

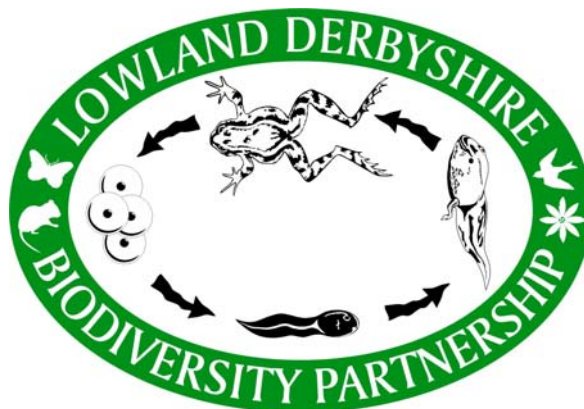
Woodland Habitats

- Background Information -



Chaddesden Wood LNR, Derby. Credit: Debbie Alston

Prepared by the Lowland Derbyshire Biodiversity Partnership



This document provides the background information for the Lowland Derbyshire Biodiversity Action Plan 2011-2020.

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Woodland Habitats in Lowland Derbyshire

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1. Introduction

1.1 Woodland in the European and UK Biodiversity context

Most other European countries have a greater percentage cover than the UK, but in terms of its value for wildlife in a European context, British woodlands are important. Influences include:

- oceanic climate - Britain is at the north-west extreme of temperate European woodland types and some are therefore at their climatic limit, exhibiting characteristics not found in Europe;
- evolution of some woodland types in the absence of sycamore, which did not reach Britain before the breach in the land bridge to the continent;
- past management.

Ancient semi- natural woodland (ASNW) is the most important habitat type within the United Kingdom in relation to the numbers of species it supports (UK BAP HMSO 1995). Varied woodland structure provides many ecological niches and, up until Neolithic times, forests covered most of the country. However, woodland is the habitat from which the greatest number of species have become extinct in the last hundred years (an estimated 46 species being lost). It is also the habitat with most 'globally threatened' and 'rapidly declining' species (78 species).

Some woodland types are well represented in Britain but scarce in Europe. These include holly woods, ash woods on limestone, woods with bluebell-dominated ground flora (the UK holds 20% of the world's population of bluebells) and oceanic types with an Atlantic bryophyte, fern and lichen flora.

Veteran Trees are important for the many niches they provide for birds, bats, mammals and for the dead wood habitats they provide for fungi and invertebrates. Britain holds a high proportion of Europe's veteran trees.

1.2 Coverage in Derbyshire

In 2002 the Forestry Commission reported on all woodland over 0.1 ha in size in Derbyshire. It estimated that woodland cover in Derbyshire is 19,500 hectares i.e. 7.2% of the land cover, an increase of over 2% in the past 20 years, and beginning to approach the average for England and Wales of 9%.

The great majority of woodlands are over 2 ha, but under 10 ha in size. Between 1980 and 1998 the relative proportion of broadleaves to conifers increased from 65% to 78%, influenced by broad-leaved woodland planting in the coalfield on derelict land reclamation sites, on other **East Derbyshire Woodland Project** sites and by extensive planting in the **National Forest**. In addition there is a gradual move to replace conifer or broadleaved **Plantations on Ancient Woodland Sites (PAWS)** with native broadleaves, wherever appropriate. **The Great Trees of Derbyshire Project** recorded more than 4,000 veteran trees in the county, many of which were outside recognised parkland habitats.



1.3 Coverage in the Lowland Derbyshire LBAP Area

In 2010, woodland cover in this LBAP area was estimated to be 6% or 8,800 hectares. Ancient Woodland Sites account for a third of that (i.e. 3,700 hectares). But just under half of these sites have been replanted with introduced species, both coniferous and broadleaved. There is currently 2,100 hectares of ancient semi-natural woodland remaining in our area, which is a significant quantity in the national context.

1.4 Woodland habitat types in Lowland Derbyshire

The UK Biodiversity Action Plan lists **Lowland Mixed Deciduous Woodland** as a priority habitat type. It includes all woodlands where the canopy comprises at least 80% of the appropriate native species for the area. For the purposes of the Lowland Derbyshire LBAP this will include the woodland types listed in Table 1

Table 1: Derbyshire Lowland BAP Woodland types – definitions

Woodland Type	Definition	National Vegetation Classifications occurring in lowland Derbyshire
Lowland mixed broad-leaved woodland	Includes: <ul style="list-style-type: none"> Woodlands on the ‘Derbyshire Inventory of Ancient Woodlands’ which support semi-natural vegetation Other semi-natural woodlands with evidence of ancient origin. Semi-natural woodland or scrub referable to specific NVC types Recently planted woodland, where the canopy is at least 80% of native species. Other mature semi-natural woodland of significance. 	<p>W8 Ash (<i>Fraxinus excelsior</i>) – Field Maple (<i>Acer campestre</i>) – Dog’s Mercury (<i>Mercurialis perennis</i>) woodland</p> <p>W10 Pedunculate Oak (<i>Quercus robur</i>) – Bracken (<i>Pteridium aquilinum</i>) – Bramble (<i>Rubus fruticosus</i>) woodland</p> <p>W16 Oak spp. (<i>Quercus spp.</i>) – Birch spp. (<i>Betula spp.</i>) – Wavy Hair Grass (<i>Deschampsia flexuosa</i>) woodland</p>
Wet woodland	Woodland where the water table is permanently high.	<p>W1 Goat Willow (<i>Salix cinerea</i>) – Common Marsh Bedstraw (<i>Galium palustre</i>) woodland.</p> <p>W5 Alder (<i>Alnus glutinosa</i>) – Greater Tussock-sedge (<i>Carex paniculata</i>) woodland.</p> <p>W6 Alder (<i>Alnus glutinosa</i>) – Common Nettle (<i>Urtica dioica</i>) woodland.</p> <p>W7 Alder (<i>Alnus glutinosa</i>) – Ash (<i>Fraxinus excelsior</i>) – Yellow Pimpernel (<i>Lysimachia nemorum</i>) woodland.</p>



1.5 Major influences on biodiversity in Lowland Derbyshire woodlands

Geology and topography are important influences on the woodland types occurring in Derbyshire. Past management is also significant in determining biodiversity value. A large proportion of the present high-forest woodland in the Lowland BAP area is even-aged, semi-mature trees where high, dense canopies allow very little light to reach the ground. This suppresses ground flora, shrub layer and recruitment of young trees. Mature trees can benefit hole-nesting birds such as tits and those favouring areas of rot, such as woodpeckers and redstarts. In many woods, however, there is very little structural diversity in terms of open rides and clearings, nor good transitional habitats or fallen or standing dead timber. Features such as these are important for providing habitats for scarcer and more local species characteristic of deciduous woodland. The spread of invasive species (especially rhododendron) can have a profound influence on a woodland, almost completely preventing the growth of ground flora. Lack of management also results in an even-age wood with very little variety.

