

# Lowland Heathy Oak Woodland (LHW)

## Habitat Action Plan

Doncaster Local Biodiversity Action Plan  
January 2007



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Doncaster Biodiversity Action Partnership  
Doncaster Council, Environmental Planning, 2nd Floor, Danum House,  
St Sepulchre Gate, Doncaster, DN1 1UB.

Telephone: 01302 862896  
Email: [bio.diversity@doncaster.gov.uk](mailto:bio.diversity@doncaster.gov.uk)

[www.doncaster.gov.uk/biodiversity](http://www.doncaster.gov.uk/biodiversity)



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## 1. Description

1.1 Lowland birch-oak woods are the commonest form of semi-natural woodland in the drier, neutral to slightly acidic soils of many of the heathy eastern parts of the Doncaster Borough. This heathy woodland is dominated by a canopy of pedunculate oak (*Quercus robur*) and its hybrid with the sessile oak (*Quercus x rosacea*), together with birch (*Betula spp.*), occasional ash (*Fraxinus excelsior*) and variable amounts of sycamore (*Acer pseudoplatanus*). The understorey tends to include an abundance of holly (*Ilex aquifolium*), wych elm (*Ulmus glabra*), rowan (*Sorbus aucuparia*), crab apple (*Malus sylvestris*), wild cherry (*Prunus avium*) and scattered hazel (*Corylus avellana*). Sweet chestnut (*Castanea sativa*) and beech (*Fagus sylvatica*) can often be found in these woodlands, indicative of historic coppice and timber management. Rhododendron (*Rhododendron ponticum*) can also be quite common in such woodlands, especially where the woodland area is associated with large country houses and estates.

1.2 The woodland edges tend to have a dominance of scrubby thorns including both blackthorn (*Prunus spinosa*) and hawthorn (*Crataegus monogyna*). Hawthorn and, very rarely, **midland hawthorn** (*Crataegus laevigata*) also occur in the understorey together with elderberry (*Sambucus nigra*). Gorse (*Ulex spp.*), broom (*Cytisus scoparius*) and the lower-growing wood sage (*Teucrium scorodonia*) can also be found in woodland edges and transitions to heathy areas with more open ground.

1.3 Subtle differences in the underlying geology are reflected by variation in the range of understorey shrubs and ground flora and these variations represent two distinct National Vegetation Classification (NVC) community types<sup>1</sup>, W10 *Quercus robur*-*Pteridium aquilinum* – *Rubus-fruticosus* woodland and the acidic W16 *Quercus spp.* - *Betula spp.* -*Deschampsia flexuosa* woodland.

1.4 W10 woodland has a relatively species-poor herb layer of honey suckle (*Lonicera periclymenum*), bracken (*Pteridium aquilinum*) and bramble (*Rubus spp.*) but often with 'carpets' of bluebell (*Hyacinthoides non-scripta*) and wood anemone (*Anemone nemorosa*), together with scattered greater stitchwort (*Stellaria holostea*), creeping soft grass (*Holcus mollis*), wood sorrel (*Oxalis acetosella*), wood melic (*Melica uniflora*), wood meadowgrass (*Poa nemoralis*), wood millet (*Milium effusum*), foxglove (*Digitalis purpurea*), and red campion (*Silene dioica*) along with spring ephemerals such as lesser celandine (*Ranunculus ficaria*). Common cow wheat (*Melampyrum pratense*) is a species associated with heathy woodlands but is now of very limited occurrence. Ferns such as male fern (*Dryopteris filix-mas*) and broad buckler (*Dryopteris dilatata*) can be quite abundant, together with lady fern (*Athyrium filix-femina*) in more humid areas such as streamsides. Ivy (*Hedera helix*) can also be quite common in areas of heathy woodland where there has been dense growth of understorey shrubs. This latter species can cover extensive areas of ground. Other characteristic species of Doncaster's heathy woodlands are climbing corydalis (*Ceratocarpus claviculata*) and the moss (*Mnium hornum*).

