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:

H91A0 - Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles

NORTHERN IRELAND

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 (Northern Ireland information only)**
1.2 Habitat code	**91A0 - Old sessile oak woods with Ilex and Blechnum in the British Isles**

2. Maps

2.1 Year or period	2013-2018
2.3 Distribution map	Yes
2.3 Distribution map Method used	Complete survey or a statistically robust estimate
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	Cooper, A. & McCann, T. (2001). The Northern Ireland Countryside Survey 2000. Environment and Heritage Service, Belfast Cooper, A., McCann, T. and Rogers, D. (2009) Northern Ireland Countryside Survey 2007: Broad Habitat Change 1998-2007. Northern Ireland Environment Agency. Northern Ireland Environment Agency Research and Development Series No. 09/06. Belfast. 58 pp. McCann, T., Rogers, D. and Cooper, A. (2009) Northern Ireland Countryside Survey 2007: Field methods and technical manual. Northern Ireland Environment Agency. Northern Ireland Environment Agency, Research and Development Series No 09/07. Belfast. Murray, R., McCann, T. and Cooper, A. (1992). A Land Classification and Landscape Ecological Study of Northern Ireland. Department of the Environment NI and Department of Environmental Studies, University of Ulster, Coleraine. Rodwell, J.S. (1991). British Plant Communities. Volume 1, Woodlands. Cambridge: Cambridge University Press NIEA. Internal Condition Assessment Reports (various sites and years). Rodwell, J.S., Dring, J.C., Averis, A.B.V., Proctor, M.C.F., Malloch, A.J.C., Schaminee, J.H.J & Dargie, T.C.D. 1998. Review of Coverage of the National Vegetation Classification. Lancaster: Unit of Vegetation Science report to the Joint Nature Conservation Committee. Data on aerial Nitrogen deposition taken from Air Pollution Information System website - http://www.apis.ac.uk/ NIEA. Internal Survey Reports (various sites and years). Graham, T. (1975). Private Woodland Inventory of Northern Ireland. (1975). Forest Service, Belfast. Forest Service woodland register - data available online https://www.daera-ni.gov.uk/articles/forest-service-woodland-register McCracken, E. 1971. The Irish Woods Since Tudor Times: Their Distribution and Exploitation. Insititute of Irish Studies, Belfast. Rackham, O. 1995 Looking for Ancient Woodland in Ireland in Woods, Trees and Forests in Ireland, pp. 1-12. Pilcher, J.R. and Mac an tSaoir, S. S. (eds). Royal Irish Academy, Dublin. Rodwell, J. & Dring, J. 2001. European significance of British woodland types. English Nature Research Report No. 460 (Volumes 1-2). English Nature,

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

Peterborough.

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	2013-2018		
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	Complete survey or a statistically robust estimate		
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	Complete survey or a statistically robust estimate		
5.9 Long-term trend Period	1994-2018		
5.10 Long-term trend Direction	Stable (0)		
5.11 Long-term trend Magnitude	a) Minimum	b) Maximum	c) Confidence interval
5.12 Long-term trend Method used	Complete survey or a statistically robust estimate		
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

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

6.1 Condition of habitat	a) Area in good condition (km²)	Minimum	0.178	Maximum	0.1789
	b) Area in not-good condition (km²)	Minimum	8.8291	Maximum	8.8291
	c) Area where condition is not known (km²)	Minimum	0.992	Maximum	0.992
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)	H
Waste management practices in agriculture (A24)	M
Other invasive alien species (other then species of Union concern) (I02)	H
Intensive grazing or overgrazing by livestock (A09)	M
Increases or changes in precipitation due to climate change (N03)	M
Temperature changes (e.g. rise of temperature & extremes) due to climate change (N01)	M
Forest management reducing old growth forests (B15)	M
Modification of hydrological flow (K04)	M
Conversion into agricultural land (excluding drainage and burning) (A01)	M