1.6 Landscape Character Assessment

In 2003 Derbyshire County Council carried out a **Landscape Character Assessment** for the county, excluding large urban areas, such as the built parts of Derby City and Chesterfield. The project identified where woodland habitats would be most appropriate in maintaining landscape character and local distinctiveness as well as highlighting the most appropriate woodland type and management for the local area. This approach has been largely reflected in the landscape-scale approach within the Lowland Derbyshire LBAP. Table 2 shows the relationship between landscape character type and woodland type.



Top left: Thinning operation as part of woodland management. Credit: Debbie Alston

Top right: Parkland at Calke Abbey. Credit: Debbie Alston

Bottom left: Coppiced woodland. Credit: Derbyshire County Council

Bottom right: Waingroves Community Woodland. Credit: Debbie Alston

Table 2: Woodland habitats characteristic and appropriate within each Landscape Character Type

P Primary (main) habitat - prominent and a key characteristic
S Secondary habitat - variable and a local characteristic
L Locally significant - notable for containing rare species

Action Area name within this LBAP	Character Area	Landscape Character Type	Ancient & Semi-natural broadleaved woodland	Lowland Parkland	Wet Woodland	Veteran Trees
Peak Fringe	Derbyshire Peak Fringe and Lower Derwent	Enclosed Moors and Heaths				
		Wooded Slopes and Valleys	P		P	P
		Wooded Farmlands	P	P	P	P
		Gritstone Heaths & Commons				
		Settled Farmlands		S	S	P
		Riverside Meadows			P	
Rother and Doe Lea Valleys Erewash Valley	Notts, Derbyshire & Yorkshire Coalfield	Wooded Hills & Valleys	P		P	P
		Coalfield Village Farmlands	S	S	S	P
		Estate Farmlands	S	P	P	S
		Wooded Farmlands	P	S	P	P
		Coalfield Estate lands	P	P	P	P
		Riverside Meadows			P	
		Plateau Estate Farmlands	P	P	S	P
Magnesian Limestone	Southern Magnesian Limestone	Limestone Farmlands	P	S		
		Limestone Gorges	P		P	
Claylands	Needwood & South Derbyshire Claylands	Settled Farmlands		S	S	P
		Settled Plateau Farmlands	S	S		P
		Sandstone Slopes & Heaths				S
		Estate Farmlands	S	P	S	P
		Riverside Meadow			P	



Action Area name within this LBAP	Character Area	Landscape Character Type	Ancient & Semi-natural broadleaved woodland	Lowland Parkland	Wet woodland	Veteran Trees
Trent and Dove Valleys	Trent Valley Washlands	Lowland Village Farmlands	S		S	S
		Wet Pasture Meadows				
		Riverside Meadows			P	
National Forest area	Melbourne Parklands	Estate Farmlands	P	P	S	P
		Wooded Estatelands	P	P	P	P
		Sandstone Slopes & Heaths	P			S
		Riverside Meadows			P	
	Leicestershire & Derbyshire Coalfield	Coalfield Village Farmlands	S	S	P	P
	Mease & Sence Lowlands	Village Estate Farmlands	S	S	P	S
		Riverside Meadows			P	

Note: Derby is omitted from this list because it is not, in itself, a Character Area. The administrative boundary of the city of Derby actually straddles four such Character Areas: the Needwood and South Derbyshire Claylands, the Trent Valley Washlands, the Derbyshire Peak Fringe and Lower Derwent, plus the Notts, Derbyshire and Yorkshire Coalfield.



Greater Stitchwort. Credit: Debbie Alston



1.7 Species associated with woodland habitats

Many species are associated with woodland habitats, of which some are UKBAP Priority Species. Appendices 1 to 3 list these Priority Species as well as other locally important species associated with woodland habitats.

1.8 Distribution of Woodland in Lowland Derbyshire

Figure 1 and Table 3 (opposite) show the type and distribution of woodland in Lowland Derbyshire.

