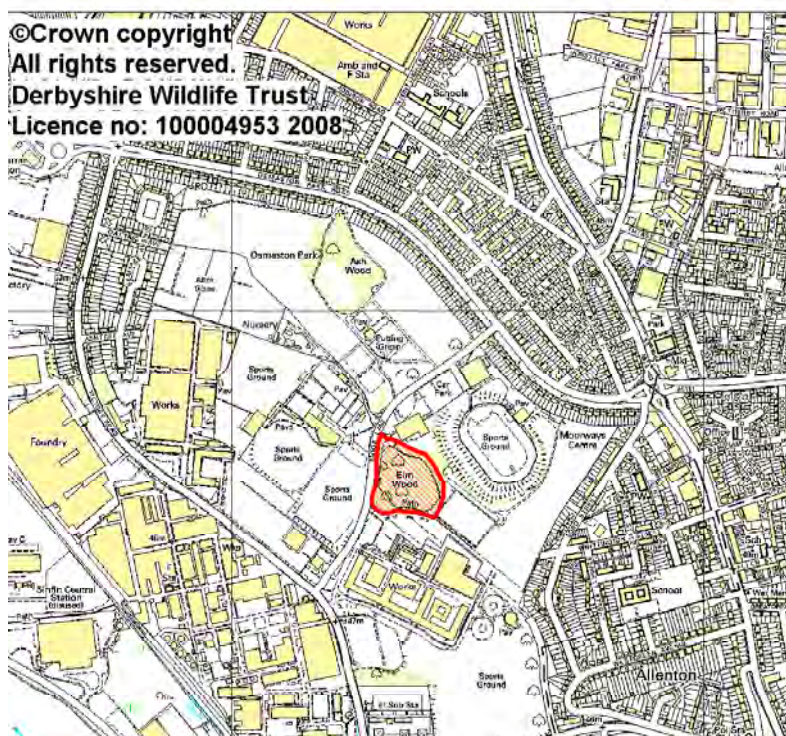


Elm Wood
(Local Wildlife Site DE067)
Management Plan (2009-13)



April 2009 (Final version)

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Whilst due care and attention has been taken during the production of this document neither the author or Derbyshire Wildlife Trust can be held responsible for errors, omissions or any consequential loss.

FORWARD

Following experiences gained with producing Management Plans for a wide range of sites this plan has been produced in a format which will hopefully enable it to be used as an effective working document to guide management of the site for the period of the plan (5 years), To this effect the plan has tried to accommodate guidance from Natural England¹ (formerly English Nature).

In order to achieve the objectives of a simplified plan, free of jargon, which can be readily interpreted by non-experts compromises inevitably have to be made. For instance there is little in the plan explaining the rationale behind the proposed management, and reliance has to be, to a large extent, placed on the expertise of the author of the plan. Some attempt to offset this has been provided in the appendices which give more detail about the site and its history.

The format of the report is such that key points are presented in map and table format which guide the reader with regard to where management is proposed, when it should be undertaken, the estimated costs of the proposed management and additional information regarding certain management items.

An important objective of the plan is to support a proposed Local Nature Reserve declaration for Elm Wood.

¹ (1994). *Managing Local Nature Reserves*. English Nature:Peterborough

1 SITE DETAILS

Name:Elm Wood

Grid Reference:SK364326

Size:1.86 ha

Location:Moor Lane, Derby

Conservation Status:Designated Local Wildlife Site

Ancient Woodland Site (Derbyshire AW Inventory)

Key Habitats.....Lowland Mixed Deciduous Woodland (UK Biodiversity Action Plan
Priority Habitat)

Ownership:Derby City Council

Access:Via the Moorways Centre and Swimming Pool reception areas

2 SITE DESCRIPTION

Elm Wood is a relatively small, isolated block of woodland within the City of Derby. Ash and Elm are the main canopy forming species but a range of other broadleaves are present although in smaller numbers. However, these collectively create a relatively species diverse canopy.

Similarly, a small number of species; Hawthorn, Elm and Blackthorn, are the principal components of the shrub layer but once again a range of other shrub species make this layer equally diverse.