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<sup>1</sup> Rodwell, J.S. (1991), British Plant Communities (Volume 1) Woodlands and Scrub. Cambridge

1.5 W16 woodland is dominated by oak and birch (*Betula spp.*), with holly (*Ilex aquifolium*) and rowan (*Sorbus aucuparia*) in the understorey. The canopy can sometimes include Scots pine (*Pinus sylvestris*), especially where there are plantations nearby. This woodland has a distinctive species-poor herb layer dominated by wavy hair-grass (*Deschampsia flexuosa*) and bracken (*Pteridium aquilinum*) with scattered areas of common bent (*Agrostis capillaries*), sweet vernal grass (*Anthoxanthum odoratum*), heath woodrush (*Luzula multiflora*), tormentil (*Potentilla erecta*), sheep's sorrel (*Rumex acetosella*), foxglove (*Digitalis purpurea*), rosebay willowherb (*Epilobium angustifolium*) and heath bedstraw (*Galium saxatile*). Yorkshire fog (*Holcus lanatus*), and purple moor-grass (*Molinia caerulea*) occur rarely, the latter species being found in the heathy woodlands of Hatfield Moors. Heather (*Calluna vulgaris*) can also form part of the herb layer in a few scattered localities where this type of woodland borders heathland and acid grassland communities. Hard fern (*Blechnum spicant*) is also characteristic of this woodland type but is now of very limited occurrence in the Doncaster Borough.

1.6 Scots pine is generally considered to be an introduced species in Doncaster; however, it is possible that the **Scots pine** (*Pinus sylvestris var. scotica*) of Hatfield Moors and Lindholme Island may be remnants of the Scots pine forests, which date back to just after the last ice age. Investigation of the genetic associates of these trees is required.

1.7 Scaly male fern (*Dryopteris affinis*), **goldilocks buttercup** (*Ranunculus auricomus*) and wood speedwell (*Veronica Montana*) are also rare species associated with the habitat.

## 2. National status

2.1 Heathy oak-birch woodland is characteristic of base-poor soils (pH between 4 and 5.5) and form one of the major kinds of woodland in lowland Britain. Britain is one of the least-wooded countries within Europe, therefore any remaining areas of ancient semi-natural and replanted ancient woodland are of great significance to the biodiversity of the UK.

## 3. Local status

3.1 Heathy woodlands occur on the acid soils of the outcrops of Coal Measures (Carboniferous) sandstones in the northwestern corner of the Borough, on the Triassic Sherwood Sandstone Ridge, which stretches from Bawtry to Doncaster and eastwards to Hatfield, and on the deposits of glaciofluvial – laustrine sands and gravels in the eastern parishes of Doncaster. Several of these woodlands are fragments of ancient woodland and all of the following woodlands are Sites of Scientific Interest (SSIs)<sup>2</sup> or are candidate SSIs.

3.2 Howell Wood (SSI 6.1) is one of Doncaster's few examples of heathy acidic oak-birch woodland on the Coal Measures, although this woodland together with woodlands such as Challenger Wood (with Spring Wood) (SSI 6.2), Hooton Thorn Covert and Hooton Pagnell Wood (SSI 6.4a+b), and the woodlands of Frickley Park (including Whin Covert) (SSI 6.3) have been modified by coniferous plantation.

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<sup>2</sup> DMBC, Re-survey of Sites of Scientific Interest in the Doncaster Metropolitan Borough 1996/97, Volumes 1-9

3.3 Several woodlands on the transition between the Magnesian Limestone and Humberhead Levels are of a heathy nature including Beeston Plantation (Potteric Carr) (SSI 4.20c), Cockhill Plantation and Wet Holt (SSI 2.1a+b), Wadworth Wood (South) (SSI 4.10a), Wadworth Wood (North) (SSI 4.10b) to the south of Doncaster, and at Daw Lane Plantation (SSI 3.23) to the north of Doncaster. Small deposits of sandier soils within the clay farmlands of the Humberhead Levels are found at Bunfold Shaw (SSI 9.1), Copley Spring Wood (SSI 7.19) and Hobledehoy Wood (SSI 7.31).

