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:

H91J0 - *Taxus baccata* woods of the British Isles

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 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 (Wales information only)**
1.2 Habitat code	**91J0 - Taxus baccata woods of the British Isles**

2. Maps

2.1 Year or period	1985-2012
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	Blackstock T. H., Howe E. A., Stevens J. P., Burrows C. R. & Jones P. S. 2010. Habitats of Wales. A comprehensive field survey 1979-1997. University of Wales Press, Cardiff. Green, H. 2013. Coedwigoedd Penrhyn Creuddyn / Creuddyn Peninsula woods SAC. Site number: UK0030124 91J0: Taxus baccata woods of the British Isles. SAC Monitoring report 2013. Natural Resources Wales. Guest, D. 2012. Assessing pressures and threats for Article 17 reporting based on information in CCW's Actions Database. CCW Staff Guidance Note. JNCC. 2017. Habitat account - Forests 91J0 Taxus baccata woods of the British Isles. http://jncc.defra.gov.uk/protectedsites/sacselection/habitat.asp?FeatureIntCode=H91J0. [Accessed 21/06/2018] Latham, J. 2000. Estimates of areas of woodland HSP types and HSD Annex 1 habitats in Wales. Unpublished CCW staff report. Latham, J. 2001. National Vegetation Classification of woodland in Wales: a summary of survey results 1985-2000. CCW Natural Science Report, 01/7/1, CCW, Bangor. Latham, J., Sherry, J. and Rothwell, J. 2013. Ecological connectivity and biodiversity prioritisation in the terrestrial environment of Wales. CCW Staff Science Report No. 13/3/3. Countryside Council for Wales, Bangor. Natural Resources Wales (NRW). 2013 Supporting documentation for the Third Report by the United Kingdom under Article 17 on the implementation of the Directive from January 2007 to December 2012 Conservation status assessment for Habitat: H91J0 - Taxus baccata woods of the British Isles Available from: http://jncc.defra.gov.uk/pdf/Article17Consult_20131010/H91J0_WALES.pdf [Accessed 21/06/2018] Natural Resources Wales (NRW). 2018. SAC and SPA Monitoring Programme Results 2013-2018. Available from: http://lle.gov.wales/catalogue/item/SACSPAMonitoringProgrammeResults/?lang=en [Accessed 19/06/2018] Watts, K., Griffiths, M., Quine, C., Ray, D. and Humphrey, J.W. (2005). Towards a Woodland Habitat Network for Wales. CCW Science Report 686, CCW Bangor.

4. Range

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

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	1985-2000		
5.2 Surface area (in km²)	a) Minimum	b) Maximum	c) Best single value 0.5
5.3 Type of estimate	Best estimate		
5.4 Surface area Method used	Based mainly on extrapolation from a limited amount of data		
5.5 Short-term trend Period	2007-2018		
5.6 Short-term trend Direction	Unknown (x)		
5.7 Short-term trend Magnitude	a) Minimum	b) Maximum	c) Confidence interval
5.8 Short-term trend Method used	Insufficient or no data available		
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 0.2	Maximum 0.2
	b) Area in not-good condition (km²)	Minimum 0.07	Maximum 0.07

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	c) Area where condition is not known (km²)	Minimum 0.23	Maximum 0.23	
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	2009-2015			
6.4 Short-term trend of habitat area in good condition Direction	Unknown (x)			
6.5 Short-term trend of habitat area in good condition Method used	Insufficient or no data available			
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
Sports, tourism and leisure activities (F07)	H
Other human intrusions and disturbance not mentioned above (H08)	H
Problematic native species (I04)	H
Mixed source air pollution, air-borne pollutants (J03)	H
Other invasive alien species (other then species of Union concern) (I02)	M
Other climate related changes in abiotic conditions (N09)	M

