

Lowland Mixed Deciduous Woodland: Draft Habitat Action Plan (Version 3, March 2002)

1. Current status

1.1 Biological status

- 1.1.1 Lowland mixed deciduous woodland includes woodland growing on the full range of soil conditions, from very acidic to base-rich, and takes in most semi-natural woodland in southern and eastern England, and in parts of lowland Wales and Scotland (Map 1). It thus complements the ranges of upland oak and upland ash types. It occurs largely within enclosed landscapes, usually on sites with well-defined boundaries, at relatively low altitudes, although altitude is not a defining feature. Many are ancient woods and they include the classic examples of ancient woodland studied by Rackham (1980) and Peterken (1981) in East Anglia and the East Midlands. The woods tend to be small, less than 20 ha. Often there is evidence of past coppicing, particularly on moderately acid to base-rich soils; on very acid sands the type may be represented by former wood-pastures of oak and birch.
- 1.1.2 There is great variety in the species composition of the canopy layer and the ground flora, and this is reflected in the range of associated NVC and Stand Types. *Quercus robur* is generally the commoner oak (although *Quercus petraea* may be abundant locally) and may occur with virtually all combinations of other locally native tree species.
- 1.1.3 In terms of the National Vegetation Classification the bulk of this type falls into W8 (mainly sub-communities a to c in ancient or recent woods; in the lowlands W8d mostly occurs in secondary woodland) and W10 (sub-communities a to d) with lesser amounts of W16 (mainly W16a). Locally, it may form a mosaic with other types, including patches of beech woodland, small wet areas, and types more commonly found in western Britain. Rides and edges may grade into grassland and scrub types.

Main NVC types (not exhaustive):

W8 *Fraxinus excelsior* - *Acer campestre* - *Mercurialis perennis* woodland

(a) *Primula vulgaris* - *Glechoma hederacea* sub-community

(b) *Anemone nemorosa* sub-community

(c) *Deschampsia cespitosa* sub-community.

(d) *Hedera helix* sub-community.

W10 *Quercus robur* - *Pteridium aquilinum* - *Rubus fruticosus* woodland

(a) Typical sub-community

(b) *Anemone nemorosa* sub-community

(c) *Hedera helix* sub-community

(d) *Holcus lanatus* sub-community

W16 *Quercus* spp. - *Betula* spp. - *Deschampsia flexuosa* woodland

(a) *Quercus robur* sub-community

- 1.1.4 The canopy variations as represented by the Stand Type system include most of the field maple (2), lime (4, 5), suckering elm (10) and hornbeam (9) Stand Groups, and substantial proportions of the wych elm (1), ash (3) and oak (6) Stand Groups. More rarely, birch (12) and some alder stands (7C) may also occur. These may require separate management treatments.

Main Stand Types (not exhaustive):

- 1B Wet ash-wych elm woods
- 2A Wet ash-maple woods
- 2B Ash-maple woods on light soils
- 2C Dry ash-maple woods
- 3A Acid pedunculate oak-hazel-ash woods
- 3B Southern calcareous hazel-ash woods
- 4A Acid birch-ash-lime woods
- 4B Maple-ash-lime woods
- 5A Acid pedunculate oak-lime woods
- 5B Acid sessile oak-lime woods
- 6C Lowland sessile oak woods
- 6D Lowland pedunculate oak woods
- 7C Plateau alder woods
- 9A Pedunculate oak-hornbeam woods
- 9B Sessile oak-hornbeam woods
- 10 Suckering elm woodland

- 1.1.5 Most woods included here should be considered under Forestry Practice Guide 3, Lowland mixed broadleaved woods (Forestry Authority 1994). Some very acid oak, chestnut, hornbeam and lime stands may be better treated under Guide 1, Lowland acid beech and oak woods.

- 1.1.6 The boundaries between some stands of lowland mixed deciduous woodland and upland mixed ashwoods may be unclear in places, for example in Somerset and South Wales, because the two types form an ecological continuum determined by a combination of climate, soils and past treatment effects at a particular site. In England, Natural Areas will be used to assign stands in the overlap zone to one or other type in a consistent way (Appendix 1 gives a listing of the default assignments of types by Natural Areas); similar approaches may be needed in parts of Wales and Scotland. In Northern Ireland the UK Woodland HAP Steering Group proposes that all such stands should be referred to the upland oak or upland ash types as appropriate. In parts of the south-east England mixed deciduous woodland may also merge with beechwoods on base-rich soils (see the Lowland beech and yew woodland habitat action plan, for example where there is low percentage of invading beech, or where regeneration in a beech woodland is predominantly of ash. In general the stand should be placed with its surroundings in such situations for management purposes. In stands with much planted beech in areas where its status is uncertain the assignment to beech or lowland mixed broadleaves should be made on the basis of the proposed future management of the beech.