3.4 On the Triassic Sherwood Sandstone ridge Hagg Wood (SSI 2.33a) and Shaw Wood (SSI 8.23), Heather Wood (SSI 2.34), the wooded roughs of Wheatley Golf Course (SSI 2.62), Pot Hill (SSI 2.36a), Sandall Beat Wood (SSSI), Crowther Wood and Fox Covert (SSI 4.40) and the plantation woodlands associated with Cantley Hall are heathy woodlands. Further to the east are Barnby Dun Station Wood (SSI 8.16), Brecks Plantation (SSI 8.17), Brecks Common (SSI 8.19), Oak Wood (Armthorpe) (SSI 8.24), Tranmoor Wood (SSI 8.26), Ox Carr Wood (SSI 8.27), New Close Wood (SSI 8.28), Wyndthorpe Hall (SSI 9.35), and Holme Wood (SSI 8.30). The last remnants of birch-oak woodland are still to be found at Cozen Croft Wood (SSI 8.21).

3.5 To the south and east of Doncaster are Insley Plantation (SSI 4.33), Crown Pool Plantation (SSI 4.34), Old Springs Wood (SSI 4.35), Black Carr Plantation (SSI 4.36), Brackens Plantation (4.37), Finningley Big Wood and Gravel Pits (SSI 4.31a), Hurst Wood (SSI 4.31b) and Tinker's Pond (SSI 4.31c). These have a herb layer indicative of W10 or W16 woodlands; however, the canopy has been modified by mineral extraction or coniferous planting. Within the Bessacarr and Rossington areas are Hatchell Wood West (SSI 2.44a), Hatchell Wood East (SSI 2.44b), Green Busks Wood (SSI 2.45), Back Wood (SSI 2.46), Warren Wood (North) (2.47) and part of Doncaster Warren (Golf course) SSI 2.48, wooded parts of Rossington Bridge Area (SSI 2.49a), drier areas of Gelster Lane Holt (SSI 2.50a), Gelster Lane Wood (SSI 2.50b), Park Wood East (SSI 2.52b)/West End Wood (SSI 2.52a) (notable for the abundance of wild cherry (*Prunus avium*) in the understorey), drier parts of Holmes Carr Great Wood and Holmes Carr Little Wood (SSI 2.53a+b) and Reedy Holme Plantation (SSI 4.21). Heathy woodland is also found on the drier parts of Hurst Plantation, Savage Brooks and Marr Flatts Wood (SSI 4.32) and around Rossington Hall Grounds (SSI 2.59).

3.6 Bawtry Forest covers an extensive area of the Sherwood Sandstone ridge and although highly modified through coniferous plantation it retains many elements of heathy woodland ground flora including a significant population of the locally rare hard fern (*Blechnum spicant*) and diverse moss and fern flora. The southern edge of the nearby Swinnow Wood (SSI 4.25) near Bawtry shows clear affinities with W16 woodland herb layer whereas the shadier coniferous plantation has a herb layer of bramble (*Rubus spp.*) and honeysuckle (*Lonicera periclymenum*) more typical of W10 community.

3.7 Kings Wood, Bawtry (SSI 4.29), is an excellent example of heathy woodland with very old sweet chestnut (*Castanea sativa*) and oak (*Quercus spp.*) coppice and a herb layer that is a mosaic of the two NVC community types W10 and W16.

3.8 There are fewer woodlands on the glaciofluvial deposits of the eastern parishes where intensive agriculture and mineral extraction are dominant land uses. Examples of heathy woodland include Common Plantation (SSI 4.38), Cock Wood (SSI 4.50), Outham Wood (SSI 4.49), Great Gate Wood (SSI 4.51), around Finningley and Blaxton at Machin's Plantation (4.47b), Level's Lane Plantation (SSI 4.47c), Long Plantation (SSI 4.48b), Blaxton Common (SSI 4.47a), near Hatfield Woodhouse on the wooded areas around Lindholme Hall (SSI 9.40b), Hatfield Moors West (SSI 9.40d) and Hatfield Moors East (SSI 9.40e) and, in the flatlands of the north Lincolnshire/ North Notts/ South Yorkshire border, a small pocket of heathy woodland in an otherwise arable-dominated landscape.