Threat	Ranking
Agricultural activities generating air pollution (A27)	H
Waste management practices in agriculture (A24)	M
Other invasive alien species (other then species of Union concern) (I02)	H
Intensive grazing or overgrazing by livestock (A09)	M
Increases or changes in precipitation due to climate change (N03)	H
Temperature changes (e.g. rise of temperature & extremes) due to climate change (N01)	H
Forest management reducing old growth forests (B15)	M

Modification of hydrological flow (K04)	M
Conversion into agricultural land (excluding drainage and burning) (A01)	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
8.2 Main purpose of the measures taken		Increase the population size and/or improve population dynamics (improve reproduction success, reduce mortality, improve age/sex structure) (related to 'Population')
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

Management, control or eradication of other invasive alien species (CI03)
Implement climate change adaptation measures (CN02)
Reduce/eliminate air pollution from agricultural activities (CA12)
Adapt mowing, grazing and other equivalent agricultural activities (CA05)
Other measures related to agricultural practices (CA16)
Stop forest management and exploitation practices (CB06)
Reduce impact of multi-purpose hydrological changes (CJ02)
Prevent conversion of natural and semi-natural habitats, and habitats of species into agricultural land (CA01)

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

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

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 8.4265
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	Stable (0)
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

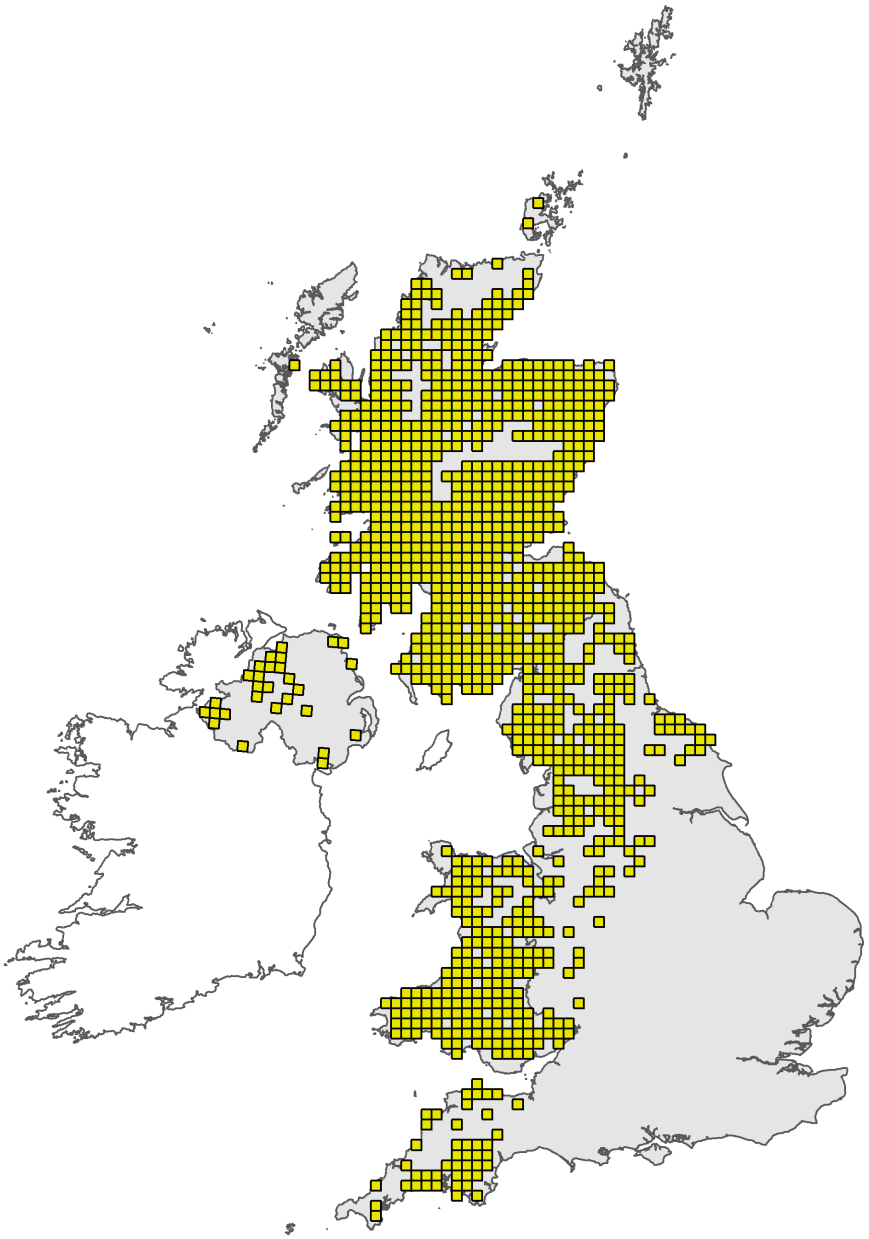

Figure 1: UK distribution map for H91A0 - Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil 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