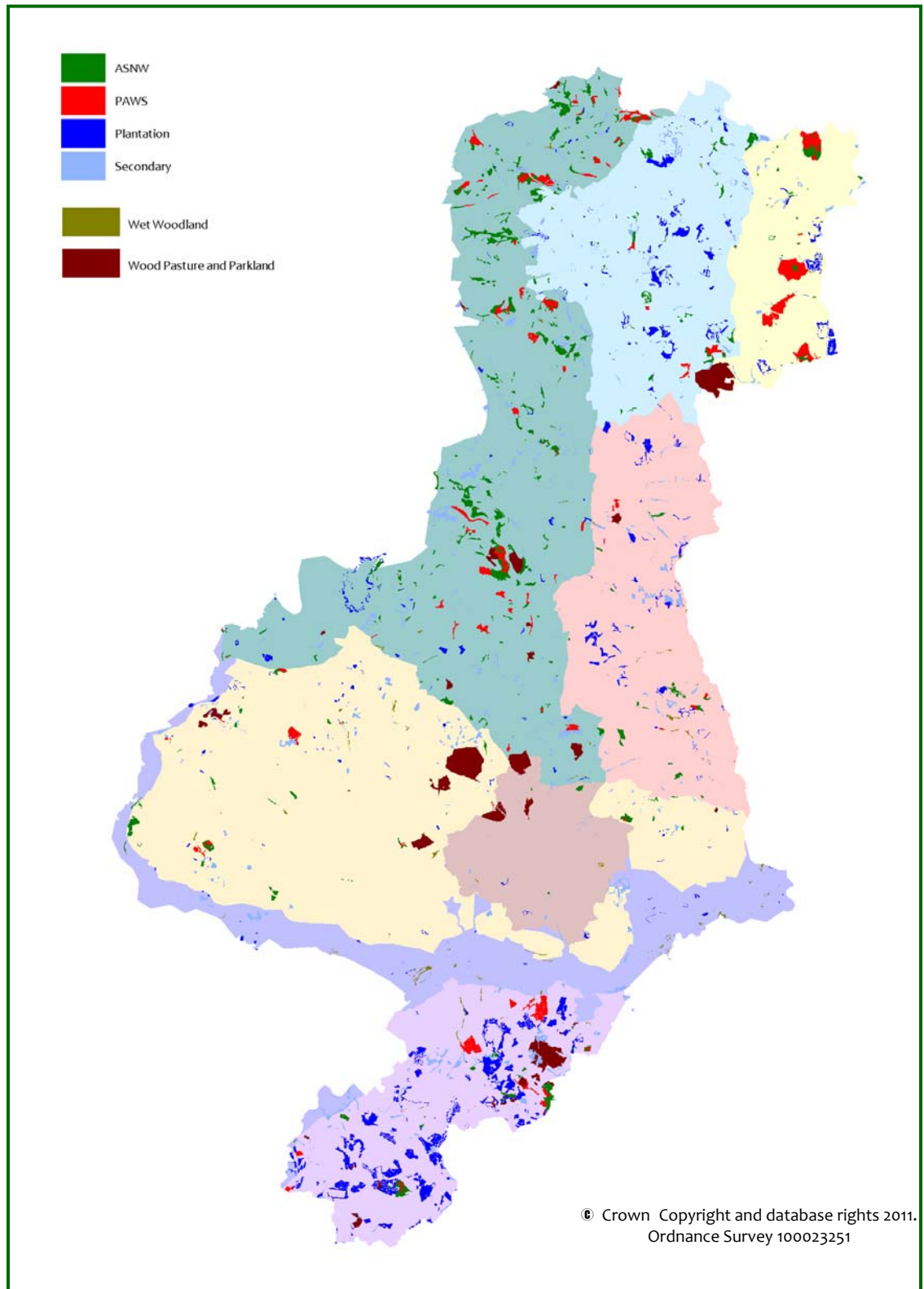


Figure 1: Woodland types in Lowland Derbyshire



Table 3: Distribution of woodland and parkland within the LBAP area

LBAP Action Area	Wood-land resource	% of total Wood-land resource	Semi-natural ancient Wood-land	Plantations on Ancient Wood-land Sites	Secondary Wood-land	Wood-land planted since 1980	Wet wood-land	Wood-pasture and park-land sites
Mag-nesian Lime-stone	900 ha	10 %	104ha	468 ha	151 ha	174 ha	6 ha	2 sites
Rother and Doe Lea valleys	1,109 ha	12 %	217 ha	68ha	269 ha	548 ha	11 ha	7 sites
Peak Fringe	2,845 ha	32 %	1,381 ha	642 ha	695 ha	127 ha	31 ha	27 sites
Erewash valley	690 ha	8 %	120 ha	29 ha	244 ha	269 ha	28ha	11 sites
Clay-lands	885 ha	10 %	142 ha	93 ha	582 ha	69 ha	38 ha	16 sites
Derby	100 ha	1 %	13ha	-	74ha	14 ha	5 ha	3 sites
Trent and Dove Valleys	190 ha	2 %	7ha	-	129 ha	53 ha	61 ha	6 sites
National Forest	2,194 ha	25 %	166ha	268 ha	357 ha	1,403 ha	23ha	4 sites
Totals	9,079 ha		2,150 ha	1,568 ha	2,501 ha	2,657 ha	203 ha	115 sites

The Peak Fringe area contains the largest proportion of woodland in the LBAP area. It also contains the greatest area of ancient woodland. The Derwent Valley, part of which is contained within the Derwent Valley World Heritage Site, is known to be one of the largest areas of connected woodland in the north of England. The Valley is also highlighted nationally as a ‘hot spot’ for woodland birds. A lot of this woodland has cultural association with the industrial heritage of the area, and contains much important woodland archaeological evidence. By contrast, the area with the lowest amount of woodland is Derby, which is a highly urbanised area with few woodlands remaining and limited opportunities for additional woodland to be planted. The largest proportion of recently planted woodland is found in the National Forest area, where agri-environmental grants have encouraged woodland creation.

Wood Anemone.
Credit: Debbie Alston



Throughout the LBAP area few very large (i.e. > 50 ha.) woodlands remain. Those that do are dominant within the Magnesian Limestone area. The rest are relatively small copses, spinneys and coverts and isolated remnant areas of semi-natural ancient woodland. River valleys are important as woodland corridors, especially the steep-sided sections of the Derwent, Amber and Dove, where woodland has remained as other land uses were restricted due to topography. Small wooded valleys to the west of Chesterfield contain small fragments of ancient woodland. There is probably no true wood pasture remaining in the LBAP area, but a number of parkland remains can be identified.

2. Lowland Mixed Deciduous and wet woodland

In this context the term lowland mixed deciduous woodland comprises of:

- Ancient Woodland (Semi-natural and Plantations on Ancient Woodland Sites)
- Secondary woodland which has been developed from natural colonisation within the last few centuries
- Recently planted woodlands where the composition is at least 80% of native species

Total woodland cover is currently 6% across the whole LBAP area i.e. 8,800 hectares. The Ancient Woodlands have mainly survived on slopes too steep to farm, where they are often known as **'Dumble Woods'** and **'Grips'** or on patches of sandy or ill-drained soil. Derbyshire coppices, of which there are few surviving, are known as **'spring woods'**. Most have been felled and replanted with non-coppice species. Many of the woodlands would have traditionally been managed as coppice for turnery, tool handles, firewood/charcoal or as high forest for planking or furniture-making from medieval times to the industrial revolution. As other materials and cheap quality timber imports became readily available their utilisation declined. Former management has left many sites with a lack of veteran trees and dead wood.

The former extensive woodland cover of Derbyshire has declined over many centuries to a point where virtually all ancient woodland is restricted to a number of small and isolated blocks, typically less than 10 hectares. The biggest ancient woodland sites fall within the Magnesian Limestone area, most of which have been replanted with non-native species.

Wet woodland, or **'carr'**, develops where the water table is permanently high. Some wet woodlands, along seepage areas or springs are permanent if water supply persists; others are just a stage in natural succession from open water to climax dry woodland. Dominant wet woodland tree species include willow, sallow, alder and downy birch. Very rarely black poplar is present in southern parts.

