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 habitat:

H9160 - Sub-Atlantic and medio-European oak or oak-hornbeam forests of the *Carpinion betuli*

ENGLAND

IMPORTANT NOTE - PLEASE READ

- The information in this document is a country-level contribution to 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.
- 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 habitat 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; and/or (iii) the field was only relevant at UK-level (sections 10 Future prospects and 11 Conclusions).
- For technical reasons, the country-level future trends for Range, Area covered by habitat and Structure and functions 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 17 for Annex I habitat types (Annex D)

NATIONAL LEVEL

1. General information

1.1 Member State	**UK (England information only)**
1.2 Habitat code	**9160 - Sub-Atlantic and medio-European oak or oak-hornbeam forests of the**

2. Maps

2.1 Year or period	2013-
2.3 Distribution map	Yes
2.3 Distribution map Method used	Based mainly on extrapolation from a limited amount of 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	Natural England's SSSI series review (unpublished) Natural England's Climate Change Adaptation Manual - Evidence to support nature conservation in a changing climate (NE546) Natural England's Ecological Network Evidence Handbook (unpublished)

4. Range

4.1 Surface area (in km²)		
4.2 Short-term trend Period		
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		
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 (km²) b) Operator c) Unknown No d) Method	
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	2012-2018		
5.2 Surface area (in km²)	a) Minimum	b) Maximum	c) Best single value 10
5.3 Type of estimate	Best estimate		
5.4 Surface area Method used	Based mainly on expert opinion with very limited data		

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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 (km²) b) Operator c) Unknown No d) Method		
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 (km²)	Minimum 3.3	Maximum 3.3
	b) Area in not-good condition (km²)	Minimum 0.06	Maximum 0.06
	c) Area where condition is not known (km²)	Minimum 6.64	Maximum 6.64
6.2 Condition of habitat Method used	Based mainly on extrapolation from a limited amount of 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 extrapolation from a limited amount of data		
6.6 Typical species	Has the list of typical species changed in comparison to the previous reporting period?	No	
6.7 Typical species Method used			
6.8 Additional information			

7. Main pressures and threats

7.1 Characterisation of pressures/threats

Pressure	Ranking
Agricultural activities generating air pollution (A27)	M
Management of fishing stocks and game (G08)	H
Mixed source air pollution, air-borne pollutants (J03)	H
Abandonment of traditional forest management (B04)	M

Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.) (A05)	M
Replanting with or introducing non-native or non-typical species (including new species and GMOs) (B03)	M
Logging without replanting or natural regrowth (B05)	M
Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions) (F01)	M
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	H

Threat	Ranking
Agricultural activities generating air pollution (A27)	M
Management of fishing stocks and game (G08)	M
Mixed source air pollution, air-borne pollutants (J03)	H
Abandonment of traditional forest management (B04)	M
Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.) (A05)	M
Logging without replanting or natural regrowth (B05)	M
Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions) (F01)	H
Droughts and decreases in precipitation due to climate change (N02)	M
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	H

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 and taken
8.2 Main purpose of the measures taken	Maintain the current range, population and/or habitat for the species	
8.3 Location of the measures taken	Both inside and outside Natura 2000	
8.4 Response to the measures	Medium-term results (within the next two reporting periods, 2019-2030)	
8.5 List of main conservation measures		

Reduce/eliminate air pollution from agricultural activities (CA12)
Reducing the impact of (re-) stocking for fishing and hunting, of artificial feeding and predator control (CG03)
Reduce impact of mixed source pollution (CJ01)
Reinstate forest management and exploitation practices (CB03)

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Restore small landscape features on agricultural land (CA02)

Adapt/manage reforestation and forest regeneration (CB04)

Implement climate change adaptation measures (CN02)

Manage conversion of land for construction and development of infrastructure (CF01)

Other measures related to natural processes (CL04)

8.6 Additional information	All SAC sites have IPENS and Site Nitrogen Action Plans (SNAPs)

9. Future prospects

9.1 Future prospects of parameters	a) Range	Good
	b) Area	Good
	c) Structure and functions	Bad
9.2 Additional information	100% of area exceeds N CL threshold; presence of tree pests and diseases, grey squirrels and need to control deer population to allow natural regeneration.	