- 1.1.7 There are no precise data on the total extent of lowland mixed deciduous woodland in the UK, but in the late 1980s the Nature Conservancy Council estimated the total extent of this type to be about 250,000 ha. Work is underway to improve this estimate through analysis of the National Inventory of Woodland and Trees and the definition of total extent and targets will be reviewed accordingly. There is however no doubt that the area of this priority type on ancient woodland sites has declined in area by clearance, overgrazing and replanting with non-native species, by about 30-40% over the last 50 years.

1.2 Links to species action plan

- 1.2.1 Lowland mixed deciduous woodland is among the richest habitats for wildlife in the lowlands and in many eastern counties forms the main reservoir of semi-natural habitat in the agricultural matrix. The type includes the best examples of bluebell woods for which the UK has particular responsibility. BAP species for which this is an important habitat include the beetles *Byctiscus populi* (on aspen in SE England); *Ernoporus tiliae* (on lime in N Lincs and Yorkshire), birds such as *Turdus philomelos*, *Muscicapa striata*, butterflies such as *Mellicta athalia*, *Boloria euphrosyne*, mammals such as the red squirrel on the Isle of Wight, dormouse throughout southern England and various moths.

2. Current factors affecting the habitat

- 2.1 The main factors affecting the habitat are considered to be as follows.
- 2.1.1 Overgrazing through expansion of populations of deer in southern regions, leading to change in the woodland structure, ground flora impoverishment and difficulties for regeneration. In some sites formerly managed as wood-pastures there is the contrasting issue of too little grazing by domestic stock.
- 2.1.2 Development including urban growth, quarrying, golf-course creation has destroyed and continues to threaten some sites, both directly and indirectly where it occurs next to sites, leading to increased trampling, disturbance, pollution etc. Surveys are underway to try to quantify this impact.
- 2.1.3 Replacement of native trees with planted conifers was a major threat until the early 1980s. While this threat has receded large-scale felling and modification of the composition of the woodland by intensive planting of even native broadleaved species may reduce the diversity of the woodland. However on the positive side extensive areas of plantation on ancient sites are being restored to native broadleaves.
- 2.1.4 Agricultural practices may lead to simplification of the landscape and greater ecological isolation of these woods through the removal of hedgerow trees and small patches of scrub in fields. Locally nutrient enrichment leading to changes in soils and ground flora may occur from spray drift or runoff from adjacent agricultural land.

- 2.1.5 Cessation of traditional management practices such as coppicing has in some areas lead to a reduction in structural diversity within the woods, in particular the loss of open space. Butterflies such as the fritillaries have been particularly affected by this process.
- 2.1.6 Climate change is likely to affect the distribution of various species that are components of this type and may lead to changes composition of this and other types. However its broad appearance is likely to stay the same.
- 2.1.7 Invasion by sycamore and other species which are generally not native to these woods, leading to changes in the composition of the woods.
- 2.1.8 Dutch elm disease has changed the structure and composition of many woods since the early 1970s, and recurrences may still be affecting them. Canopies opened by disease may be subject to higher rates of windthrow, and invasion of the gaps by unrepresentative species becomes more likely. Recently there has been increasing concern about the loss of oak through dieback, although it is not clear whether this is an ongoing trend or a temporary response to a series of dry summers.

3. Current action

3.1 Legal Status

- 3.1.1 National forestry policy includes a presumption against clearance of broad-leaved woodland for conversion to other land uses, and in particular seeks to maintain the special interest of ancient semi-natural woodland. Felling licences from the Forestry Commission (FC) are normally required if the woods are not managed under plans approved by them. Some woods may receive additional protection through policies and strategies within development plans, through National Park Management plans or by being subject to Tree Preservation Orders.
- 3.1.2 Designation as Sites of Special Scientific Interest (SSSI) or as Areas of Special Scientific Interest (under the Nature Conservation and Amenity Lands Order (NI) 1985) of about 20-30% of the more important areas of lowland mixed deciduous woodland ensures consultation with the statutory nature conservation agencies over management operations and development proposals. Some lowland mixed deciduous woodland that include habitats identified under Annex 1 of the EC Habitats Directive, for example *Stellario-Carpinetum* forests, Old oakwoods on sandy plains, have also been proposed as Special Areas of Conservation (SACs). Examples of Tilio-Acerion woodland in south-east England are also included in this HAP type.
- 3.1.3 Some significant sites receive protection through the Inheritance Tax Exemption scheme and National Trust and National Trust for Scotland properties can be declared to be inalienable land.