Despite inclusion of the wood on the Ancient Woodland Inventory, there is little evidence in terms of woodland plants to suggest that the wood is of ancient origin. Plants present in Elm Wood which would be considered to be typical woodland plants include; Male-fern, Wood False-Brome, Wood Avens, Three-nerved Sandwort, Lords-and-Ladies and Herb Robert, but these are very rarely present in any abundance. Of particular concern within the field layer, is the presence of potentially invasive non-native species such as Persian Ivy and Japanese Knotweed and, although not potentially invasive, hybrid Bluebell.

The wood has a reasonable woodland structure in terms of the canopy, shrub and field layers. There is a clearly defined younger canopy (Ash & Elm) beneath a few scattered mature Pedunculate Oak and more rarely Hornbeam and Field Maple. The well developed shrub layer is similarly formed by two distinct layers. However, the deadwood resource within the wood is limited and largely restricted to a few dead Elms, with very little deadwood elsewhere. The relatively small size of Elm Wood is such that other important components of good woodland structure (e.g. rides & glades) , are unlikely to be features that would be expected to be present, or features that could be developed within the wood.

Access to the site is restricted by security fencing and there is a requirement for access to be made using a visitor reporting system which is administered from the reception areas of the Moorways Sports Centre and Moorways Swimming Pool which are adjacent to the site.

Within the wood a circular path provides access around the outer edges.