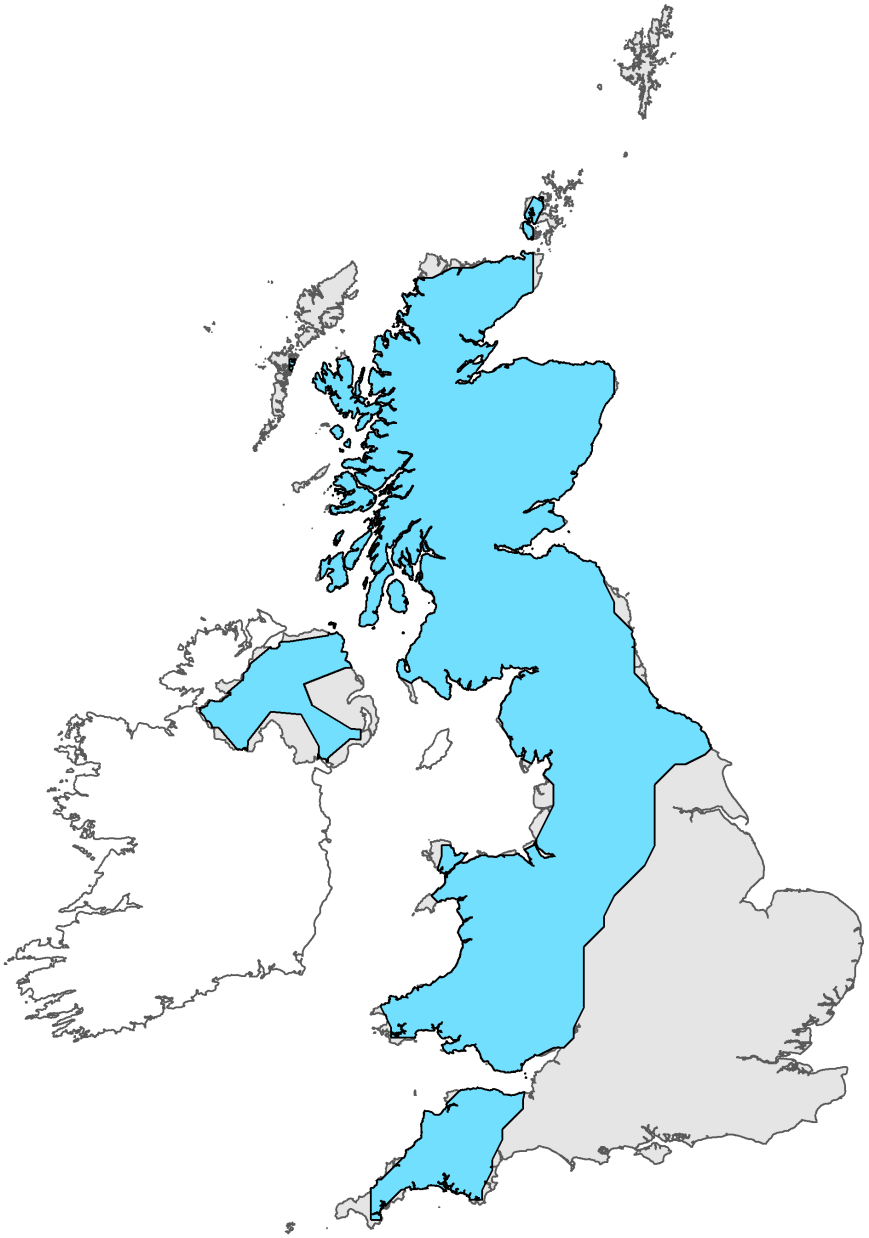

Figure 2: UK range map for H91A0 - Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas 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: 91A0

Field label	Note
2.2 Distribution map	Within the EC this habitat type is confined to the UK and Ireland. A key feature of European importance are the rich Atlantic bryophyte communities. Fourteen different bryophyte zones have been identified in Britain. In addition to the bryophyte zones, there are distinct differences in higher plant and animal assemblages in the south compared with the north. This habitat type corresponds broadly to the 'western oakwoods' in previous accounts of UK woodlands (particularly NVC types W17 Quercus petraea-Betula pubescens-Dicranum majus woodland, W11 Quercus petraea-Betula pubescens-Oxalis acetosella woodland and W10e Quercus robur-Pteridium aquilinum-Rubus fruticosus woodland Acer pseudoplatanus-Oxalis acetosella sub-community). This habitat type is widespread throughout western areas and shows considerable variation across its range, in terms of associated ground flora and the richness of its bryophyte communities. Transitions to other habitats are often very important. Upland Oakwood is generally widespread in NI on less base-rich soils. It is particularly common in the Sperrins and north-western NI on the metamorphic rocks there, and in County Fermanagh on the sandstone. It is also found in parts of Counties Down and Armagh, where the soils are less base-rich, although the most acidic communities (see below) are generally absent from here. In NI, most Upland Oakwood can be assigned to two NVC community types - W11 Quercus petraea - Betula