

**European Community Directive
on the Conservation of Natural Habitats
and of Wild Fauna and Flora
(92/43/EEC)**

**Fourth Report by the United Kingdom
under Article 17**

on the implementation of the Directive
from January 2013 to December 2018

Conservation status assessment for the habitat:

H8310 - Caves not open to the public

UNITED KINGDOM

IMPORTANT NOTE - PLEASE READ

- The information in this document represents the UK Report on the conservation status of this habitat, submitted to the European Commission as part of the 2019 UK Reporting under Article 17 of the EU Habitats Directive.
- It is based on supporting information provided by the geographically-relevant Statutory Nature Conservation Bodies, which is documented separately.
- The 2019 Article 17 UK Approach document provides details on how this supporting information contributed to the UK Report and the fields that were completed for each parameter.
- The reporting fields and options used are aligned to those set out in the European Commission guidance.
- Maps showing the distribution and range of the habitat are included (where available).
- Explanatory notes (where provided) are included at the end. These provide additional audit trail information to that included within the UK assessments. Further underpinning explanatory notes are available in the related country-level and/or UK offshore-level reports.
- Some of the reporting fields have been left blank because either: (i) there was insufficient information to complete the field; and/or (ii) completion of the field was not obligatory.
- The UK-level reporting information for all habitats and species is also available in spreadsheet format.

Visit the JNCC website, <https://jncc.gov.uk/article17>, for further information on UK Article 17 reporting.

Report on the main results of the surveillance under Article 17 for Annex I habitat types (Annex D)

NATIONAL LEVEL

1. General information

1.1 Member State	UK
1.2 Habitat code	8310 - Caves not open to the public

2. Maps

2.1 Year or period	2007-2018
2.3 Distribution map	Yes
2.3 Distribution map Method used	Based mainly on expert opinion with very limited data
2.4 Additional maps	No

BIOGEOGRAPHICAL LEVEL

3. Biogeographical and marine regions

3.1 Biogeographical or marine region where the habitat occurs	Atlantic (ATL)
3.2 Sources of information	England BAKER, A. & GENTY, D. 1998. Environmental pressures on conserving cave speleothems: effects of changing surface land-use and increased tourism. <i>Journal of Environmental Management</i> 53: 165-175. British Caving Association. 2016. Minimal Impact Caving Guidelines. Available from http://www.ogof.org.uk/Downloads/minimalimpactcaving.pdf [last checked 22/03/2018] CIGNA, A.A. 1993. Environmental management of tourist caves. <i>Environmental Geology</i> 21: 173-180. Derbyshire Caving Association Cave Registry https://thedca.org.uk/dca-cr/registry/index.php [last checked 22/03/2018] GROBELAAR, J.U. 2000. Lithophytic algae: A major threat to the karst formation of show caves. <i>Journal of Applied Phycology</i> 12: 309-315. Hinde, A. 2014. How Fairy Holes Cave retains its magic. <i>Earth Heritage</i>, 41, 15-16. Hypogean Crustacea Database. November 2015. http://hcrs.freshwaterlife.org/hcrs-database [last checked 22/03/2018]. JNCC. 2004a. Common Standards Monitoring for Earth Science Sites. Available from http://jncc.defra.gov.uk/page-2202 [last checked 22/03/2018]. JNCC. 2004b. Common Standards Monitoring for Mammals. Available from http://jncc.defra.gov.uk/page-2229 [last checked 22/03/2018]. Knight, L. 2008. The Biodiversity Action Plan (BAP) for <i>Niphargus glenniei</i> (Crustacea: Amphipoda: Niphargidae): the first British troglobite to be listed. <i>Cave and Karst Science</i>, Vol. 35, No. 1. Knight, L. (2016). The Pen Park Hole Invertebrate Survey: the first cave SSSI in Britain to include ecology in its notification. <i>Cave and Karst Science</i>, Vol.43, No.3, (2016) 107-108 Mendip Cave Registry http://www.mcra.org.uk/registry/browse.php?cv=cave&lc=gte&lv=&dc=gte&dv=&ac=gte&av=&page=35 [last checked 22/03/2018] MOSELEY, M. 2016. Subterranean biology of Morecambe Bay and the Isle of Man, British Isles. <i>Cave and Karst Science</i>, Vol.43, No.2, (2016) 51-64. MURPHY, P.J. & CHAMBERLAIN, A.T. 2008. Cavers and geoconservation: the history of cave exploration and its contribution to speleology in the Yorkshire Dales. In BUREK, C.V. & PROSSER, C.D. (eds) <i>The history of Geoconservation</i>.