#### **4. Legal status**

4.1 National forestry policies include a presumption against the clearance of broadleaved woodland for conversion to other land uses.

4.2 Felling licenses are required for many woodland management/forestry operations in woodlands not managed under Forestry Commission approved plans. Licences are generally required for the felling of greater than 5 cubic metres of timber. Operations such as deforestation, afforestation, quarry roads or quarrying may require consent from the Forestry Commission.

4.3 Several woodland areas within the Borough are covered by Tree Preservation Orders.

4.4 Sites identified as SSSIs and SSIs have a presumption against developments that would have an adverse effect on their conservation value.

## 5. Links to associated habitats & species

5.1 The Lowland Heathy Oak Woodland Habitat Action Plan is linked to the following Habitat Action Plans:

- Lowland Heathland / Acid Grassland Mosaic (HAG)
- Parkland, Wood Pasture and Veteran Trees (PWV)
- Ancient and Species Rich Hedgerows (ASH)
- Arable Field Margins (AFM)
- Greenways (GW)
- Urban Greenspace (UG)

5.2 '**A Species Audit of Doncaster Borough**' has been produced as part of the Doncaster Local Biodiversity Action Plan. Species highlighted in bold within the Habitat Action Plans are identified within Doncaster's Species Audit and are conservation priorities. The Audit identifies **115** species associated with Lowland Heathy Oak Woodland.

## 6. Current factors causing loss or decline

6.1 There is a lack of traditional woodland management on many sites. Felling of large trees without replacement by replanting or natural regeneration causes a reduction in tree-age diversity. Uncontrolled grazing by deer and rabbits may decrease structural diversity and reduce natural regeneration. Grazing by the introduced Muntjac deer (*Muntiacus reevesi*) can deplete populations of bluebell.

6.2 There are few markets for the products of coppicing and pollarding.

6.3 Fragmentation and loss caused by development such as conversion to other land uses (mainly arable agriculture), quarrying, landfill, road construction and widening, built development on, or in close proximity to woodlands.

6.4 Uncontrolled access and inappropriate recreational use is a particular problem in these woodlands, leading to excessive erosion, littering, fires, pollution, vandalism and disturbance to wildlife. The lighting of fires is a problem in many heathy woodlands because they often have deep layers of combustible dry leaf litter trapped in the bramble (*Rubus spp.*) under scrub. This is a particular problem where woodlands border areas of housing, such as Shaw Wood (SSI 8.23), Kirk Moor Plantation (SSI 2.42a+b), Holmes Carr Great Wood and Holmes Carr Little Wood (SSI 2.53a+b). Several woods also suffered from un-controlled clearance for firewood and fuel during the miners' strike in the 1984/85. Woods such as Shaw Wood (SSI 8.23) and Daw Lane Plantation (SSI 3.23) were particularly affected and there is clear evidence of this historic 'management' in the abundance of even-aged coppice sycamore (*Acer pseudoplatanus*) and birch (*Betula spp.*) trees. Other trees are not able to withstand coppicing treatment and it is likely that some canopy species were lost as a result.

6.5 Formal recreational activities can also have an effect on the quality of woodland habitats by causing noise, littering and disturbance to wildlife. The use of woodlands for war games/paintball is also very popular and a well-used site is located within the northern coniferous plantations of Bawtry Forest. Whilst some localised erosion, trampling and littering does occur, it is generally in a controlled area and of limited extent. Some specially created features such as dugouts and soil mounds have been found to provide suitable open habitats for invertebrates such as mining bees and wasps. Surprisingly, the mock villages and hides have also been found to provide nesting sites for birds – a wren (*Troglodytes troglodytes*) sitting on eggs has even been found in the cockpit of a paint splattered 'crashed' helicopter!

6.6 Major disruption to woodland can be caused by large-scale harvesting techniques.

6.7 Periodic disturbance occurs beneath electricity/power line way leaves in the process of control of tree growth. The maintenance of open habitats within woodlands can be beneficial, especially where heathland or acid grasslands become established, although the timing of such works is critical to prevent disturbance to breeding birds and other wildlife.