Threat	Ranking
Sports, tourism and leisure activities (F07)	H
Other human intrusions and disturbance not mentioned above (H08)	H
Problematic native species (I04)	H
Mixed source air pollution, air-borne pollutants (J03)	H
Other invasive alien species (other then species of Union concern) (I02)	M
Other climate related changes in abiotic conditions (N09)	M
Droughts and decreases in precipitation due to climate change (N02)	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 and taken

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

Reduce impact of other specific human actions (CH03)

Management of problematic native species (CI05)

Management, control or eradication of other invasive alien species (CI03)

Reduce impact of mixed source pollution (CJ01)

Implement climate change adaptation measures (CN02)

8.6 Additional information

9. Future prospects

9.1 Future prospects of parameters	a) Range b) Area c) Structure and functions
9.2 Additional information	

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	

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 0.27

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11.2 Type of estimate	Best estimate
11.3 Surface area of the habitat type inside the network Method used	Complete survey or a statistically robust estimate
11.4 Short-term trend of habitat area in good condition within the network Direction	Uncertain (u)
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

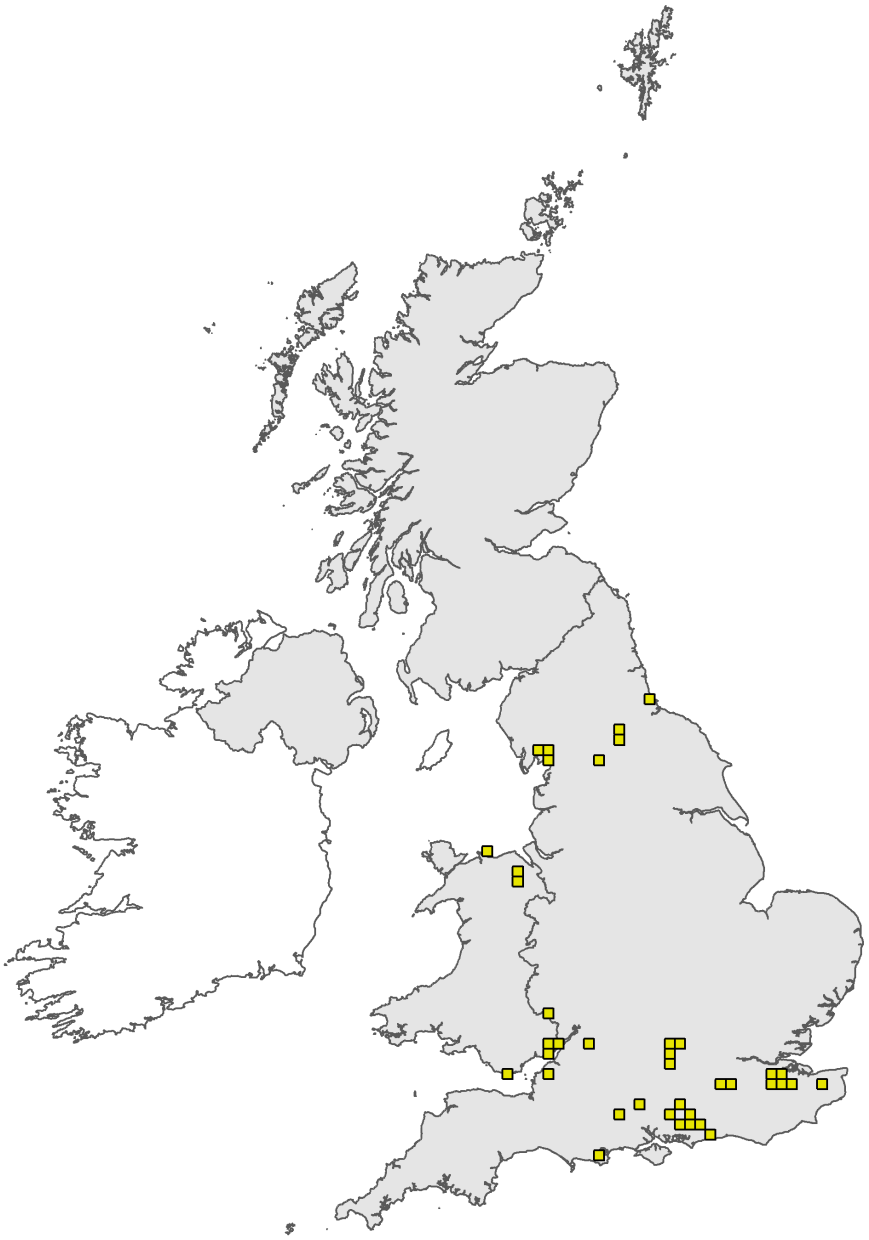

Figure 1: UK distribution map for H91J0 - *Taxus baccata* woods of the British Isles. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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 H91J0 - *Taxus baccata* woods of the British Isles. 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: 91J0

Field label	Note
2.1 Year or period	An analysis of the range and extent of H91J0 Taxus baccata woodland in Wales was carried out in 2012 through a review of the records available for the habitat (NRW, 2013). No new information has become available to significantly update this analysis, and there is also no reason to expect that the range and extent of the habitat has changed significantly since 2012. For these reasons the figures and analysis for 2012 are reproduced here.