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4. Range

4.1 Surface area (in km ²)	12019.06
4.2 Short-term trend Period	2007-2018
4.3 Short-term trend Direction	Stable (0)
4.4 Short-term trend Magnitude	a) Minimum b) Maximum
4.5 Short-term trend Method used	Based mainly on expert opinion with very limited data
4.6 Long-term trend Period	
4.7 Long-term trend Direction	
4.8 Long-term trend Magnitude	a) Minimum b) Maximum
4.9 Long-term trend Method used	
4.10 Favourable reference range	a) Area (km ²) 12019.06 b) Operator c) Unknown No d) Method The FRR is approximately equal to the current range area. The approach taken to set the FRR is explained in the 2007 and 2013 UK Article 17 habitat reports (see http://jncc.defra.gov.uk/page-4064 and http://jncc.defra.gov.uk/page-6563).
4.11 Change and reason for change in surface area of range	No change The change is mainly due to:

4.12 Additional information

5. Area covered by habitat

5.1 Year or period	1997-2018
5.2 Surface area (in km ²)	a) Minimum b) Maximum c) Best single value
5.3 Type of estimate	

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5.4 Surface area Method used	Insufficient or no data available		
5.5 Short-term trend Period	2007-2018		
5.6 Short-term trend Direction	Stable (0)		
5.7 Short-term trend Magnitude	a) Minimum	b) Maximum	c) Confidence interval
5.8 Short-term trend Method used	Based mainly on expert opinion with very limited data		
5.9 Long-term trend Period			
5.10 Long-term trend Direction			
5.11 Long-term trend Magnitude	a) Minimum	b) Maximum	c) Confidence interval
5.12 Long-term trend Method used			
5.13 Favourable reference area	a) Area (km ²)	Approximately equal to (≈)	
	b) Operator	No	
	c) Unknown	No	
	d) Method	The FRA is approximately equal to the current area. The approach taken to set the FRA is explained in the 2007 and 2013 UK Article 17 habitat reports (see http://jncc.defra.gov.uk/page-4064 and http://jncc.defra.gov.uk/page-6563).	
5.14 Change and reason for change in surface area of range	No change		
	The change is mainly due to:		
5.15 Additional information			

6. Structure and functions

6.1 Condition of habitat	a) Area in good condition (km ²)	Minimum 2.017	Maximum
	b) Area in not-good condition (km ²)	Minimum 0.125	Maximum
	c) Area where condition is not known (km ²)	Minimum	Maximum
6.2 Condition of habitat Method used	Based mainly on expert opinion with very limited data		
6.3 Short-term trend of habitat area in good condition Period	2007-2018		
6.4 Short-term trend of habitat area in good condition Direction	Stable (0)		
6.5 Short-term trend of habitat area in good condition Method used	Based mainly on expert opinion with very limited data		
6.6 Typical species	Has the list of typical species changed in comparison to the previous reporting period?		
6.7 Typical species Method used	No		
6.8 Additional information			

7. Main pressures and threats

7.1 Characterisation of pressures/threats

Pressure	Ranking
Agricultural activities generating point source pollution to surface or ground waters (A25)	M

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Agricultural activities generating diffuse pollution to surface or ground waters (A26)	M
Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (C01)	M
Sports, tourism and leisure activities (F07)	H
Deposition and treatment of waste/garbage from household/recreational facilities (F09)	M
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	M
Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization) (L01)	M

Threat	Ranking
Agricultural activities generating point source pollution to surface or ground waters (A25)	M
Agricultural activities generating diffuse pollution to surface or ground waters (A26)	M
Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (C01)	M
Sports, tourism and leisure activities (F07)	H
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	M
Droughts and decreases in precipitation due to climate change (N02)	M
Increases or changes in precipitation due to climate change (N03)	M

7.2 Sources of information

7.3 Additional information

8. Conservation measures

8.1 Status of measures	a) Are measures needed?	Yes
	b) Indicate the status of measures	Measures identified, but none yet taken

8.2 Main purpose of the measures taken

8.3 Location of the measures taken

8.4 Response to the measures

8.5 List of main conservation measures

Reduce/eliminate point pollution to surface or ground waters from agricultural activities (CA10)

Reduce diffuse pollution to surface or ground waters from agricultural activities (CA11)

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

Manage changes in hydrological and coastal systems and regimes for construction and development (CF10)

8.6 Additional information

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9. Future prospects

9.1 Future prospects of parameters	a) Range Good b) Area Good c) Structure and functions Unknown
9.2 Additional information	Future trend of Range is Overall stable; Future trend of Area is Overall stable; and Future trend of Structure and functions is Overall stable