6.8 Replanting using non-native species reduces habitat quality.

6.9 Even-aged monocultures have been planted in a number of Doncaster's Heathy Woodlands. Many woodlands were cut for timber during the World War II era. This has led to a dominance of even-aged stands of trees and has created woodlands with a limited structural diversity.

6.10 Dead wood habitats are lacking in some woodlands. Standing dead trees or dead limbs are often removed for reasons of public safety. Dead wood provides a vital habitat for a variety of microorganisms and invertebrates. Standing dead wood is important in providing nesting sites and foraging habitat for woodland birds such as the great spotted woodpecker (*Dendrocopos major*).

6.11 Invasion by non-native species such as Rhododendron (*Rhododendron ponticum*) reduces the diversity of understorey species.

## **7. Current local action**

### **Research & Monitoring**

7.1 Natural England (formerly English Nature) has compiled a South Yorkshire Inventory of ancient and semi-natural woodlands and is responsible for the Veteran Trees Initiative.

7.2 Funding from the Big Lottery's Transforming Your Space initiative has enabled the further development of the Biological Records Centre at Doncaster Museum. The biological data collected as part of the project, particularly botanical information for local sites, species and habitats has enhanced the modern dataset. Historical biological information has also been transferred to the database.

7.3 The borough has a diverse series of Sites of Scientific Interest (SSIs), illustrating the variety of species and habitats that are represented on sites throughout Doncaster. All SSIs were surveyed in 1996/1997 and again in 2004/2005, when additional candidate sites were also identified. Many heathy woodland sites have been identified as SSIs or as candidate SSIs.

7.4 The Doncaster Naturalists' Society holds regular field meetings and has carried out detailed surveys of many of the borough's key woodland sites. The Society routinely submit biological records to the Local Record Centre at Doncaster Museum.

### **Safeguarding & Management**

7.5 DMBC has recently commissioned a TPO review, to update and inform the protection of trees and woodland of local importance.

7.6 Funding from the Big Lottery's Transforming Your Space initiative has enabled the development of a range of biodiversity initiatives, including the resurvey of the Borough's SSI's, research projects, production of site management plans and the provision of resources (equipment, educational, activity and promotional materials) to help raise awareness and encourage participation in the management and enhancement of local biodiversity. A number of management plans have been produced for woodland sites including Brecks Common, Howell Wood, Kings Wood (Bawtry), Cantley Wood, Insley Plantation, Crowther Wood, Homes Carr Great Wood and Holmes Carr Little Wood and Redhouse Plantation.

7.7 A Woodland Operations Team carry out management work in some council-owned woodlands, the works being identified by DMBC's Woodland Strategy and existing Site Management Plans. Countryside rangers also carry out management work in some council-owned woodlands, including Sandall Beat Wood (SSSI and Local Nature Reserve), Howell Wood (SSI 6.1) and King's Wood, Bawtry (SSI 4.29).

7.8 Some areas of semi-natural, heathy woodland are included within land designated as SSSIs (such as Sandall Beat Wood, Black Carr at Potteric Carr, drier parts of Shirley Pool and woodlands on and around Hatfield Moors). The Local Authority and Yorkshire Wildlife Trust manage these sites as Nature Reserves. Many other heathy woodlands are SSIs, such as Shaw Wood, Insley Plantation, Kings Wood (Bawtry), Brecks Plantation, Brecks Common and Howell Wood, the plantations around Cantley Estate, Redhouse Plantation, Heather Wood, Pot Hill, Crowther Wood and Fox Covert, Hatchell Wood, Holmes Carr Great Wood and Holmes Carr Little Wood, Long Plantation and the Woodlands around Rossington Hall Racing College and are owned and managed by the Local Authority.

### **Communications & Publicity**

7.9 The Local Authority provides interpretive leaflets, organises walks, and runs practical management events aimed at involving local people in care of woodlands and encouraging local communities to value neighbourhood woodlands.