3.2 Management, research and guidance

- 3.2.1 There are a number of significant inventories on woodlands available, including the Forestry Commission's National Inventory of Woodland and Trees (NIWT), initiated in 1995, which provides information on the extent, distribution and composition of woodland in the whole of GB. Information on woodland type and management is collected as part of the FC's Woodland Grant Scheme (WGS) documentation, through local woodland management initiatives or information held on the Forest Enterprise compartment database. The country conservation agencies also hold relevant information in Ancient Woodland Inventories as well as information from individual surveys of statutory protected sites.
- 3.2.2 Other relevant information is gathered through Local Authority and non-governmental organisation site and species survey and monitoring programmes, and local and national recording schemes and centres covering relevant species and sites. Increasingly such information is being linked via Local Record Centre participation in the National Biodiversity Network.
- 3.2.3 All woodland is expected to be managed according to the UK Forestry Standard. Country woodland and forestry strategies provide broad policies supporting the conservation and expansion of native woodland.
- 3.2.4 Grants for and advice on management, including regeneration, planting and some other operations, are available from Forestry Commission and in some circumstances from other government agencies and local authorities (including the national park authorities). Some Environmentally Sensitive Areas, the Habitat Scheme and the all Wales agri-environment scheme Tir Gofal) include woodland prescriptions or require the agreement holder to seek management advice and provide incentives for woodland and wetland management. Local woodland initiatives and fora (such as Coed Cymru, Marches Woodland Initiative) promote the expansion and/or management of these woods in their areas.
- 3.2.5 The Forestry Commission guide to the management of lowland mixed broadleaved woodland was published in 1994; that on lowland acid oakwoods will also be relevant in places. Management should follow these guides, as well as other FC guidelines in order to qualify for grant aid or felling licences. The Forest Enterprise are also expected to follow these guides on their land. Guidance on ways of creating new native woodland is also available in the FC Bulletin 112 and on desirable locations for new woods from reports by SNH, CCW and EN. This guidance is being reviewed and revised.
- 3.2.6 Woodland management advice is available locally through the statutory conservation agencies, the Farming and Wildlife Advisory Group, DEFRA, the Countryside Advice and Information Service (Wales), plus the voluntary and commercial sectors (e.g. the Wildlife Trusts, and local woodland initiatives). The experience of woodland managers is also developed and promoted through organisations such as the Small Woods Association, the Timber Growers Association, Royal and Royal Scottish Forestry Societies, Institute of Chartered Foresters, Association of Professional Foresters and the like.

- 3.2.7 Research is undertaken by various bodies and individuals, for example by the FC (e.g. on methods for achieving natural regeneration, squirrel control, deer management etc.), by the conservation agencies (e.g. work change in minimum intervention stands), by university departments (e.g. the regeneration dynamics of ash and sycamore), by NGOs and by other groups (eg British Hardwood Improvement programme looking at quality of timber trees).

4. Action plan objectives and proposed targets

- 4.1 The targets established in this plan are based on the objective of maintaining the current extent of lowland mixed deciduous woodland and improving its condition through encouraging a balance of appropriate management regimes (for example minimum intervention, coppice, managed high forest) within regions and across the distribution of the type. The restoration targets are based on the desirability of restoring some of the former areas of ancient sites for lowland mixed deciduous woodland (around 10%) that have been substantially planted with conifers in the last 50 years or that are currently dominated by other non-native species. Creation targets aim to encourage the expansion of lowland mixed deciduous woodland by encouraging natural colonisation and by planting using species mixtures of site-native and local genetic provenance.
- 4.2 The targets will require review and adjustment during the course of the plan. As an early step in plan implementation more precise estimates of extent, and distribution of lowland mixed deciduous woodland are being determined. Criteria for assessing the appropriate balance of different management regimes and suitable areas for woodland expansion and restoration also need to be developed. More work is underway to refine these targets in terms of where the emphasis should be on restoration rather than creation in terms of geographic distribution and ecological variation within the type.
- 4.2.1 Maintain the current extent of semi-natural woodland of this type (considered to be 250,000 ha).
- 4.2.2 Maintain the overall distribution of the type.
- 4.2.3 Maintain area of ancient semi-natural woods of this type.
- 4.2.4 Achieve favourable condition (or unfavourable-recovering condition if that is the best that can be achieved in the short term) over 80% of the woodland type by 2025.
- 4.2.4.1 Initiate measures intended to achieve favourable condition (or unfavourable-recovering condition if that is the best that can be achieved in the short term) in 50% of lowland mixed deciduous woodland within the SSSI/ASSIs and Special Areas of Conservation, by 2004.
- 4.2.4.2 Achieve favourable condition (or unfavourable-recovering condition if that is the best that can be achieved in the short term) over 95% of the designated sites by 2010.