Most wet woodlands in Derbyshire are in flood plains, but some are also found near ponds and lakes and within mineral workings. Wet woods with native black poplar as the dominant species do not occur, though individual specimen trees do. A Species Action Plan has been prepared. Alder and willow woodland are valuable for invertebrates and birds. Those beside rivers provide potential otter habitat, thus making an important contribution to the ability of the otter to return to Derbyshire. However, alder carr is rather rare in the county, although alder commonly fringes rivers and lakes. Wet woodland is important as part of the mosaic of wet and dry habitats vital for many species. Seepage woods are typically small and often occur within larger areas of drier woodland, especially NVC Types **W5**, **W6** and **W7** in **W10** woods. They can have very rich faunas, especially terrestrial molluscs and crane flies, which are the main group of invertebrates for which wet woodland is important, with a high incidence of nationally notable and also locally rare species.



2.1 Distribution of woodlands

The distribution of ancient woodland sites is shown in Figure 1. Notes on the woodland distribution in each of the action plan areas can be found below.

2.1.1 Magnesian Limestone

There are a number of large discrete ancient woodland sites often greater than 50ha, more than 80% of which have been replanted with non-native species. Much of the remainder of the limestone plateau is good quality agricultural land, so other woodlands are small and fragmented. Following relatively recent mineral extraction activity, land restoration schemes have included large blocks of woodland planting. Examples of sites include, Poulter Country Park, Pleasley Pit Country Park, Shirebrook and the former Bolsover tip north. Wet woodland is associated with man-made mill ponds (Pleasley Vale), fishing pools (Harlesthorne Dam and Nether Langwith), canal feeder reservoirs (Pebley Pond), ornamental lakes (Hardwick Hall) and within narrow river valleys. There are also small areas of alder/willow carr around Scarcliffe.

2.1.2 Rother and Doe Lea Valleys

This area has a history associated with the mining industry. As a result it has few ancient woodlands remaining. Woodland has been a significant component of a number of land restoration schemes within the area such as Poolsbrook Country Park, and former Renishaw opencast site. Wet woodland can be found along river valleys and associated with canals, pit heaps, subsidence flashes and springs (Foxstone Dam).

2.1.3 Peak Fringe

There is a high concentration of small interlocking woodlands particularly along the Derwent valley from Matlock to Duffield, much of which is ancient woodland. There is also much woodland in the area to the west and north of Chesterfield and the Moss Valley. Linear wet woodlands lie along some of the small valleys on the west side of the Derwent, as isolated fragments, but also as part of larger woodlands of ancient origin such as Shiningcliff Woods. Wet woodland in the valley bottoms is very restricted. Very localised wet woodland can be found at Ogston and Linacre reservoirs and stands of willow are found around smaller reservoirs.

2.1.4 Erewash Valley

There is a history of disturbance due to mining activities and industrial development in this area therefore only a small number of ancient woodlands remain. Woodlands have been planted on former coalfield sites such as Shipley Country Park, Doe Hill at Stonebroom, Denby and Forge and Monument at Codnor. Wet woodland is a feature along the main river valleys, some of which has developed in old oxbows (Erewash Meadows).

2.1.5 Claylands

There are relatively few woodlands within this area, however, the presence of hedgerow and watercourse trees contributes to a well wooded character. The main woodland areas are largely associated with the estates within the area. Wet woodlands occur in the Dove Valley, other smaller valleys and areas such as Radbourne Rough and Tinkers Inn Bog. Secondary wet woodland has developed within Hilton Gravel Pits SSSI, but this is now changing into dry oak woodland.



2.1.6 Derby

This area contains less than 100 ha of woodland. There is little ancient woodland and much of the remaining mature woodland is associated with the City parks.

2.1.7 Trent and Dove Valleys

This area contains the largest amount of wet woodland in the LBAP area. It is mostly associated with feeder streams to the Rivers Trent and Dove or on the periphery of former aggregate sites. Extensive areas of carr were historically common in the area, characteristic species being common osier, purple, crack and white willows, silver birch and alder. They were often managed for basket making and hurdles. Black poplar occurs as isolated trees, the main concentration of which are within the Hilton, Scropton and Hatton area.

2.1.8 National Forest area

This part of the LBAP region contains the most recently planted woodland. The National Forest Company, which occupies most of this Action Area, has encouraged woodland planting via its **National Forest tender scheme** and **Changing Landscapes Schemes**. The area does contain a number of large ancient woodlands (Robin Wood, Repton Wood and Grange Wood) two of which have been replanted and are managed for timber production. Between 1990 and 2010 more than 1,000 hectare of woodland has been planted in the area. This woodland now helps to link ancient and secondary woodland across the area, creating a large amount of connected habitat.



Top: Clearance of rhododendron in Allestree Park
Bottom left: Yellow Archangel. Credit: Debbie Alston
Bottom right: Bluebells in Chaddesden Wood LNR. Credit: Debbie Alston

3. Wood Pasture, Parkland and Veteran Trees.

3.1 Introduction

Wood pasture and **parkland** consist of a vegetation structure, rather than a particular plant community. There are usually a large number of veteran trees growing above grassland, heathland or woodland ground flora. Tree management, usually by pollarding, produced the characteristic veteran trees, whilst grazing by domestic livestock or deer has maintained the vegetation structure. Both habitats may have been converted to other land uses such as arable, woodland or amenity, but may still retain the old trees. These are still of value for nature conservation where the specialist species supported by those veteran trees have survived.

The **UK Habitat Action Plan** definition of this woodland type includes lowland wood pasture and parklands derived from medieval forests and emparkments, wooded commons, parks and pastures with trees in them. Some have subsequently had a designed landscape superimposed on them in later centuries. Parkland may originate in the landscaping of estates around country houses two or three hundred years ago. Some parkland may be only 100-150 years old, but may still contain veteran trees from an earlier landscape.

Although rare fungi, lichens and bryophytes are typically associated with veteran trees and parklands, high levels of pollution affect the distribution of the lichens in Derbyshire. Parklands may be important sites for bats, such as noctule, Natterer's bat and Leisler's bat, and for birds including hole-nesting species such as woodpeckers, especially green woodpeckers, spotted flycatchers, tits and redstarts, tree sparrows and whinchats. Parklands may retain areas of unimproved grasslands.

Trees can be considered to be '**veterans**' if they are exceptionally old for their species and have reached or passed their peak growth rate. Long-lived species such as oak and beech reach this point at around 150 – 200 years at the earliest. Veteran trees may be either indigenous or introduced species. Generally however it is the conditions eg dead wood and sap runs which are of importance, rather than the species. Where veteran trees are isolated, this increases their vulnerability. Veteran trees are of interest biologically, culturally or aesthetically because of their age, size or condition.