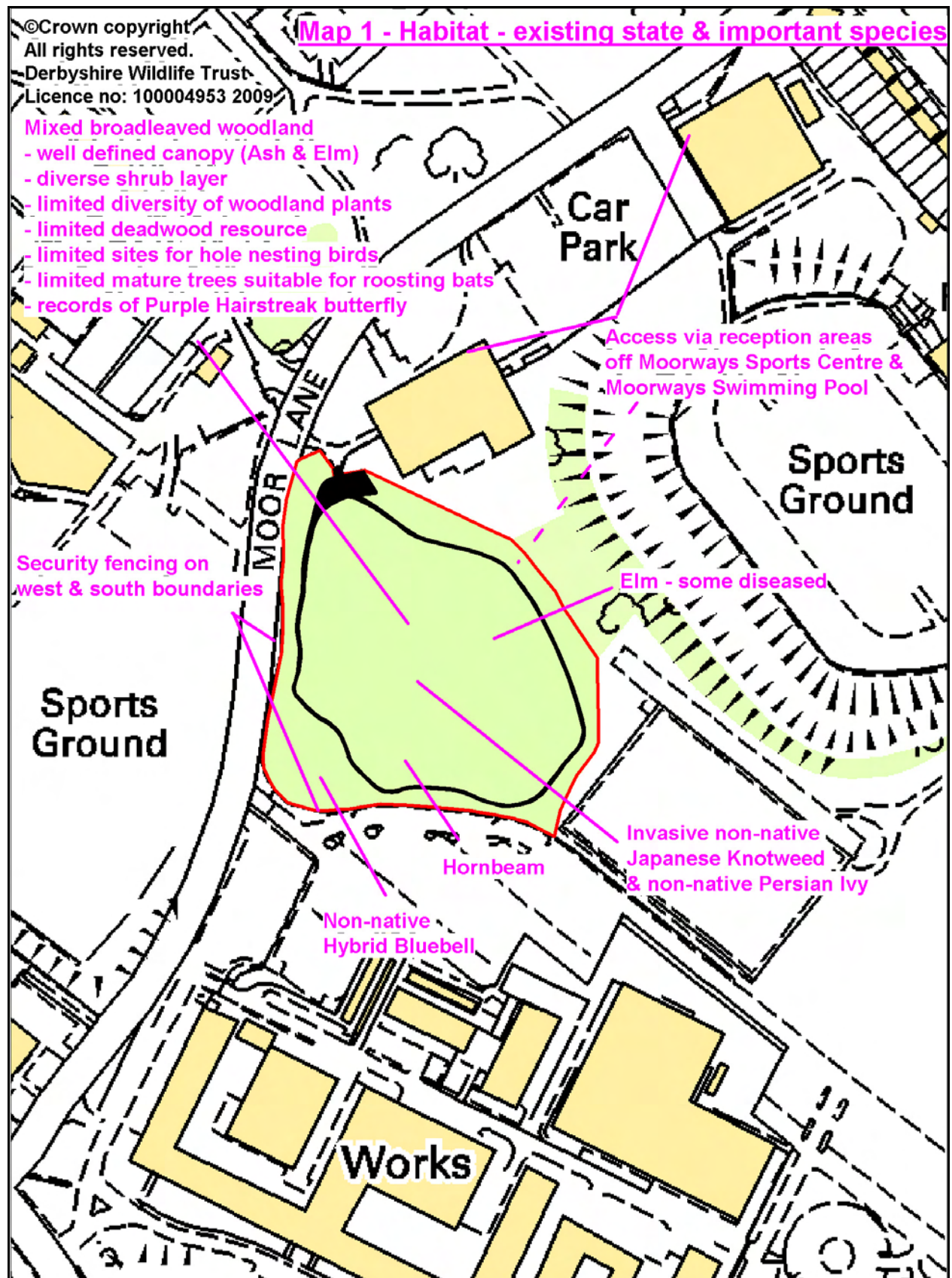
3 SITE OBJECTIVES

- To manage the wood to achieve a wood with a species composition of typical woodland species, throughout the different woodland layers.
- To manage the wood to develop good woodland structure with a well defined canopy of high forest broadleaves, a shrub layer of varying species composition and age class and a varied deadwood resource.
- To make the wood accessible to the local community and to encourage a sense of ownership of the wood within that community. To highlight the value of the wood as an educational and research facility
- Long-term objective (beyond the scope of this plan): if possible, create a buffer to the existing woodland by new woodland planting to extend the wood onto the adjacent Moorways Sports Centre