### **Funding & Resources**

7.10 There are several initiatives that aim to increase the amount of woodland habitat and encourage appropriate management of existing woodlands. These include the Forestry Commission's English Woodland Grant Scheme (launched 18<sup>th</sup> July 2005) and Objective One Forestry Resources Grant available through South Yorkshire Forest Partnership.

7.11 The new Environmental Stewardship Scheme provides funding for maintenance of woodland fences and management of woodland edges. The higher-level scheme also targets the creation of new habitat on land adjacent to, buffering or linking SSSIs or UK BAP habitats. It also targets the maintenance and restoration of habitats in Sites of Importance for Nature Conservation, known locally as SSIs. There is a greater potential for new woodland planting and woodland management under the higher level of the new Environmental Stewardship Scheme than was previously available under Countryside Stewardship, along with closer liaison with the Forestry Commission.

### **Links to other Strategies & Plans**

7.12 The Outline Action Plan for the Regional Forestry Strategy for Yorkshire and The Humber Region<sup>3</sup> provides policy support for many actions to raise public awareness of the value of woodlands, to assess the current condition of woodlands, to promote new markets for woodland and forestry products and to promote the sustainable management of woodlands.

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<sup>3</sup> Regional Forestry Strategy Steering Group, July 2005, "The Value of Trees in our Changing Region", Published by Forestry Commission.

**Advisory**

7.13 DMBC has introduced a programme of continuous professional development based on planning related issues, including 'Protected species' and 'Trees and Hedgerows'. The Environmental Planning Team has produced a suite of Supplementary Planning Documents, providing guidance on: Planning for Trees and Hedgerows, Nature, Sustainable Construction and Landscape Planning on Development Sites in Doncaster.

## 8. Objectives, targets & proposed actions

Please refer also to the Generic Actions in the LBAP Introduction & Overview document

Objective	Target	Ref	Action	Lead Partners	Costs	Category
1) To ensure the protection and maintenance of existing Lowland Heathy Oak Woodland sites.	Continuous.	1.1	<p>Prevent depletion of Limestone Woodland resulting from development and/ or the delivery of statutory functions by:</p> <p>1) Having regard to the protection and enhancement of habitats when considering the allocation of sites, in line with the approach set out in PPS9 and the priorities set out in the LBAP.</p> <p>2) Having regard to the assessment, retention and enhancement of habitat types when formulating and making Development Control Policies and decisions, in line with the approach set out in PPS9 and the priorities set out in the LBAP.</p>	DMBC, Natural England (NE)	Staff costs	Advisory/ Safeguarding & Management

Objective	Target	Ref	Action	Lead Partners	Costs	Category
			<p>3) Providing advice to Development Control and Developers on appropriate types of survey i.e. ecological and/or hydrological, the interpretation of survey results and methods of incorporating habitat retention and enhancement into development proposals (for both designated sites and non-designated features of biodiversity value, as identified in the LBAP.</p> <p>4) Having regard to the priorities set out in the BAP in the interpretation of UDP/LDF policies (and any supporting SPGs/SPDs).</p> <p>5) Providing technical advice on the severity, implications and nature of suspected breaches in planning control (either conditions or unauthorised development).</p>			

Objective	Target	Ref	Action	Lead Partners	Costs	Category
			<p>6) Awarding appropriate site protection through designation, based upon routine environmental monitoring and assessment.</p> <p>7) Ensuring that all Partners and relevant landowners, service providers and operational contractors are informed of the existence and importance of Lowland Heathy Oak Woodland (both designated and non-designated sites).</p>			
	Continuous.	1.2	Continue to collect and maintain up-to-date, standardised, biological data using the Museum's Local Record Centre. Promote and initiate appropriate management, monitoring and the exchange of environmental data, to ensure the maximum level of site protection is awarded and habitat condition is maintained.	DMBC, NE, Doncaster Naturalists' Society (DNS), Forestry Commission (FC), Yorkshire Wildlife Trust (YWT)	Staff costs and volunteer time. Other costs to be evaluated	Future Research & Monitoring