A rough rule of thumb can be adopted for species such as oak as follows:

- Trees with a girth of 3.2m are potentially interesting
- Trees with a girth of more than 4.7m are valuable in terms of biodiversity conservation
- Trees with a girth of more than 6.25m are truly ancient

It has been estimated that Britain holds 80% of Europe's resource of veteran trees. They are important for the many niches they provide for birds, bats and mammals, as well as for the dead wood and sap run habitats which are valuable for invertebrates and fungi. Many of the species found on veteran trees are rare, endangered dead wood specialists, making veteran trees an important BAP habitat. Veteran trees are also of value historically, culturally and visually as an integral part of the English landscape.

The most frequently required associated habitat is the presence of flowering shrubs, especially hawthorn, together with grassland with umbelifers and composite flowers later in the year to provide nectar and/or pollen for saproxylic species such as adult beetles and flies.



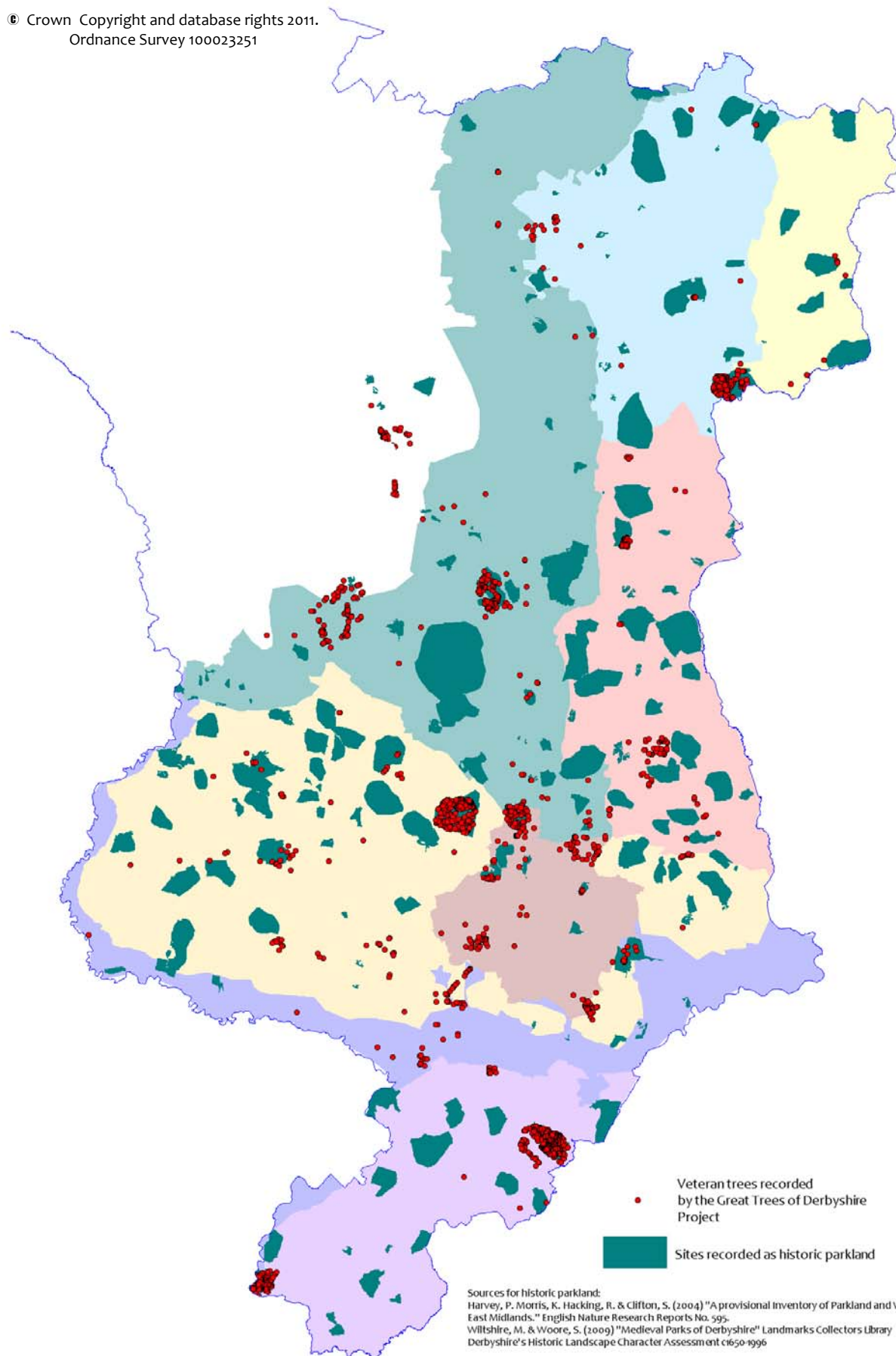


Figure 2: Historic Parkland and Veteran Trees in Derbyshire

3.2 Lowland wood pasture and parkland in Lowland Derbyshire

In Derbyshire, trees of wood pasture and parkland are mainly pedunculate oak but also ash and planted non-native species to the county – beech, sycamore, hybrid limes, sweet chestnut. Lime used to be an important species in the natural forests of this region. Elms were also important in some locations until Dutch elm disease reduced the numbers. Initially this resulted in an increase in dead wood habitats, reflected in a rise in records of some species locally. But many trees were subsequently felled. **“A provisional inventory of Parkland and Wood Pasture in the East Midlands”** (Harvey, P. et al, 2004) identified 52 parkland sites in Derbyshire covering 4,117 ha. Of these, 42 are within the Lowland Derbyshire LBAP area, covering a total of 3,561ha. Since the provisional inventory was produced several more parklands have been identified, notably in **“Medieval Parks of Derbyshire”** (Wiltshire, M. & Woore, S. 2009). Parkland is very scattered in Lowland Derbyshire, but most are in the central and southern half of the LBAP area. Figure 2 shows the occurrence of historic parkland and veteran trees in Derbyshire.

3.2.1 Magnesian Limestone

Within this Action Area the main parkland is the deer park associated with Hardwick Hall, but other areas remain at Barlborough.

3.2.2 Rother and Doe Lea Valleys

In this Action Area there are smaller parks, for example at Renishaw Hall which now includes an area used as a golf course.

3.2.3 Peak Fringe

Within this Action Area the main remaining parks include those at Wigwell Grange, Windley Hall, Alderwasley Hall and Alton Manor. All are privately owned. The only equivalent of a royal forest in this area is Duffield Frith, which was deforested early in the Middle Ages. The outliers were at Crich Chase and Alderwasley Park; parts of Shiningcliff Wood also contain veteran trees and adjoin Alderwasley Park. Neither Crich Chase nor Alderwasley Park contain significant numbers of veteran trees now; many of the large oaks were felled last century.