pubescens - Oxalis acetosella woodland This is the main woodland type on moderately acidic soils in the north-west of Britain. It is intermediate in type between W9 and W17 (see below). Bluebell Hyacinthoides non-scripta can often be dominant, and ungrazed stands can sometimes be dominated by Greater Wood-rush Luzula sylvatica, but the type is often marked by the absence of the more base-rich indicators of W9, rather than the presence of any particular community \character\ species. W17 Quercus petraea - Betula pubescens - Dicranum majus woodland This is the main woodland community found on highly acidic soils in northwest Britain. Bilberry Vaccinium myrtillus and Greater Woodrush Luzula sylvatica are usually dominant in ungrazed stands, with grasses (especially Wavy Hair-grass Deschampsia flexuosa) and acid-tolerant pleurocarpous mosses dominant where there is moderate to heavy grazing. Occasional stands of W10 Quercus robur - Pteridium aquilinum - Rubus fruticosus woodland have been recorded from drier parts of County Down (e.g. Rostrevor Oakwood). Although this NVC type is generally characteristic of more south-eastern parts of Britain, the more oceanic sub-communities (W10c and W10e) are included within the BAP priority habitat. Upland Oakwood HAP type corresponds closely to the Annex 1 habitat Old sessile oak woods with Ilex and Blechnum in the British Isles.
2.3 Distribution map; Method used	Map based upon fieldwork by NIEA staff at SACs, ASSIs and other locations, in addition to data derived from Forest Service. During the reporting period, NIEA staff have generally visited SACs and ASSIs, with coverage of the habitat in the wider countryside more patchy.

