of the species in Wales.
6.2: Population size	Based on Mathews et al. (2018) methodology: Unit = Individuals Minimum = 116 Maximum = 626 Best Single Value: 249 There is no update of this estimate from the previous Article 17 reporting round. 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 here defined as only broadleaved woodland because of the very strong dependency of maternity colonies on roost locations within woodland, and is given as 29 km2. Details of calculations are as follows: Roost Size Median roost size = 42.5, Lower plausible size for typical

	roosts = 25, Upper plausible size for typical roosts = 90 Adult bat density (bats/km2) Median adult density (bats/km2) = ((median bats/roost†) x (propn. roost female) x (typical n roosts/typical km2 broadleaved woodland)) x 2 Lower limit = ((lowest plausible n. adults/typical roost) x (propn. roost female) x (plausible n. roosts /typical km2 poor quality broadleaved woodland))x 2 Upper limit = ((upper plausible n. adults/typical roost) x (propn. roost female) x (plausible n. roosts /typical km2 good quality broadleaved woodland))x 2 † 'roost' here means maternity roost in the pre-parturition period Population size Total Adult Population = Median adult density in mixed habitat (bats/km2) x total habitable area within range (km2) Lower Limit=Lower limit adult density in mixed habitat (bats/km2) x total habitable area within range (km2) Upper Limit=Upper limit adult density in mixed habitat (bats/km2) x total habitable area within range (km2)
6.6: Population size; Method used	The population estimate and the upper and lower limits associated with it are based in part on our current understanding of the species range in Wales. This is poorly understood currently and could change significantly in the future which would in turn have a significant impact on any estimated population size.
6.8: Short-term trend; Direction	Insufficient data is available to determine trend. Harris et al. 1995, gave a population estimate of 1,000 M. bechsteinii for England with unknown status for Wales.

7.1: Sufficiency of area and quality of occupied habitat	Occpied habitat area Area of land (including unsuitable habitat) contained within the Welsh range is given as 155 km2; habitable area (defined as broadleaved woodland) within this is give as 29 km2 (Mathews et al. 2018). There has been no systematic ground-truthing of this figure. Occupied habitat quality No or insufficient reliable information available. The species has only recently been confirmed as breeding within Wales. Ground truthing of the estimated population and range from Mathews et. al. 2018 has not yet been undertaken and the quality of the indicated habitats have not been assessed. Therefore unknown has been selected. M. bechsteinii requires a complex mosaic of habitats to support foraging, roosting and commuting behaviour however the favoured habitat for maternity colonies is unevenly aged, ancient or semi-natural deciduous woodland with a high number of oaks in the species mix and a dense mixed species understorey. A minimum of 40-50 hectares of woodland is required to maintain an average maternity colony and very large continuous areas of high forest are less favoured than slightly fragmented structurally diverse woodlands. Small streams that have at least some water in the summer are an important requirement for most woodlands with maternity colonies, as is connectivity of woodland patches by hedgerows (Greenaway & Hill, 2004). Orchards with old trees also provide good foraging habitat, where they exist (Boye & Dietz 2005). The size of individual home ranges differs in relation to habitat quality: In optimal areas a home range might be smaller than 3 hectares (old oak forests or oak and beech forests), at other places its size is 15-30 hectares. However, in coniferous forests home ranges of

	more than 100 hectares have been recorded. Females of a maternity colony seem to use individual foraging areas exclusively for several years. Home ranges of neighbouring colonies are separated. The species shows a comparatively small range of movement around the summer roost, sometimes less than 1 kilometre. Main foraging areas are usually at distances of 500-1,500 metres from the roost, but can be nearly 4km and tend to be smaller in continuous woodlands than fragmented forests (Boye & Dietz 2005). Most summer roosts are in woodpecker holes, sometimes behind loose bark or in tree crevices. Maternity colonies also use bat boxes and move roost sites frequently throughout the season. Roosts are found at a height of 0.5-18 metres. An excellent woodland would provide in excess of a dozen large available roosts within the forage woodland and many other smaller holes (Greenaway & Hill, 2004). In winter the species is recorded roosting singly in underground hibernation sites (caves, mines, cellars), although its likely most of the population hibernate in tree holes or behind loose bark, but this is not proven. Usually distances between summer and winter roosts are quite small but can be as much as 39 km.
7.2: Sufficiency of area and quality of occupied habitat; Methods used	Although the habitat requirements for this species are fairly well established, it has only recently been confirmed as breeding within Wales. Ground truthing of the estimated population and range from Mathews et al. 2018 has not yet been undertaken and the quality of the indicated habitats have not been assessed.
8.1: Characterisation of pressures	Pressures: PB02 - Conversion to other types of forests including monocultures, PB05 - Logging without replanting or natural regrowth, PB06 - Logging or thinning (excluding clear cutting), PB07 - Removal of dead and dying trees, including debris, PB08 - Removal of old trees (excluding dead or dying trees), PB09 – Clear-cutting, removal of all trees, PB16 - Application of natural or synthetic fertilisers in forestry:

	M. bechsteinii is strongly associated with woodland, both for roosting and foraging, though it also uses underground places for hibernation. Specialist habitat requirements, low population density and slow population growth are likely to have made this species particularly vulnerable to factors such as: loss and fragmentation of ancient deciduous woodland habitat; the loss, destruction and disturbance of roosts in trees and underground sites; and the reduction in numbers of insect prey. PE01 - Roads, paths, railroads and related infrastructure: These pressures also act via construction of new, and widening/realignment of existing linear infrastructure projects. Road casualties have been reported in continental Europe. Lighting from urbanisation and infrastructure can sever commuting routes, impact foraging areas and delay emergence times. PA04 - Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.): loss of foraging habitat, severance of commuting routes and isolation of colonies is a threat. PI02 - Other invasive alien species (other than species of Union concern): This pressure best aligns to the recently established PI04 category (plant and animal diseases, pathogens and pests) however this category isn't currently available for internal UK reporting purposes. This species is reliant on tree roosts and moves roosts frequently, requiring a large number of trees with suitable crevices. Loss of native broadleaf trees through new pathogens (such as Chalara fraxinea) could have a serious long term impact through reduction of resource.
9.5: List of main conservation measures	MB01 - Prevent conversion of (semi-) natural habitats into forests and of (semi-)natural forests into intensive forest plantation, MB04 - Adapt/manage reforestation and forest

	regeneration, MB05 - Adapt/change forest management and exploitation practices, MB06 - Stop forest management and exploitation practices, MB09 - Manage the use of chemicals for fertilisation, liming and pest control in forestry, MA02 - Restore small landscape features on agricultural land: Low population density and slow population growth are likely to make this species particularly vulnerable to factors such as loss and fragmentation of ancient deciduous woodland habitat, trees and underground sites and the reduction in numbers of insect prey due to habitat simplification and factors such as fertiliser and pesticide use. The availability of large deciduous woodlands, containing dead and dying mature trees with features that can support roosting bats are major factors likely to affect the species status. Legal and administrative measures continue to be required to ensure that the protection provided by the legislation is effective. However, although some measures have been identified for the species, the list is likely to be incomplete as several knowledge gaps persist for this species and further research is needed to identify further measures and the practical implementation of those measures for this species.
10.1: Future trends and prospects of parameters	Future prospects of range The future prospects of range for this species in Wales is currently unknown. The rarity of the species and a lack of systematic survey leaves its current range poorly understood thus predicting future prospects is challenging. Should the species be recorded in new areas in the future it will be difficult to distinguish between recent range increase and simply the discovery of long existing populations outside of the currently predicted range, which is based on modelling of current data. Future prospects of population

	The future prospects of population for this species in Wales is currently unknown. The species has only recently been confirmed as breeding within Wales and monitoring for population change of such an infrequently encountered bat would be extremely difficult. Future prospects of habitat for species The future prospects of habitat of the species in Wales is currently unknown. Due to the rarity of the species and their requirement for high value habitats including ancient and semi-natural deciduous woodland, managing habitats specifically for the species is difficult and habitat may be lost unknowingly.
11.1: Range	Conclusion on Range reached because:(i) the short-term trend direction in Range surface area is uncertain; and (ii) the current Range surface area is more than 10% below the Favourable Reference Range.
11.2: Population	Conclusion on Population reached because:(i) the short-term trend direction in Population size is unknown; (ii) the Favourable Reference Population is unknown and iii) reproduction, mortality and age structure does not have data available.
11.3: Habitat for the species	Conclusion on Habitat for the species reached because: (i) it is unknown whether the area of occupied habitat is sufficiently large for long-term survival (ii) it is unknown whether the quality of occupied habitat is suitable for the long-term survival of the species; and iii) it is unknown whether there is a sufficiently large area of occupied and unoccupied habitat of suitable quality for long term survival (iv) the short-term trend in area of habitat is unknown.
11.4: Future prospects	Conclusion on Future prospects reached because: (i) the Future prospects for Range are unknown; (ii) the Future prospects for Population are unknown; and (iii) the Future prospects for Habitat for the species are unknown.

11.5: Overall assessment of Conservation Status	Overall assessment of Conservation Status is Unfavourable-bad because one or more of the conclusions are Unfavourable-bad.
12.1: Population size inside the pSCIs, SCIs and SACs network	Unknown. Insufficient data is available to make this assessment. Currently there are no SACs in Wales where M. bechsteinii are listed as a qualifying feature, although presence is now known within the Wye Valley Woodlands SAC. Further survey is required to assess the species status within this SAC.
6.15: Favourable Reference Population (FRP)	The UK-level FRV for population was developed by JNCC using an audit trail based on the year the FRV was first established and any changes made in subsequent reporting rounds. The audit may draw from any combination of the 2007, 2013, or 2019 Habitats Directive reports and reflects the full rationale used for the 2019 Article 17 reporting. This FRV was reviewed by Welsh experts and considered appropriate for use in Wales based on current population trends and abundance.
5.10: Favourable Reference Range (FRR)	The UK-level FRV for range was developed by JNCC using an audit trail based on the year the FRV was first established and any changes made in subsequent reporting rounds. The audit may draw from any combination of the 2007, 2013, or 2019 Habitats Directive reports and reflects the full rationale used for the 2019 Article 17 reporting. Following expert review, a Wales-level FRV was derived based on distribution and trend evidence specific to Wales, rather than adopting the UK-level value. The revised FRV has been set in Wales as the current range is so small that it is not sufficient to maintain a population of Bechstein's bats in Wales long term, the loss of a couple of key woodland would likely result in total loss from Wales.