2.3 Distribution map; Method used	(Analysis as for 2012; see section 2.1). 91JO Taxus baccata woodland of the British Isles is a scarce habitat in Wales, restricted to a few localities, usually over limestone. In the NVC it corresponds to W13 (JNCC, 2017), which in Latham (2001) has only 5 Welsh records. It is also known from inclusions within beech and ash woodland which sometimes, although noted on NVC surveys, have not been assumed to be sufficiently yew dominated or continuous enough to be mapped as W13. Knowledge of the resource of Taxus woodland in Wales, therefore is limited to these few records, which provide an outline of its likely range. It is not possible to identify examples more comprehensively using Phase 1 Habitat Survey (Blackstock, 2010). The total area of Taxus baccata woodland recorded in Wales is 29.2 ha. It is unlikely that many large stands have been missed, although many small areas may not have been recorded (Latham, 2000). A cautious estimate of the total area in Wales is 50ha, with perhaps an upper limit of 100ha.

Habitat code: 91J0 Region code: ATL

Field label	Note
4.3 Short term trend; Direction	See 4.11
4.11 Change and reason for change in surface area of range	The distribution of Taxus baccata woodland in Wales has not been re-assessed for the current report and 10 km squares from which it has been reported are unchanged.
5.1 Year or period	Total evidence range is based on survey data accumulated from 1985 - 2000.
5.2 Surface area	An analysis of the range and extent of H91J0 Taxus baccata woodland in Wales was carried out in 2012 through a review of the records available for the habitat (NRW, 2013).
5.6 Short term trend; Direction	An analysis of the range and extent of H91J0 Taxus baccata woodland in Wales was carried out in 2012 through a review of the records available for the habitat (NRW, 2013). No updated analysis has been undertaken for short term trend and consequently trend direction is currently considered unknown.
5.8 Short term trend; Method used	There is no evidence available to judge short-term trends in the total area of this habitat.
5.14 Change and reason for change in surface area	The area of the habitat has not been re-assessed for this report and so the values are the same as the 2012 submission.
6.1 Condition of habitat	Figures adjusted from SDF by proportion based on reassessment if areas for 2013 submission.