10. Conclusions

10.1. Range	Favourable (FV)
10.2. Area	Favourable (FV)
10.3. Specific structure and functions (incl. typical species)	Unknown (XX)
10.4. Future prospects	Favourable (FV)
10.5 Overall assessment of Conservation Status	Favourable (FV)
10.6 Overall trend in Conservation Status	Stable (=)
10.7 Change and reasons for change in conservation status and conservation status trend	a) Overall assessment of conservation status Improved knowledge/more accurate data The change is mainly due to: Improved knowledge/more accurate data b) Overall trend in conservation status Improved knowledge/more accurate data The change is mainly due to: Improved knowledge/more accurate data
10.8 Additional information	Conclusion on Range reached because: (i) the short-term trend direction in Range surface area is stable; and (ii) the current Range surface area is approximately equal to the Favourable Reference Range. Conclusion on Area covered by habitat reached because: (i) the short-term trend direction in Area is stable; and (ii) the current Area is approximately equal to the Favourable Reference Area. Conclusion on Structure and functions reached because the condition of the habitat is unknown. Conclusion on Future prospects reached because: (i) the Future prospects for Range are good; (ii) the Future prospects for Area covered by habitat are good; and (iii) the Future prospects for Structure and functions are unknown. Overall assessment of Conservation Status is Favourable because three of the conclusions are Favourable and the other is Unknown. Overall trend in Conservation Status is based on the combination of the short-term trends for Range - stable, Area covered by habitat - stable, and Structure and functions - stable. The Overall assessment of Conservation Status has changed between 2013 and 2019 because the conclusion for Future Prospects has changed from Unknown to Favourable. The Overall trend in Conservation Status has changed between 2013 and 2019 because the Structure and functions and Future Prospects trends have changed from unknown to stable.

11. Natura 2000 (pSCIs, SCIs, SACs) coverage for Annex I habitat types

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11.1 Surface area of the habitat type inside the pSCIs, SCIs and SACs network (in km² in biogeographical/marine region)

- a) Minimum
- b) Maximum
- c) Best single value 36.224

11.2 Type of estimate

Best estimate

11.3 Surface area of the habitat type inside the network Method used

Based mainly on extrapolation from a limited amount of data

11.4 Short-term trend of habitat area in good condition within the network Direction

Stable (0)