10. Conclusions

10.1. Range	
10.2. Area	
10.3. Specific structure and functions (incl. typical species)	
10.4. Future prospects	
10.5 Overall assessment of Conservation Status	
10.6 Overall trend in Conservation Status	
10.7 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:
10.8 Additional information	Presence of disease impact on overall tree health. Exceedance of N_CL threshold

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

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	8
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)	

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11.5 Short-term trend of habitat area in good condition within network Method used	Complete survey or a statistically robust estimate
11.6 Additional information	

12. Complementary information

12.1 Justification of % thresholds for trends	
12.2 Other relevant information	

Distribution Map

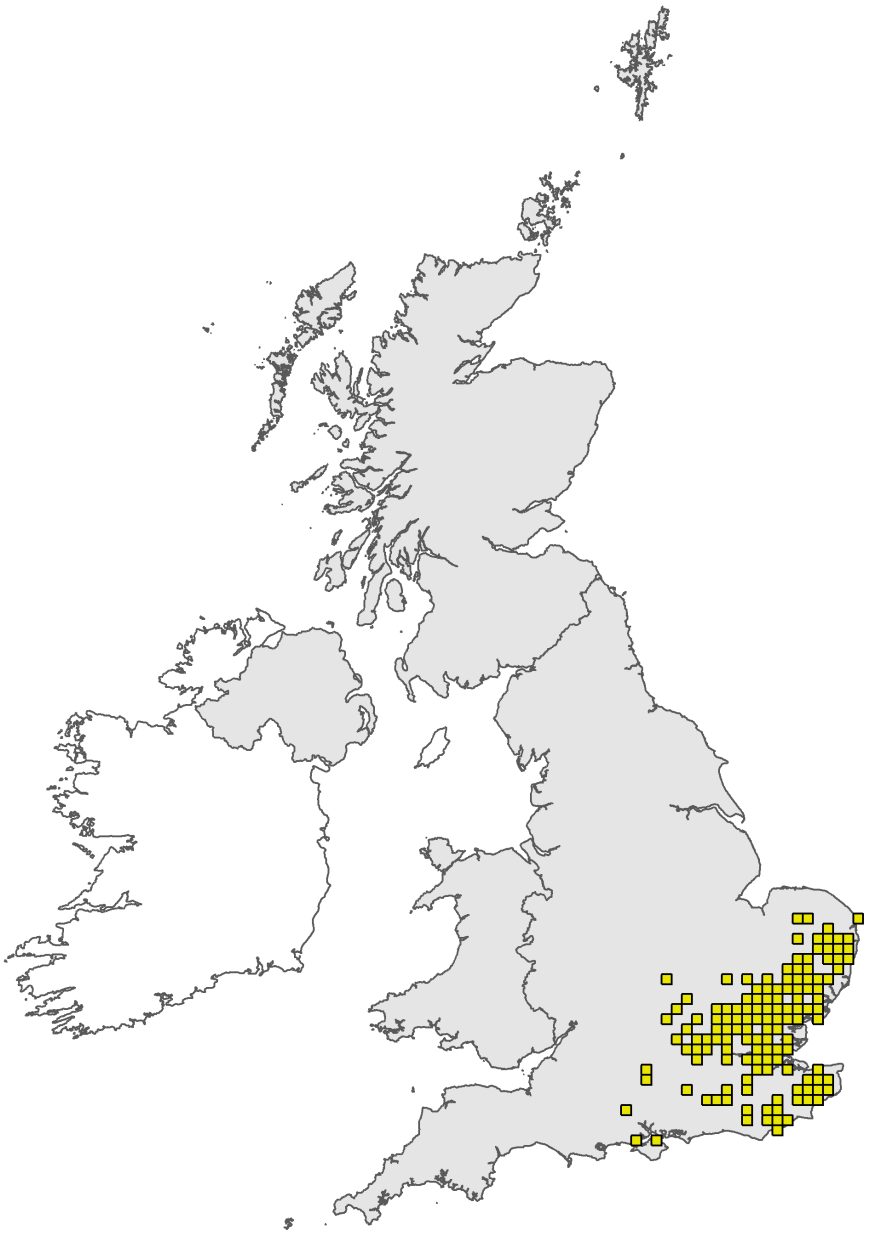

Figure 1: UK distribution map for H9160 - Sub-Atlantic and medio-European oak or oak-hornbeam forests of the *Carpinion betuli*. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains 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 H9160 - Sub-Atlantic and medio-European oak or oak-hornbeam forests of the *Carpinion betuli*. 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.

Explanatory Notes

Habitat code: 9160 Region code: ATL

Field label	Note
4.10 Favourable reference range	No evidence for change; same figures as 2013 report
5.1 Year or period	Previous report period to present
5.2 Surface area	No evidence for change since 2013 report
5.13 Favourable reference area	No alternative approach is suggested, 2013 figures re-used
6.1 Condition of habitat	Figures taken from CSM data supplied from NE's CSMi dataset. Figures not felt to broadly represent the condition of the resource as a whole. Woodland is under-represented in the SSSI series (NE's SSSI series review 2016), and is generally undermanaged. Management effort focussed on maintaining or improving habitat condition inside protected sites is not reflected in effort outside the protected site series. The CSMi figures therefore probably overestimate the condition of the resource as a whole.
7.1 Characterisation of pressures/ threats	Threats: High F01, F03 Increased threats from housing development and infrastructure development. L06 the SIP has identified N pollution as the main threat on this habitat. Medium The Deer Initiative project is expected to have an impact on high deer populations over the next 5 years. The listed pressures, which have not been addressed, will continue to threaten the viability of the habitat.