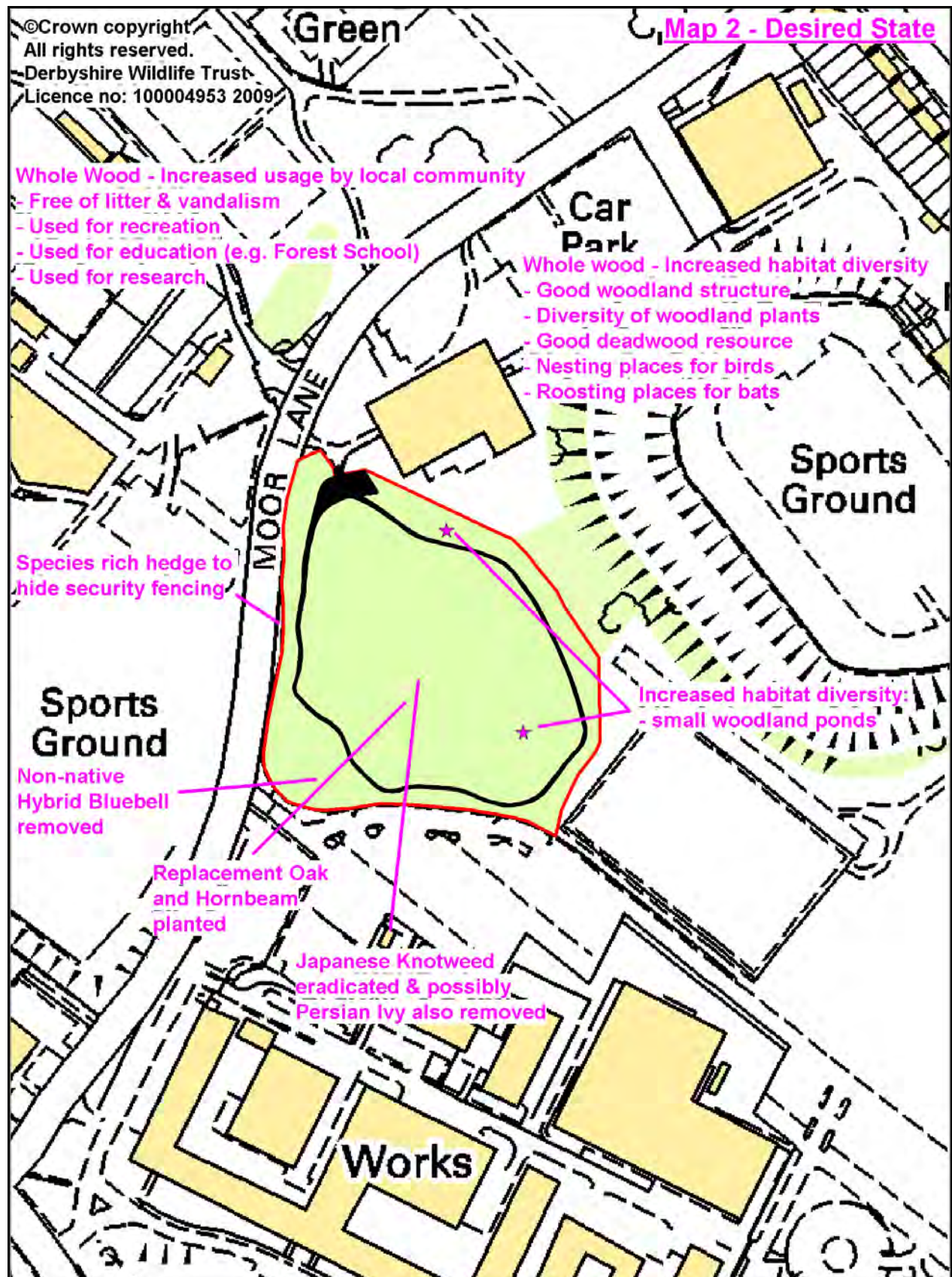
4 MAIN MANAGEMENT OPERATIONS

- Control of invasive species
 - The population of Japanese Knotweed needs to be controlled.
 - Consideration needs to be given as to whether control of the Persian Ivy is feasible and desirable.
 - The small population of hybrid Bluebell should be removed.
- Increase the diversity of the ground flora
 - Given the relatively small size of the wood, its current limited diversity within the ground flora, and the fact there is very little existing ground flora indicative of an Ancient Woodland, Elm Wood is considered to be an appropriate site for the introduction of woodland plants.
- Additional habitat diversity
 - creation of some small woodland ponds in an appropriate location within the wood, with the north east boundary with the sports ground being the best location.
 - provision of bird and bat boxes.
 - Improve the structure and diversity of the hedgerow alongside Moor Lane.
- Raising awareness of the biodiversity and social value of Elm Wood
 - Encourage access to the wood via local community groups such as the local Green Gym, the adjacent Moorways Sports Centre and declaration of the wood as a Local Nature Reserve.
 - Establish a sense of ownership of the wood with the local community via the recently formed 'Osmaston Green Gym' group.
 - Encourage use of the wood for educational purposes using schemes such as the Forest Schools initiative.
 - Encourage research into the biodiversity importance of the wood through research work and additional survey work.