11.5 Short-term trend of habitat area in good condition within network Method used

Based mainly on expert opinion with very limited data

11.6 Additional information

12. Complementary information

12.1 Justification of % thresholds for trends

12.2 Other relevant information

Distribution Map

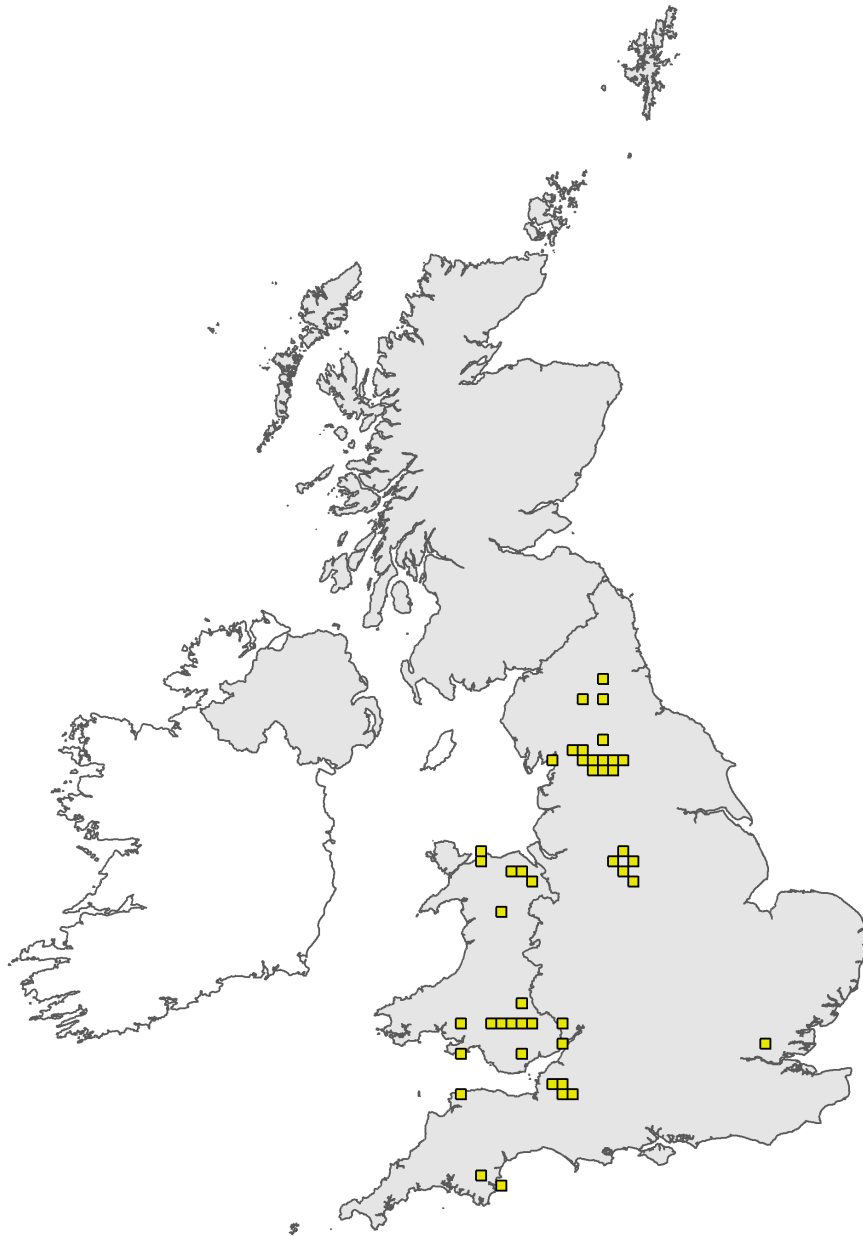


Figure 1: UK distribution map for H8310 - Caves not open to the public. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

The 10km grid square distribution map is based on available habitat records which are considered to be representative of the distribution within the current reporting period. For further details see the 2019 Article17 UK Approach document.

Range Map

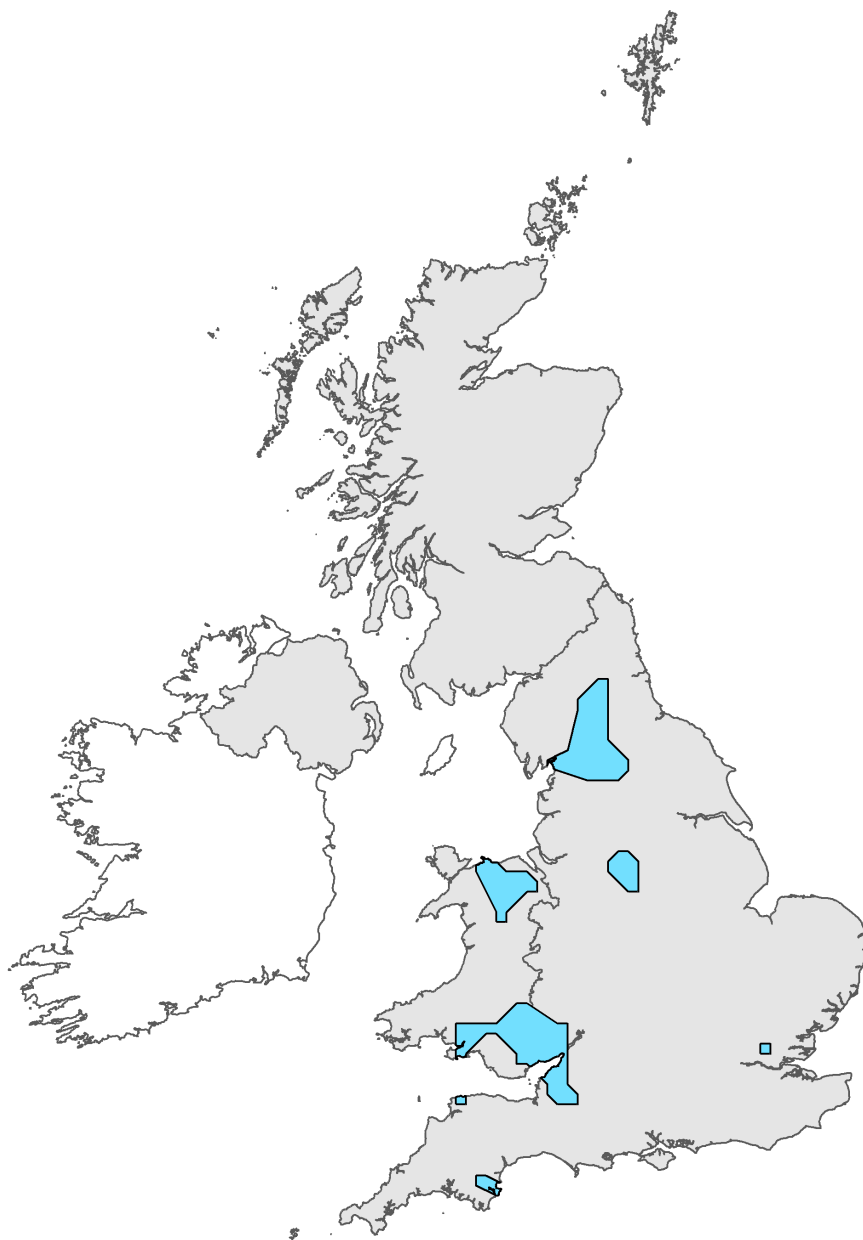


Figure 2: UK range map for H8310 - Caves not open to the public. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

The range map has been produced by applying a bespoke range mapping tool for Article 17 reporting (produced by JNCC) to the 10km grid square distribution map presented in Figure 1. The alpha value for this habitat was 25km. For further details see the 2019 Article 17 UK Approach document.