6.2 Condition of habitat; Method used	Some assessment of structure and function can be made from the results of Common Standards Monitoring where the habitat occurs as a feature on two SACs, representing c. 50% of the estimated total resource. This is the only evidence source available for the habitat. At the most recent assessment the majority of the habitat by area on SAC was in favourable condition (c.75%), with one site Favourable and one Unfavourable (NRW, 2018).
6.3 Short term trend of habitat area in good condition; Period	For the two sites that have been reassessed between 2012 and 2017, one has changed condition from Unfavourable to Favourable (representing c. 40% of total resource), although it is not clear whether is due to real change or to an improved understanding of the ecology of the site. It is not possible to imply overall trends from these results.
6.4 Short term trend of habitat area in good condition; Direction	For the two sites that have been reassessed between 2012 and 2017, one has changed condition from Unfavourable to Favourable (representing c. 40% of total resource), although it is not clear whether is due to real change or to an improved understanding of the ecology of the site. The other site (representing c. 15% of the total resource) has stayed as Unfavourable (Green, 2013). It is not possible to imply overall trends form these results.

7.1 Characterisation of pressures/ threats	Pressures: Four pressures are ranked as High. F07 recreational activities (often illegal) can have important impacts, causing damage to woodland ground flora regeneration, erosion and specifically damage by fire, recorded here as H08 (other human activities). These activities are the prime reason for the Unfavourable assessments made (Green, 2013), representing c. 15% of the total estimated resource. Personal observations also suggest that fragments of Taxus woodland are vulnerable to trampling impacts from recreation. I04 deer browsing (predominantly by naturalised fallow deer Dama dama), has been recorded as likely to have important impacts on regeneration and composition of Taxus woodland, specifically within the SAC sites in the Wye Valley. J03 Mixed source of air pollution, air-borne pollutants, appears to be universal with all areas in receipt of deposition rates for atmospheric nitrogen in excess of the critical load for the habitat, although the impacts for this habitat are unquantified. Three pressures are considered to have a medium or low impact. I02 Invasive Non-Native Species or invasive alien species have been identified as an issue within Taxus woodland on SACs, especially evergreen species such as cherry laurel Prunus laurocerasus and Holm oak Quercus ilex. Grey squirrels Sciurus carolinensis also can have a serious local impact on yew trees by stripping bark. N09 'Other climate related changes in biotic conditions' has been included as a catch-all for the complex of interactions relating to long-term habitat loss, fragmentation, reduction of permeability of the matrix leading to reduced ecological connectivity, combined with the additional pressures of climate change that may require habitat range adaptation. They also interact with many of the specific climate change pressures that have been listed. N02 'droughts and decreases in precipitation due to climate change' may be impacting negatively on Taxus woodland as the habitat it is associated with the maritime climate of the British Isles, but this unquantified. Method used - pressures The assessment was based on the submission for 2013 (NRW, 2013), reconsidered using expert knowledge updated accordingly for 2018. The data held in the \Actions Database\ were used to provide a basis for quantifying pressures/threats relating to Taxus baccata woodland, coupled with expert judgement on the severity of these pressures/threats (at a generic level) to give an overall evaluation of the pressure/threat level (for more details see Guest, 2012). For woodland, the Actions Database does not list Annex 1 habitats on SSSIs, so this analysis is based primarily on issues recorded on SACs, informed where possible by knowledge of the habitat on SSSIs elsewhere. Threats: The pressures identified above can be expected to remain as threats. In particular: I02 invasive species may well increase in abundance and additional species become a problem, possibly encouraged by climate change. I04 deer browsing is currently only a localised issue in Wales but experience from Scotland and England suggests that it could present a significant threat to the habitat as deer populations are likely to expand and increase in density, and may increasingly involve non-native species, particularly muntjac Muntiacus reevesi (see I02) I05 remains a serious concern with the increase of tree pathogens in recent years, although none are currently known to pose a particular or serious threat to yew trees. N02 'droughts and decreases in precipitation due to climate change' may impact negatively on Taxus woodland which is associated with the maritime climate of the British Isles. Method used - threats: Expert opinion The pressures identified in pressures were used as a basis for threats, but additional information and expert opinion used to extrapolate to possible likely future impacts, and also to identify large scale issues such as those of climate change that are not evident on a site reporting basis.
8.1 Status of measures	While the majority of most important measures have been identified and taken, in reality some identified measures have not yet been taken while other interventions are needed but the mechanisms have not been resolved.
8.2 Main purpose of the measures taken	The majority of the most important measures currently being undertaken are focused on maintaining the structure and functions of existing stands of Taxus baccata woodland habitat. However several are also aimed at restoring the structure and functions both on individual sites and to the resource as a whole.