Habitat code: 91A0 Region code: ATL

Field label	Note
10.6 Overal trend in Conservation Status	see comments under 9.1

4.1 Surface area	Although survey work has covered the main areas of Old Sessile Oakwoods, the complete resource has not been surveyed. However, there is no reason to believe that there has been a loss in range; certainly no loss in range has been recorded in the habitat on SACs or ASSIs since the condition assessment programme was introduced in 2002.
4.5 Short term trend; Method used	Based upon regular condition monitoring of protected Oakwood sites. These cover a representative number of sites across the range of the habitat in NI.
5.2 Surface area	The NI Countryside Survey estimated an area of 2,598 ha for the habitat. This was based on NI Countryside Survey field mapped data (2007). The Standard Error is 15.79 km2. Analysis was based on a combination of field mapped habitat parcels and a quadrat sampling programme. It is possible that this may have over-estimated the extent of the habitat by including more recently-developed examples of oakwood, which do not fully conform to the Annex 1 definition. From the NI Habitat Action Plan for Oakwood - There are no precise data on the total extent of upland oakwood in the UK, but a crude estimate places the total between 70,000 ha and 100,000 ha (JNCC, 2001). It is estimated that oakwood occupies 2,350 ha in Northern Ireland, with an estimated 2,000 ha in private ownership and 350 ha in public ownership (EHS unpublished estimates, based upon Graham, 1975). The latter figure consists largely of oakwood in publicly owned National Nature Reserves (NNRs), Areas of Special Scientific Interest (ASSIs) and Forest Nature Reserves (FNRs). However, as the 350 ha of oakwood in public ownership excludes around 2,700 ha of woodland classified by Forest Service as planted conservation - i.e. semi-natural woodland habitats within productive planted woodland areas, it is likely that this figure may represent something of an underestimate. The figure of 2,350 ha in Northern Ireland includes all oakwood, irrespective of age and condition. This estimate includes relatively recent oakwood (developed after 1900), in addition to more mature woodland. It is likely that only a proportion of oakwoods in Northern Ireland could be described as mature (around 1,400 ha dates from before 1900) (Graham, 1975). In addition, some of these older oakwoods may be dominated by non-native tree species (such as Beech), but retain a long-established native woodland ground flora. In light of this and the high standard error of the estimate from NI Countryside Survey, we are retaining the original the estimate from the 2007 Report of 1000 ha, until further analysis has been completed.
5.6 Short term trend; Direction	Short-term trend believed to be stable; during the period there was no evidence of loss from any SACs or ASSIs designated for the feature (Oakwood feature for ASSIs); most relevant sites were visited. NI Countryside Survey suggests that woodland cover in NI increased in the period between 1998 and 2007. Using results from the protected sites network, and in the absence of more recent data from the wider countryside, we are extrapolating that the trend identified between 1998 and 2007 has continued, and that loss of Oakwoods over that period are extremely unlikely.
5.8 Short term trend; Method used	Trend based upon recent survey of protected sites and NI Countryside Survey data for the period 1998 to 2007. Assumed that the trend has continued into the current reporting period. The NICS was based on field mapping within 288 25ha sample squares.