3.2.4 Erewash Valley

There are at least twenty historic parklands within this Action Area, most of which have been effected by either development and or mineral extraction. Veteran trees have been recorded within Alfreton Park; other parklands remain un-recorded. The majority of the veteran trees in this area have been recorded in the wider countryside i.e. within hedgerows and fields.

3.2.5 Claylands

Parklands are an important feature within this Action Area. Kedleston Park, originally a medieval deer park, now owned by the National Trust is an SSSI but there are other estates for example Radbourne Park, Osmaston Park, Sudbury Hall and Shirley Park where parkland exists. Some parkland dates from the seventeenth and eighteenth centuries but others are older, since this part of the county had several deer parks in medieval times. In some cases there has been no survey work to evaluate wildlife. Some parkland is associated with other valuable habitats such as ancient woodland, valley marshes and streams and lakes.

3.2.6 Derby

There are several parks here. Some are of early origin, such as Markeaton Park and Darley Park, though others are more recent. Derby Arboretum, laid out between 1839-40, was the first park to be specifically designed for and owned by the public. All are managed primarily for public use. Veteran trees are recognised as important features at these sites, as well as at Allestree Park where the area outside the golf course is managed as a Local Nature Reserve (LNR).



3.2.7 Trent and Dove Valleys

Elvaston Castle has extensive biodiversity value. It has been much altered by 19th century landscaping and planting and more recently by its use as a Country Park, although important veteran trees still remain. Small areas of a parkland type landscape remain in other locations, as at Etwall and Swarkestone, for example.

3.2.8 National Forest area

Parklands are an important feature, especially within the Melbourne area where Calke Abbey National Nature Reserve and remnant parkland extends to neighbouring areas. Parkland also exists at Catton and adjacent to Donnington Park on the border with Leicestershire

3.3 Veteran Trees in Derbyshire

The **Great Trees of Derbyshire Project** collected and collated information on veteran trees in Derbyshire. A total of 4,150 trees were surveyed, of which approximately 2,500 are within this LBAP area. Figure 2 shows known distribution. It is recognised that this data is still not complete, but the survey does provide a valuable insight into the locations of veteran trees outside traditional parklands.

Within the wider countryside, beech, sweet chestnut, horse chestnut and sycamore are commonly found as well as native species of oak, ash, yew, and small-leaved lime. Very small numbers of black poplars can be classed as veterans, and some ancient willow pollards, too. Though little studied, some distribution patterns between the Natural Areas in Derbyshire can be discerned. In the Magnesian Limestone area, occasional veteran trees in hedgerows occur and fewer in woodlands. Within the Rother and Doe Lea valleys and Erewash valley, veteran trees of all species are very scarce, the few remaining, usually beech or oak, often associated with long destroyed parkland landscapes. Solitary limes can be found occasionally in the Peak Fringe, as are some sweet chestnut, yew in churchyards and veteran pollarded or standard oaks within cultivated fields or on roadsides.

Oaks are more common in the Claylands area, especially in hedgerows. Here there are also some veteran willow pollards. In the National Forest area oaks occur in hedgerows, and yew in churchyards. Here again, some veterans occur where there was wood pasture and parkland but where this landscape may have disappeared. Some very large and ancient willow pollards are also known to occur in places.



Large veteran oak at Kedleston Hall.
Credit: Debbie Alston



Appendix 1: Species for which Lowland Mixed Deciduous Woodland is a key habitat in Lowland Derbyshire

1.1 Priority Species (ie. UK BAP Species recorded in this Habitat in Lowland Derbyshire)

Mammals

Brown Hare	<i>Lepus europaeus</i>
Brown long-eared bat	<i>Plecotus auritus</i>
Dormouse	<i>Muscardinus avellanarius</i>
Noctule bat	<i>Nyctalus noctula</i>
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>

Birds

Bullfinch	<i>Pyrrhula pyrrhula</i>
Cuckoo	<i>Cuculus canorus</i>
Dunnock	<i>Prunella modularis</i>
Hawfinch	<i>Coccothraustes coccothraustes</i>
Lesser redpoll	<i>Carduelis cabaret</i>
Lesser spotted woodpecker	<i>Dendrocopos minor</i>
Marsh tit	<i>Parus palustris</i>
Spotted flycatcher	<i>Muscicapa striata</i>
Song thrush	<i>Turdus philomelos</i>
Starling	<i>Sturnus vulgaris</i>
Tree pipit	<i>Anthus trivialis</i>
Willow tit	<i>Parus montanus</i>
Wood warbler	<i>Phylloscopus sibilatrix</i>

Invertebrates

Hairy wood ant	<i>Formica lugubris</i>
Shining guest ant	<i>Formicoxenus nitidulus</i>
Square-spotted clay	<i>Xestia rhomboidea</i>
White admiral	<i>Limenitis camilla</i>
White-letter hairstreak	<i>Satyrion w-album</i>

1.2 Locally Important Species

An important feature of Local BAPs is the selection of locally important, threatened, declining or rare species which add local distinctiveness—the so-called “Local Red Data Book” species. Using Endangered Wildlife in Derbyshire (Elkington and Willmot, 1996) plus the Red Data List of Derbyshire’s Vascular Plants (Moyes and Willmot, 2009), the following species have been selected for this category. The birds included are based on the RSPB’s list of species of conservation concern.

Birds

Firecrest	<i>Regulus ignicapillus</i>
Grasshopper warbler	<i>Locustella naevia</i>
Green woodpecker	<i>Picus viridis</i>
Mistle thrush	<i>Turdus viscivorus</i>
Pied flycatcher	<i>Ficedula hypoleuca</i>
Redstart	<i>Phoenicurus phoenicurus</i>
Stock dove	<i>Columba oenas</i>
Willow warbler	<i>Phylloscopus trochilus</i>
Woodcock	<i>Scolopax rusticola</i>

Bryophytes

Marchesinia mackaii

Mammals

Common pipistrelle	<i>Pipistrellus pipistrellus</i>
Whiskered bat	<i>Myotis mystacinus</i>
Brandt’s bat	<i>Myotis brandtii</i>
Natterer’s bat	<i>Myotis nattereri</i>
Leisler’s bat	<i>Nyctalus leisleri</i>
Nathusius’ pipistrelle	<i>Pipistrellus nathusii</i>