8.5 List of main conservation measures	CF03 Reduce impact of outdoor sports, leisure and recreational activities, and CH03: Reduce impact of other specific human actions. These are likely to be achieved through careful site and visitor management, through both regulation and awareness raising. CI05: Management of problematic native species - the management of deer and their impacts. The long-term objective is to have populations of deer present at levels that are appropriate to their ecological situation, allowing them to deliver a positive ecosystem function. CI03 Management, control or eradication of other invasive alien species. INNS are a medium problem but a significant threat to Taxus baccata woodland habitat, and continued management, vigilance and contingency planning are required CJ01 Reduce impact of mixed source pollution. The impacts are probably high and significant on this habitat, but it is not clear what actions may be done locally to reduce them in addition to national current regulation of air pollution, hence the Medium ranking assigned here. CN02: Implement climate change adaptation measures. This relates to the broad need to develop the resilience of the Taxus baccata woodland resource beyond the individual site level, planning large scale ecological networks that provide functional connectivity for relevant species between protected sites that allows both mitigation for long-term habitat loss and fragmentation and the capacity for climate change adaptation, including planning for and facilitating the range expansion of beech where appropriate (e.g. Watts et al., 2005; Latham et al. 2013). CI07: Controlling and eradicating plant and animal diseases, pathogens and pests. This primarily relates to vigilance and the development of management and contingency plans to address the impacts of tree pathogens such as Phyophthora species.
9.1 Future prospects of parameters	9.1a:-The habitat currently is very restricted in Wales, occurring as isolated stands where suitable conditions over limestone occur. There is potential to increase its range but the probability of that happening is unknown. 9.1b: Overall, the future prospects are unknown as the habitat's long-term dynamics and requirements for establishment are poorly understood. A general increase in woodland cover looks likely in Wales as it is supported by WG policy, but this seems unlikely to be relevant to creating the very specific composition and site requirements of Taxus baccata woodland. There may be very local gains in area possibly from the restoration of ancient woodland (PAWS) sites, again supported by WG policy. Taxus baccata woodland may increase in area through natural processes at the expense of other woodland types that have common environmental conditions, in particular Asperulo-fagetum beech forests that often occur in association with Taxus baccata woodland or have a significant Taxus component. Perversely, Taxus baccata woodland may benefit from the loss of ash trees to Chalara ash dieback, as it may replace ash trees leading to the progressive shift of some ash woodland types (W8) to W13. 9.1c: There are significant issues affecting condition, including notably human recreational impacts, deer browsing, INNS, climate change, the potential for tree diseases and the impacts of cumulative and ongoing atmospheric deposition of excess nutrient nitrogen. While there is much uncertainty about their future level of impact on balance a negative trend in structure and function is considered the most likely outcome over the next 12 years.
11.3 Surface area of the habitat type inside the network; Method used	NVC maps exist for the majority of woodland SACs in Wales; surveys are described in Latham (2001) and digitised by GIS analysis (held on NRW GIS system). Areas of Taxus baccata woodland have previously been calculated for inclusion on JNCC's data forms: values for each of these for which the habitat is listed as a feature (grades A-D) were compiled, but then compared with habitat maps to re-assess the total area of Taxus baccata woodland included on SACs rather than that originally mapped as a feature.
11.4 Short term trend of habitat area in good condition within the network; Direction	For the two sites that have been reassessed between 2012 and 2017, one has changed condition from Unfavourable to Favourable (representing c. 40% of total resource), although it is not clear whether is due to real change or to an improved understanding of the ecology of the site.