Objective	Target	Ref	Action	Lead Partners	Costs	Category
	By 2008.	1.3	Expand DMBC's Environmental Planning protected species protocol to include LBAP habitats and species.	DMBC	Staff costs	Advisory
2) To restore degraded sites and ensure appropriate management of Lowland Heathy Oak Woodlands.	Equip 3 additional Lowland Heathy Oak Woodland sites with Management plans by 2008 and a further 3 by 2010.	2.1	Develop/review and implement Site Management Plans for woodlands in public ownership. Ensure compatibility with HAPs and SAPs. Review Site Management Plans on a minimum 10-year cycle.	DMBC, NE, FC, YWT	£6000 (1000 per plan)	Safeguarding & Management

Objective	Target	Ref	Action	Lead Partners	Costs	Category
	Implement active management on 6 sites by 2008 and a further 6 by 2010.	2.2	<p>Identify landowners of existing SSI woodlands. Provide assistance to owners seeking funding and/or assistance for appropriate nature conservation and woodland management operations, including:</p> <ul style="list-style-type: none"> <li>• Selective felling of non-natives,</li> <li>• Removal of invasive species,</li> <li>• Replanting of native species,</li> <li>• Re-introduction of traditional management (e.g. Coppicing)</li> <li>• Promotion of natural regeneration by preventing grazing by herbivores.</li> <li>• Removing brushings to rot down at the woodland edge (not chipping on site) to allow heathy grassland to develop.</li> </ul> <p>Monitor and review the effectiveness of the management, by regular assessment of critical habitat features and selected key species.</p>	<p>DMBC, Farming and Wildlife Advisory Group (FWAG), FC, NE, YWT, Private landowners</p> <p>(NE able to incorporate into Environmental Stewardship once sites have been identified.)</p>	<p>£225 per site for 12 sites =£2700</p> <p>Management costs to be evaluated</p>	Safeguarding & Management

Objective	Target	Ref	Action	Lead Partners	Costs	Category
	Implement species-specific management at 6 sites by 2008, and a further 6 by 2010.	2.3	Identify all Lowland Heathy Oak Woodland sites where Priority Species are present and implement appropriate specialist management schemes to benefit these species.	DMBC, FWAG, FC, NE, Private landowners	To be evaluated	Species Management & Protection
	Continuous.	2.4	Investigate the acquisition (where necessary, and feasible) of Lowland Heathy Oak Woodlands of local significance, in order to ensure their future management for the benefit of biodiversity.	YWT, DMBC, local Trusts	Woodland purchase at £11,266 per ha	Safeguarding & Management
	Continuous.	2.5	Preserve standing dead wood and fallen wood as habitat for invertebrates and fungi and incorporate into all Woodland Management Plans.	DMBC, FWAG, FC, NE, Private landowners	Negligible	Species Management & Protection
	By 2008.	2.6	Locate and protect veteran trees within woodland areas with Tree Preservation Orders.	DMBC	To be evaluated	Safeguarding & Management

Objective	Target	Ref	Action	Lead Partners	Costs	Category
	By 2008.	2.7	Investigate and promote the sustainable harvesting of wood products to fund management work.	DMBC	Staff costs	Safeguarding & Management
	Focus on 2 SSI woodlands by 2008, and a further 2 sites by 2010.	2.8	Prevent disturbance to the wildlife of woodlands through the appropriate control of recreational access and prevention of inappropriate and damaging activities.	NE, DMBC, SY Police	To be evaluated	Safeguarding & Management
	By 2008.	2.9	Develop agreed management prescriptions and protocols for sites with formal recreational activities to ensure that the impacts on woodland habitat are controlled and minimised.	DMBC, Private Landowners, Recreational businesses	Staff costs Management costs to be evaluated.	Safeguarding & Management
3) To create 8.5ha of Lowland Heathy Oak Woodland linked to existing woodlands, grasslands and heathlands within the	By 2010	3.1	Work with landowners to find sites where new woodland can be created without loss of other priority habitats. Promote natural regeneration of woodland from scrub habitat in selected sites.	DMBC, YWT, Private Landowners	Staff costs	Advisory/ Habitat Creation & Restoration