5.10 Long term trend; Direction	The Northern Ireland Countryside Survey (NICS) is a sample survey of Northern Ireland vegetation communities used to estimate the extent and distribution of broad habitats such as broad-leaved, semi-natural woodland, including oakwood (of which H91A0 is a subset). Repeat surveys are used to assess land-use change. The first phase in the process was A land classification and landscape ecological study of Northern Ireland carried out in 1988 (Murray et al, 1992). The NICS 2000 (Cooper & McCann, 2001) repeated the survey in 1998. NICS (2000) indicates an 9% increase in the extent of woodland and scrub between 1988 and 1998. This estimated increase of 11,211 ha is a result of tree planting, both broad-leaved and coniferous, and natural regeneration. Within this broad habitat, broad-leaved semi-natural woodland (which includes both oakwoods and mixed ashwoods, in addition to some wet woodlands) increased by 1,249 ha and now covers 1.7% (23,027 ha) of Northern Ireland (Cooper et al., 2002). This trend has accelerated, with an estimated increase of 28% in Broadleaved Mixed and Yew woodland between 1998 and 2007. H91A0 is a subset of this broad habitat, and it is not possible to provide a definitive estimate of long-term trend in area. However, given the overall increase in woodland during the period, it is likely that the area of H91A0 has remained stable since 1988.
6.1 Condition of habitat	A relatively high proportion of the H91A0 in NI has been designated as SAC, with additional sites protected as ASSI. Beneficial management regimes have been put in place in some/parts of some sites specifically aimed at maintaining and enhancing the features for which they are designated, and to address some of the pressures listed. Recent condition assessment data for the 12 SACs that contain Oakwood as a selection feature show that the habitat is in unfavourable condition. However, there is evidence that the condition of many Oakwoods protected within both SACs and ASSIs is improving. The condition of the habitat in the wider countryside is unknown, but expert opinion suggests that it is likely to be unfavourable and is less likely to be showing signs of recovery.
6.2 Condition of habitat; Method used	Condition has been largely assessed from data taken from the most recent condition assessment on SACs and ASSIs that contain Oakwood (H91A0). However, part of the resource lies outside the designated site network. Extrapolating the evidence from the protected sites network to the wider resource of Oakwood suggests that a high proportion of the overall resource is likely to be in unfavourable condition.

7.1 Characterisation of pressures/ threats

Condition assessment data for SACs indicate that much of the habitat is in unfavourable condition; data from SACs and ASSIs that contain woodland show that all woodland types are experiencing similar threats and pressures. Over-grazing and browsing by domestic livestock, feral goats and increasingly in NI, deer, leads to impoverishment of the ground flora, can inhibit regeneration, and may alter the woodland structure, with impacts on many components of the woodland flora and fauna. Invasive species - such as sycamore and beech - change the composition of the woodland canopy and may have an impact on ground flora as well. Invasive alien species in the shrub and ground flora layers - such as cherry laurel Prunus laurocerasus, salmonberry Rubus spectabilis, Japanese knotweed Fallopia japonica, and snowberry Symphoricarpos albus - cause changes in the composition of the woodland and decreased diversity of field and ground layers. Localised dumping of building rubble, agricultural and domestic waste has occurred in some woodlands. Unsympathetic forestry practices have impacted on upland oakwood sites. This includes planting of inappropriate broadleaved species or conifers and methods of working and felling rates that do not yet reflect published guidelines. Many semi-natural oakwoods were replaced with planted conifers during the twentieth century, resulting in loss of native trees and associated wildlife. Some effort has already been made to restore such stands. In some cases, cessation of traditional management practices, notably coppicing, is a problem in upland oakwoods because this results in changes to the environmental and structural conditions and the availability of longstanding habitats, such as clearings and glades. With improved management guidelines and better appreciation and promotion of the importance and appropriate treatment of semi-natural woodland, the threat from unsympathetic management will continue to diminish. The next ten years provide considerable opportunities to restore damaged stands, particularly those planted with conifers during the 20th century. Activities and grant-aid to encourage restoration and appropriate management of oakwoods have increased. The next ten years should result in further improvements, though it will take longer for the vegetation an associated wildlife to respond positively. A number of severe plant diseases have been accidentally introduced into the UK's forests and gardens, and these have increased in number in recent years. Some of the tree and plant pests and pathogens have emerged as significant risks to native woodland in Britain and Ireland - e.g. the fungal-like pathogen, Phytophthora ramorum, otherwise known as 'sudden oak death', and Chalara fraxinea (C. fraxinea), which has caused widespread damage to ash tree populations in continental Europe and has recently been discovered in both Great Britain and Ireland. Chalara is particularly destructive of young ash plants, killing them within one growing season of symptoms becoming visible. Older trees can survive initial attacks, but tend to succumb eventually after several seasons of infection. Although Oak is often the dominant canopy species in H91A0, Ash may be a significant component, particularly in stands of NVC type W11. It is likely that this, and other potential pathogens, may become even more of a threat in the future with climate change. NOTE - This should be reported under IO5 - plant and animal diseases, pathogens and pests. Human induced changes in hydraulic conditions is also an important pressure that takes several forms: (i) lowering of water-tables through drainage or water abstraction, which results in a transition to drier woodland types; (ii) Canalisation of river courses for the production of hydro-electricity; (iii) flood prevention measures, river control and canalisation, which may lead to a loss of dynamic disturbance and natural succession, and impact invertebrate communities, and possible reductions in the extent of individual sites. Fragmentation and isolation are likely to remain as significant threats to the conservation of H91A0 oak woodland, though expansion and restoration of the habitat will help reduce their impact (AO1). Climate change will inevitably have some effects on the habitat, through changing patterns of rainfall. It is difficult to predict what the long-term effects of this will be if, as current projections suggest, there are prolonged periods of drought. Air pollution - the habitat is sensitive to aerial Nitrogen deposition, with a critical load range listed in the APIS website as 10-15 kg N /ha/yr. This value is