- 4.2.4.3 Initiate measures intended to achieve favourable condition (or unfavourable-recovering condition if that is the best that can be achieved in the short term) in 40% of lowland mixed deciduous woodland outwith designated sites by 2004.
- 4.2.4.4 Achieve favourable condition (or unfavourable-recovering condition if that is the best that can be achieved in the short term) over 50% of the resource by 2010.
- 4.2.5 Restore c25000 ha of replanted ancient woodland to native broadleaves by 2025.
 - 4.2.5.1 Initiate restoration to lowland mixed deciduous woodland cover over at least 10,000 ha by 2004
 - 4.2.5.2 Initiate by 2015 restoration of remaining areas (to give total of 25,000 ha eventually restored).
 - 4.2.5.3 Achieve restoration to site-native species over the equivalent of half this area by 2010 and all of it by 2025 (albeit achieving favourable condition in these restored woods may take longer).
- 4.2.6 Establish by colonisation or planting of 25,000 ha of lowland mixed deciduous woodland on unwooded sites or in recent conifer plantations by 2015.
 - 4.2.6.1 Initiate 50% of this establishment by 2010 and all of it by 2015.
- 4.3 The UK Woodland HAP Steering Group has effectively been working as though this plan had been approved for some time, and this has also been reflected in the work of various agencies and voluntary bodies – ie some progress towards the targets has already been made. It is therefore proposed that woodland creation/restoration that has taken place since 1998 (the starting point for the other plans) should be counted as contributing to delivering the HAP targets.

5. Proposed action with lead agencies

5.1 Policy, legislation, targets and strategic planning.

- 5.1.2 Check/revise Definitions paper to incorporate lowland mixed broadleaves targets etc (UKWHAP group).
- 5.1.3 Allocate targets by country and regionally within countries (Country Woodland Groups).
- 5.1.4 Develop methods for assessing the condition of lowland mixed deciduous woodland suitable for use on both designated and non-designated sites by 2002. (Action: CCW, EN, FC, SNH)
- 5.1.5 Initiate sample surveys of woodland condition by 2004

5.2 Best practice, guidance and advice

- 5.2.2 Produce management handbooks (eg Restoration Guide, reprinting and re-issuing of Forestry Practice guide series) by 2004. (Action: CCW, EN, FC,SNH).
- 5.2.3 Promote native woodland management through country workshops, effective distribution of existing advisory material to woodland managers and, if gaps are identified ,production and dissemination of appropriate material to fill these. (Action: CCW, EN, FC, LA, SNH).
- 5.2.4 Develop training courses on management of lowland mixed deciduous woodland, including the provision of advice on the marketing and sustainable use of products. (Action: CA, CCW, EN, FC, NPA, SNH).
- 5.2.5 Develop an indicative framework, by countries, for management indicating an appropriate balance of minimum intervention, coppice and high forest across the range of variation within lowland mixed deciduous woodland by 2004. (Action: CCW, EN, FC, SNH)
- 5.2.6 Provide advice to land managers on management regimes, including grazing regimes, appropriate to the geographical distribution and ecological variation found in this habitat (Action: CCW, EN, SNH,FC).
- 5.2.7 Promote the management of deer, squirrels and rabbits in areas where they are (or might become) major limitations on the regeneration and spread of lowland mixed deciduous woodland. (Action: CCW, EN, FC, DEFRA, SNH, Scottish Executive, Welsh Assembly)
- 5.2.8 Encourage the development of forestry/landscape strategies to provide a context for and to promote expansion and positive management of lowland mixed deciduous woodland. (Action: CA, CCW, DEFRA, EN, FC, LAs (including NPAs), SNH, Scottish Executive, Welsh Assembly).