Objective	Target	Ref	Action	Lead Partners	Costs	Category
heathlands within the Coal Measures and Humberhead Levels Natural Areas.	By 2010.	3.2	Use new woodlands to link existing Lowland Heathy Oak Woodland sites (and also acid grassland and heathland sites).	DMBC, FWAG, FC, NE, Private landowners	£42,500 to create 8.5ha	Safeguarding & Management/ Habitat Restoration & Creation
	Continuous.	3.3	Promote the use of only native and local-provenance trees and shrubs, in new semi-urban and rural planting schemes.	DMBC	Staff costs	Advisory/ Policy & Legislation
	Continuous.	3.4	Research the establishment and running costs and operational requirements of a local tree nursery initiative and/or native seed project with existing nurseries to grow on seed gathered from local woodlands. Pursue opportunities to implement feasible initiatives.	DMBC, YWT, DNS, NE, British Trust for Conservation Volunteers (BTCV), FC	To be evaluated	Habitat Creation & Restoration / Species Management & Protection
4) Raise public awareness of the importance and	Continuous	4.1	Provide interpretive leaflets, organise walks, and run practical woodland management events.	DMBC, YWT, NE	To be evaluated	Communications & Publicity

Objective	Target	Ref	Action	Lead Partners	Costs	Category
importance and special characteristics of Lowland Heathy Oak Woodland.	1 per year.	4.2	Run species survey and identification workshops open to the general public.	DNS	£256 plus volunteers	Communications & Publicity
	Leaflet for 1 site by 2010.	4.3	Provide interpretive leaflet to explain the special value of Lowland Heathy Oak Woodlands and include a map showing the location of more accessible sites.	DMBC, NE, YWT	£1000	Communications & Publicity
	1 demonstration by 2008.	4.4	Promote good practice through the use of demonstration sites and workshops.	DMBC, NE, Linking the Environment And Farming (LEAF), YWT, BTCV	£2640	Advisory/ Communications & Publicity
	By 2010.	4.5	Offer support for Undergraduate/ Post Graduate research projects to carry out DNA analysis of Scots Pine from Hatfield Moors and compare with Caledonian and European populations, and, if possible, with wood samples from the Bronze Age pine trackway found near Lindholme Island.	DMBC, Yorkshire Naturalists' Union (YNU) Doncaster College, Local Universities (Nottingham/ Sheffield)	£640	Future Research & Monitoring

## 9. Indicative Habitat distribution & Opportunities map

The distribution of Lowland Heathy Oak Woodland has been indicated by mapping species considered to be local indicators for this habitat, as selected by local experts. Certain species that may be considered to be typical indicators of the habitat have not been used, due to them being abundant throughout the Borough, or unrepresentative of a local habitat peculiarity.

The indicator species for this habitat are:

*Betula pubescens*, *Ceratocarpus claviculata*, *Digitalis purpurea*, *Holcus mollis*, *Melampyrum pratense*, *Poa nemoralis*, *Veronica montana*

The species records have been compiled based on 1km grid squares of the Borough. The resulting score is based on how many of the different species are found within a particular square, reflecting a degree of match to the species assemblage, and not the number of records of a specific species.

To indicate how good a match each grid square is to the habitat a graduated colour has been applied, based on how many species are recorded in that square as a percentage of the highest number of matches. The higher percentage shows a better species match and therefore is a better indicator that the species assemblage exists, or could exist in that area. The percentages are split down as follows:

- 0%                                      No matches in a grid square – these are left blank
- 1-25%                                     1 Species
- 26-50%                                    2-3 Species
- 51-75%                                    4 Species
- 76-100%                                    5-6 Species

# Lowland Heathy Oak Woodland

DATE: January 2007  
 SCALE: 1:160,000  
 DRAWING NO: HAP/1LHW

**LEGEND**

-  Doncaster Borough Boundary
-  Village
-  1-25%
-  26-50%
-  51-75%
-  76-100%

Environmental Planning  
 Spatial Planning and Economic Development  
 Directorate of Development  
 2nd Floor  
 Danum House  
 St Sepulchre Gate  
 Doncaster  
 DN1 1UB

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