	exceeded over much of the range of the habitat in NI - i.e. Upper Lough Erne SAC in the west has a predicted annual rate of 21.2 kg/N/ha/yr (average value); Banagher Glen SAC in the centre of NI, has a predicted annual rate of 24.7 kg/N/ha/yr (average value); Rostrevor Wood SAC in the southeast has an estimated annual rate of 23.8 kg/N/ha/yr (average value), while Breen Wood in the north has a predicted value of 24.3 kg/N/ha/yr (average).
8.1 Status of measures	Recent monitoring shows that the habitat is in unfavourable condition. However, management plans for some of the sites which contain the habitat are being prepared, and it is likely that measures will be put in place through several delivery mechanisms - e. g. direct management intervention on those woods that NIEA manages (such as Banagher Glen Nature Reserve (NR) in Co Londonderry, Breen Wood NR in Co Antrim and Reilly and Gole Woods NR in Co Fermanagh), the use of NIEA's Environment Fund and Management of Special Sites Scheme (MOSS) to encourage proactive management on other sites, and the Environmental Farming Scheme (EFS) administered by DAERA.
8.2 Main purpose of the measures taken	Measures aimed at reducing damaging impacts from current pressures and future threats. The habitat is widespread in NI and there is a suggestion that the current extent may be insufficient to avoid loss of function through fragmentation. Hence this is reported as Increase the surface area of the habitat type (related to 'Area covered by habitat').
8.3 Location of the measures taken	Management measures have been taken at a number of woodland sites containing the habitat (e.g. control of invasive alien species at Rostrevor Wood Nature Reserve in Co Down. In addition, Rural Development Plan (RDP) funds are being used to develop Conservation Management Plans at other SACs that contain Oakwood. Several areas of Oakwood across NI - both within designated sites and outside - have been, or are likely to be, entered into the Environment Farming Scheme (EFS), which aims to implement sympathetic management.
9.1 Future prospects of parameters	Although the extent of the habitat is increasing, and positive management measures are in place on designated sites, these potential improvements must be offset against the potential impacts of climate change, and the threat posed by continued atmospheric Nitrogen deposition. Hence an assessment for Structure and Function Future Prospects of Negative - slight/moderate deterioration.
10.1 Range	In NI, although there have been major historical woodland losses (as in the rest of Britain and Ireland) - generally to felling and conversion to agriculture - it is not believed that these have had any impact on the range of the habitat in the recent past. Available evidence suggests that the current range of H91A0 old sessile oak woods is both sufficiently large and compact not to raise any major concerns about the viability of the habitat on these accounts. It certainly includes most of the native range of upland oak woodland, i.e. much of western and northern Britain (see Bennett 1989, Peterken 1993, Rackham 2003, Smout et al. 2005; McCracken, 1971). Despite some declines in area during the last century and before, the broad range of H91A0 has probably remained reasonably stable for many centuries. Some degree of fragmentation is apparent in the distribution. This is partly a reflection of natural constraints imposed by the availability of suitable acidic substrates: the spread of blanket peat in the uplands has reduced the number of suitable sites. Historic forest clearances have also had a major influence. On the other hand, oak has been deliberately favoured in historic times as a source of fuel, timber, tanning bark and other products (Rackham 2003). Thus, many modern oak-dominated woods may have been derived from more mixed woodland. In NI, there is no evidence of a decline in range over the short term (2001-2012) or longer term (1988-2018). The current range of H91A0 old sessile oak woods is therefore taken to be viable and at least equal in area to that of the favourable reference range area. Hence Range assessed as Favourable.