7.1 Characterisation of pressures/ threats	Pressures: A05 Agricultural intensification and changes to land management have resulted in the loss of hedges, trees and small patches of scrub in fields, which increases fragmentation and isolation amongst the remaining woodlands; A27 fertiliser and/or biocides spraydrift from agricultural activities causes nutrient enrichment and negative impacts on vegetation/fauna; B03 inappropriate planting of conifers, removal of understorey, introduction of sycamore, rhododendron, cherry laurel, Turkey oak; B04 lack of management results in darker woods and a consequent loss of ground flora. In old growth sites there may be a lack of replacement trees, which causes a break in the continuity of dead wood habitat and subsequent loss of specialised species; B05 lack of natural regeneration is a problem for this habitat, particularly old growth stands where continuity of habitat can only be achieved by having overlapping generations; F01 In the lowlands of England, and particularly in the south east, development pressure is high, and likely to increase; G08 Deer numbers are very high in the range of this habitat and consequently this is a high pressure on regeneration (CSM monitoring); J03 the CL threshold is exceeded throughout the range of this habitat; L06 The presence of tree diseases and pathogens such as Acute Oak Decline and Sudden Oak Death are having an impact on the health of the oak tree population in England which is an important component of this habitat type; B05 lack of natural regeneration as a result of high deer populations and leads to changes in the woodland structure.
8.1 Status of measures	Conservation measures have been identified through the HLF funded IPENS porject which has identified the main activities required to achieve favourable conservation status. Remedies for the conservation measures, although identified, have not always been
9.1 Future prospects of parameters	Range not expected to change; area not expected to change; S&F very negative due to exceedance of N_CLs
9.2 Additional information	Supplementary guidance on accounting for N CL exceedance concludes 100% of habitat exceeds CL

11.1 Surface area of the habitat type inside the pSCIs, SCIs and SACs network	Figure provided by G. Hinton (Natural England) from CSM analysis