Ground Beetles

<i>Carabus monilis</i> (NB) P
<i>Badister sodalist</i> (L) P
<i>Dromius meridionalis</i> (L) P

Fungi

<i>Mycena rubromarginata</i>
<i>Strobilomyces strobilaceus</i>



Key:**RDB1** Red Data Book Category 1**RDB2** Red Data Book Category 2**RDB3** Red Data Book Category 3**RDBK** Insufficiently known**N** Nationally Notable**NA** Nationally Notable Species Category A (present in fewer than 30 km grid squares in UK)**NB** Nationally Notable Species Category B (present in between 31 and 100 km grid squares in UK)**DW** in deadwood habitat**P** Predatory species**F** on fungus**Ground Beetles***Carabus monilis* (NB) P*Badister sodalist* (L) P*Dromius meridionalis* (L) P**Carrion Beetles***Plegaderus dissectus* (NB)*Abraeus granulatum* (NA)*Aeletes atomarius* (RDB3)**Featherwing Beetles***Nossidium pilosellum* (N) F*Ptenidium gressneri* (N) F*Micridium halidaii* (RDBK) F**Rove Beetles***Omalium allardi* (N) P*Quedius microps* (NB) DW*Quedius scitus* (NB) DW*Quedius xanthopus* (NB) DW, F*Sepedophilus testaceus* (N) DW, F*Gyrophana angustata* (N) DW, F*Gyrophana hansenii* (N) DW, F*Atheta occulta* (L) F*Oxypoda induta* (Un) P*Aleochara ruficornis* (N)**Short-Winged Mould Beetles***Bibloporus minutus* (NB) DW, F*Euplectus fauveli* (N) DW**Click Beetles***Athous subfuscus* (RDB3)**Soldier beetles***Malthinus frontalis* (NB)**Hide beetles***Megatoma undata* (NB)*Ctesias serra* (NB)**Wood-boring beetles***Ptinomorphus imperialis* (NB) DW*Xestobium rufovillosum* (C) DW*Dorcatoma flavicornis* (NB) DW*Dorcatoma serra* (NA) F*Anitys rubens* (NB) F**Bark-gnawing beetles***Nemozoma elongatum* (RDB3) DW**Timber Beetles***Hylecoetus dermestoides* (NB) DW**Chequered Beetles***Tillus elongatus* (NB) P*Korynetes caeruleus* (NB) P**Slime Mould Beetles***Sphindus dubius* (NB) DW, F**Silken Fungus Beetles***Cryptophagus labilis* (N) DW, F**False Ladybirds***Symbiotes latus* (NB) DW, F**Mould Beetles***Enicmus rugosus* (N) DW, F*Corticaria alleni* (N) DW, F**Hairy Fungus Beetles***Mycetophagus populi* (NA) DW, F*Mycetophagus quadriguttatus* (NA) DW, F

Darkling Beetles

Scaphidema metallicum (NB) DW
Corticeus unicolor (RDB3) DW
Helops caeruleus (NB) DW
Prionychus ater (NB) DW, F
Mycetochara humeralis (NA) DW

Cardinal Beetles

Pyrochroa coccinea (NB) DW

False Darkling Beetles

Orchesia minor (NB) DW, F
Melandrya caraboides (NB) DW

Flower Beetles

Ischnomera caerulea (RDB3) DW

Antlike Leaf Beetles

Aderus oculatus (NB) DW

Leaf Beetles

Luperus flavipes (NB)
Psylliodes luteola (RDBK)

Ambrosia Beetles

Scolytus intricatus (L) DW
Dryocoetes autographus (L) DW



White-letter hairstreak.
Credit: Martin Stubbs



A sleepy dormouse in its nest.
Credit: Debbie Alston

Vascular Plants

Fragrant Agrimony
Lesser Hairy-brome
Narrow-leaved Bitter-cress
Soft-leaved Sedge
Pale Sedge
Thin-spiked Wood-sedge
Small Teasel
Large-flowered Hemp-nettle
Stinking Hellebore
Green Hellebore
Narrow-leaved Everlasting-pea
Common Gromwell
Bird's-nest Orchid
Greater Butterfly-orchid
a bramble
Stone Bramble
Saw-wort
Large-leaved Lime

Agrimonia procera
Bromopsis benekenii
Cardamine impatiens
Carex montana
Carex pallescens
Carex strigosa
Dipsacus pilosus
Galeopsis speciosa
Helleborus foetidus
Helleborus viridis
Lathyrus sylvestris
Lithospermum officinale
Neottia nidus-avis
Platanthera chlorantha
Rubus durescens
Rubus saxatilis
Serratula tinctoria
Tilia platyphyllos



White Admiral.
Credit: Debbie Alston



Appendix 2: Species for which Wet Woodland is a key habitat in Lowland Derbyshire

2.1 Priority Species (ie. UK BAP Species recorded in this Habitat in Lowland Derbyshire)

Amphibians

Great Crested Newt *Triturus cristatus*

Mammals

Noctule bat *Nyctalus noctula*
 Otter *Lutra lutra*
 Soprano pipistrelle *Pipistrellus pygmaeus*

Birds

Dunnock *Prunella modularis*
 Lesser Redpoll *Carduelis cabaret*
 Lesser Spotted *Dendrocopos minor*
 Woodpecker
 Willow Tit *Parus montanus*

2.2 Locally Important Species

An important feature of Local BAPs is the selection of locally important, threatened, declining or rare species which add local distinctiveness—the so-called “Local Red Data Book” species. Using Endangered Wildlife in Derbyshire (Elkington and Willmot, 1996) plus the Red Data List of Derbyshire’s Vascular Plants (Moyes and Willmot, 2009), and with the help of county recorders, the following species have been selected for this category.