10.2 Area	Despite large historical losses in all woodland types, it is likely that the area of Upland Oakwood in NI has not declined in extent since the Habitats Directive was adopted. The current UK area of H91A0 (c.92,000 ha) seems to be large enough to not raise any major concerns about the viability of this habitat on this account. However, there is a general consensus amongst woodland conservationists that this habitat is too fragmented and isolated to be sure that all of the component species are viable. This is apparent in the UK BAP Habitat Action Plan for upland oakwoods, which aims to further restore and increase the extent of this habitat and to encourage owners to co-operate in the acquisition and management of woods to improve opportunities to reduce oakwood fragmentation and isolation of the species that they contain. Fragmentation and isolation are most likely to lead to impoverishment rather complete habitat loss. For H91A0, however, there are several mitigating factors that need to be considered to address this including woodland planting schemes and natural upland Oakwood expansion. Therefore, although the current area of H91A0 is considered to be inadequate to ensure viability of the habitat and its component species, it is judged that an increase of no more than 10% above the current area is necessary to remedy this situation. The favourable reference area is therefore taken as not more than 10% above the current area. Hence reported as Unfavourable Inadequate.
10.3 Specific structure and functions	The resource is reported as not good for structure and function. Within the SAC network, a reasonable proportion is improving with management intervention. However, around half the resource is outside the SAC network and is likely to be in worse condition. Hence an Unfavourable Bad assessment.
10.4 Future prospects	Despite some positive developments within the protected sites network as a result of conservation measures both already in place and planned for the future, the structure and function of the habitat is generally bad. Future prospects are uncertain in the light of potential impacts from climate change, but the added potential impact of atmospheric Nitrogen deposition make this attribute Unfavourable Bad.
10.5 Overall assessment of Conservation Status	Range is Favourable with Area Inadequate but improving. Structure and Function is currently Bad, but improving. Future prospects are bad and unknown, with climate change impacts currently unpredictable and atmospheric Nitrogen deposition a major threat. Hence an overall bad assessment.
11.1 Surface area of the habitat type inside the pSCIs, SCIs and SACs network	There are 12 SACs for Oakwood in NI. These cover around 842 ha of the habitat. This represents a high proportion of the H91A0 in NI with additional sites protected as ASSI.
11.3 Surface area of the habitat type inside the network; Method used	Area estimates for SACs have been refined by field survey. CSM of SACs is undertaken on a regular basis and no recent loss in extent has been recorded.
11.4 Short term trend of habitat area in good condition within the network; Direction	The assessment of stable is based upon recent condition assessment data. Although the majority of the habitat in the SAC network has been reported as unfavourable, a significant amount of the habitat in SACs is in favourable management, or is likely to be in the near future.
11.5 Short term trend of habitat area in good condition within the network; Method used	Assessment based upon recent condition assessment data. Note that a significant amount of the habitat in SACs is in unfavourable status, but management measures to tackle some of the pressures are in place in some individual woods.