5.3 Promoting management on the ground

- 5.3.1 Develop management planning in each country through the use of native woodland plans, long-term forest plans and Forest Design Plans (in state-owned and private woods) that lead to improved management, restoration or creation of lowland mixed broadleaves alongside other management objectives (Action: CCW, EN, SNH, FC).
- 5.3.2 Review the ability of incentives such as the woodland grant scheme and other funding mechanisms to deliver the desired management and expansion targets in these woods and amend as necessary. (Action: CA, CCW, EN, FC, DEFRA, SNH, Scottish Executive, Welsh Assembly).
- 5.3.3 Support successful existing woodland initiatives and where appropriate develop new ones in areas not covered by existing schemes. (Action: CCW, EN, FC, SNH)

5.3.4 Investigate ways of assisting woodland development as an alternative to current agricultural regimes through changes to CAP, via the RDP interim review 2002 and full review in 2006. (Action: CA, CCW, EN, FC, MAFF, SNH, Scottish Executive, Welsh Assembly)

5.3.5 Secure long-term resources from other sources, such as HLF, LIFE, structural funds, land-fill tax, for lowland mixed deciduous woodland (CCW, EN, FC, SNH).

5.4 Monitoring and research

5.4.1 Develop and implement systems for recording the occurrence, distribution, management and composition of lowland mixed deciduous woodland, based on the National Inventory of Woodland and Trees by 2002, and make this information widely available, eg through the National Biodiversity Network initiative. (Action: CCW, EN, FC, JNCC, SNH).

5.4.2 Identify losses of ancient woodland and evolve procedures to minimise loss (FC, CCW, EN, SNH).

5.4.3 Investigate the relationships and dynamics of this habitat in relation to other priority habitats and species (SAPS) with which it commonly occurs, including the issue of deforestation for biodiversity (Action: CCW, EN, FC, SNH)

5.4.4 Develop by 2005 a small suite of lowland mixed deciduous woodland sites, including minimum intervention areas where detailed structure, process and species monitoring is carried out to complement the simpler, condition assessments that will be adopted more widely (Action: CCW, EN, FC, SNH).

5.4.5 Monitor restoration of lowland mixed deciduous woodland so that restoration efforts can be focused on sites most likely to show a positive response. (Action: CCW, EN, FC, SNH).

5.5 Site safeguard

5.5.1 By 2004 designate those lowland mixed deciduous woodland approved by the EC as SACs under the Habitats Directive and ensure that SSSI/ASSI coverage of important lowland mixed deciduous woodland sites is adequate through periodic review of the series. (Action: CCW, EN, SNH, DEFRA, Welsh Assembly, Scottish Executive).

5.5.2 International.

5.5.3 Develop links with European organisations and programmes, such as the European Forestry Institute, the European Environment Agency and the European Centre for Nature Conservation to obtain estimates of the extent and distribution of comparable and related woodland, and exchange experience on research and management by 2004. (Action: CCW, EN, FC, JNCC, SNH)

6. Costings

- 6.1 The successful implementation of the habitat action plans will have resource implications for both the private and public sectors. These will be finalised when the targets have been revised in 2005.

7. Key references

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Appendix 1

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Date: 4/10/01

Subject: **Discriminating between ‘upland’ and ‘lowland’ priority HAP types**

1. There are now priority HAP types for Upland Oak, Upland Mixed Ash and a new one for Lowland Mixed Deciduous woodland. Unfortunately there is an inevitable overlap between the NVC types that can occur within them. W8a and W10a are not confined to Lowland Mixed Deciduous; W8e, W10e are not confined to Upland ash and Upland Oak types respectively. The same is true for every other classification system and reflects the fact that woodland communities are a continuum.
2. For a variety of purposes we do have to come up with some consistent ways of separating the types out in this overlap zone. I therefore propose that we adopt a fairly pragmatic approach, based on Natural Areas.
3. Where there is doubt over the allocation of a wood to a type because its composition could fit into either then I suggest the following rules apply:
 - (a) Default to *Lowland Mixed Deciduous* for oak and ash/mixed deciduous stands (*sensu lato*) in the following Natural Areas

1,3,5,6,7,9,11,13,16,18,19,20,21,22,23,24,26,27,28,32,- 40,44-55,56,59,63,64,65-83, 85,86,88,89,90,91,96,97
 - (b) Default to *Upland Oak* or *Upland Ash* (according to composition of stand) in the following Natural Areas

2,4,8,10,12,14,15,17,25,29,30,31,41,42,57,58,60,61,84,86,87,92,93,94,95
 - (c) 31 and 62 gave me problems. I feel both are pretty evenly balanced so allocation may need to be on a site by site basis.
4. Note that this is to some degree arbitrary and it is as much for the bureaucratic need to report on which set of HAP targets are being contributed to. From a practical management point of view it should not make a difference because the needs of the particular wood should determine what is done.