Birds

Woodcock *Scolopax rusticola*

Mammals

Daubenton’s bat *Myotis daubentoni*
 Pipistrelle bat *Pipistrellus pipistrellus*
 Whiskered bat *Myotis mystacinus*
 Brandt’s bat *Myotis brandtii*
 Natterer’s bat *Myotis nattereri*
 Leisler’s bat *Nyctalus leisleri*
 Nathusius’ pipistrelle *Pipistrellus nathusii*

Micro-moths

Acleris hastiana
Anacamptis populella
Phyllocnistis unipunctella

Hoverflies

Sphegina elegans
Sphegina verecunda
Xylota tarda

Molluscs

Leiostyla anglica

Bryophytes

Plagiothecium latebricola

Macro-moths

Poplar Kitten *Furcula bifida*
 Small scallop *Idaea emarginata*
 Lead- coloured drab *Orthosia populeti*
 Red-tipped clearwing *Synanthedon formicaeformis*
 Red sword-grass *Xylota vetusta*

Vascular Plants

Narrow-leaved Bitter-cress *Cardamine impatiens*
 Upland Enchanter’s-nightshade *Circaea alpina x lutetiana* (C. x intermedia)
 Narrow Buckler-fern *Dryopteris carthusiana*
 Green-flowered Helleborine *Epipactis phyllanthes*
 Rough Horsetail *Equisetum hyemale*
 Broad-leaved Cottongrass *Eriophorum latifolium*
 Wood Spurge *Euphorbia amygdaloides*
 Herb Paris *Paris quadrifolia*
 Purple Willow *Salix purpurea*
 Wood Club-rush *Scirpus sylvaticus*



Appendix 3: Species for which Lowland Wood Pasture, Parkland and Veteran trees are key habitats in Lowland Derbyshire

3.1 Priority Species (ie. UK BAP Species recorded in this Habitat in Lowland Derbyshire)

Birds

Bullfinch	<i>Pyrrhula pyrrhula</i>
Lesser Spotted Woodpecker	<i>Dendrocopos minor</i>
Marsh tit	<i>Parus palustris</i>
Starling	<i>Sturnus vulgaris</i>
Spotted flycatcher	<i>Muscicapa striata</i>
Song Thrush	<i>Turdus philomelos</i>

Mammals

Barbastelle bat	<i>Barbastella barbastellus</i>
Brown long-eared bat	<i>Plecotus auritus</i>
Noctule bat	<i>Nyctalus noctula</i>
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>

Fungi

Oak Polypore	<i>Boletus pulvinus</i>
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Veteran Oak at Calke Abbey.
Credit: Debbie Alston

3.2 Locally Important Species

An important feature of Local BAPs is the selection of locally important, threatened, declining or rare species which add local distinctiveness—the so-called “Local Red Data Book” species. Using Endangered Wildlife in Derbyshire (Elkington and Willmot, 1996) plus the Red Data List of Derbyshire’s Vascular Plants (Moyes and Willmot, 2009), and with the help of county recorders, the following species have been selected for this category. Note: These lists identify only rare or locally distinctive species. They should not be interpreted as an inventory of species characteristic of this Priority Habitat.

Birds

Barn owl	<i>Tyto alba</i>
Green woodpecker	<i>Picus viridis</i>
Hobby	<i>Falco subbuteo</i>
Mistle thrush	<i>Turdus viscivorus</i>
Redstart	<i>Phoenicurus phoenicurus</i>
Stock dove	<i>Columba oenas</i>

Mammals

Brandt’s bat	<i>Myotis brandtii</i>
Leisler’s bat	<i>Nyctalus leisleri</i>
Nathusius’ pipistrelle	<i>Pipistrellus nathusii</i>
Natterer’s bat	<i>Myotis nattereri</i>
Pipistrelle bat	<i>Pipistrellus pipistrellus</i>
Serotine bat	<i>Eptesicus serotinus</i>
Whiskered bat	<i>Myotis mystacinus</i>

Vascular Plants

Hound's-tongue	<i>Cynoglossum officinale</i>
Henbane	<i>Hyoscyamus niger</i>

Ambrosia Beetles

<i>Ernoporus caucasicus</i> (RDB1) DW
<i>Ernoporus fagi</i> (NA) DW

Key:

RDB1 Red Data Book Category 1

RDB2 Red Data Book Category 2

RDB3 Red Data Book Category 3

RDBK Insufficiently known

N Nationally Notable

NA Nationally Notable Species Category A (present in fewer than 30 km grid squares in UK)

NB Nationally Notable Species Category B (present in between 31 and 100 km grid squares in UK)

L Local

DW in deadwood habitat

P Predatory species

F on fungus



Ground Beetles

Carabus monilis (NB) P
Notiophilus rufipes (L) P
Pterostichus cupreus (L) P

Carrion Beetles

Plegaderus dissectus (NB)
Abraeus granulum (NA)
Aeletes atomarius (RDB3)

Featherwing Beetles

Nossidium pilosellum (N) F
Ptenidium gressneri (N) F
Micridium halidaii (RDBK) F

Rove Beetles

Micropeplus fulvus (L) P
Quedius microps (NB) DW
Quedius scitus (NB) DW
Quedius xanthopus (NB) DW, F
Sepedophilus testaceus (N) DW, F
Liogluta granigera (L) P
Atheta occulta (L) F
Oxypoda induta (Un) P
Oxypoda vittata (L) P

Short-Winged Mould Beetles

Bibloporus minutes (NB) DW, F
Euplectus bonvouloiri rosae (N) DW

Dung Beetles

Aphodius porcus (NB)

Click Beetles

Flautiauxellus quadripustulatus (NA)
Athous subfuscus (RDB3)
Ctenicera pectinicornis (NA)

Hide Beetles

Megatoma undata (NB)
Ctesias serra (NB)

Bark-gnawing Beetles

Nemozoma elongatum (RDB3) DW

Chequered Beetles

Tillus elongatus (NB) P
Korynetes caeruleus (NB) P

Wood-boring Beetles

Ptinomorphus imperialis (NB) DW
Xestobium rufovillosum (C) DW
Dorcatoma flavicornis (NB) DW
Dorcatoma serra (NA) F
Anitys rubens (NB) F

Slime Mould Beetles

Sphindus dubius (NB) DW, F

Silken Fungus Beetles

Cryptophagus labilis (N) DW, F

Ladybirds

Adonia variegata (NB) P

False Ladybirds

Symbiotes latus (NB) DW, F

Mould Beetles

Enicmus rugosus (N) DW, F
Corticaria alleni (N) DW, F

Hairy Fungus Beetles

Mycetophagus populi (NA) DW, F

Darkling Beetles

Corticeus unicolor (RDB3) DW
Helops caeruleus (NB) DW
Prionychus ater (NB) DW, F

Cardinal Beetles

Pyrochroa coccinea (NB) DW

False Darkling Beetles

Orchesia minor (NB) DW, F
Melandrya caraboides (NB) DW

Flower Beetles

Ischnomera caerulea (RDB3) DW

Ant-like Leaf Beetles

Aderus oculatus (NB) DW

Leaf Beetles

Luperus flavipes (NB)

Weevils

Tropiphorus terricola (NB)
Hypera fuscocinerea (NB)