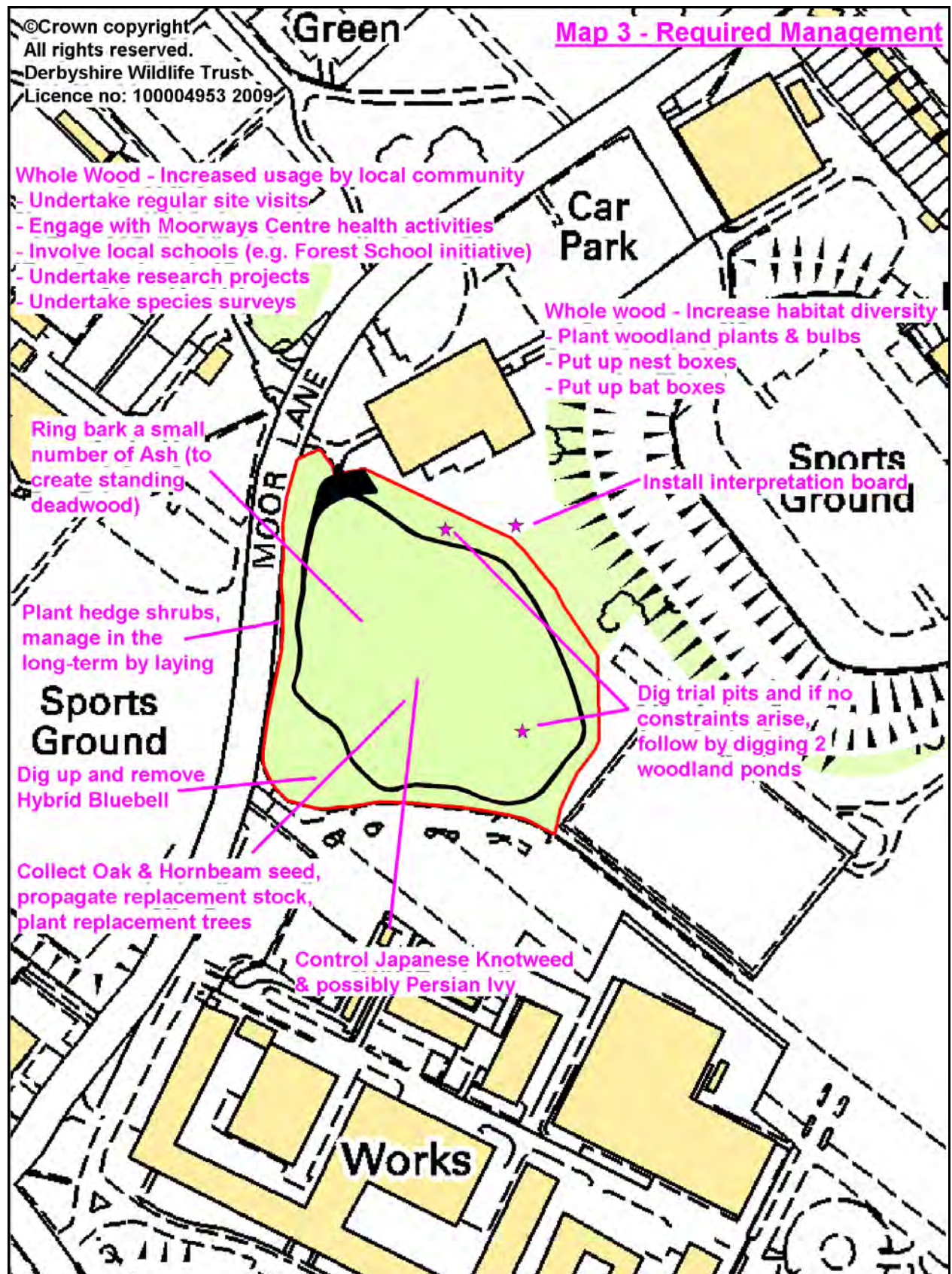
5 MAP 1 – HABITAT – EXISTING STATE & IMPORTANT SPECIES



6 MAP 2 – DESIRED STATE



7 MAP 3 – REQUIRED MANAGEMENT



8 TABLE 1 – MANAGEMENT PRIORITIES AND TIMESCALES

		Year				
		2009	2010	2011	2012	2013
1. Low cost using volunteers	General site supervision, removal of litter (anytime)	X	X	X	X	X
	Making and putting up bird boxes (anytime)	X				
	Ring barking small no. of mainly Ash as thinning operation to create standing deadwood (anytime)	X				X
	Digging up hybrid Bluebell (spring/early summer)	X				
	Dig test pits for ponds (anytime)	X				
	Collecting & growing acorns & Hornbeam seed for replacement trees in the wood (autumn)	X	X			
	Planting replacement Oak & Hornbeam (winter)				X	X
Planting additional shrub species in Moor Lane hedge and laying (winter)		X				
2. High cost using volunteers	Plug planting woodland plants (early spring – ^A place order for plants summer of previous year)	^A	X	X	X	X
	- <i>Purchase of plugs – high cost (commercial supplier)</i>					
	- <i>Planting of plugs – low cost (volunteers)</i>					
	Interpretation board (any time)	X				
	- <i>Fabrication of board – high cost (commercial supplier)</i>					
	- <i>Design and erection of board – low cost (volunteers)</i>					
	Digging small woodland pools (anytime)		X			
Putting up bat boxes			X			
<i>Purchase of 'woodcrete' type boxes – high cost (commercial supplier)</i>						
<i>Putting up boxes – low cost (volunteers)</i>						
3. Low cost using contract labour	Review management plan and produce plan for second 5 year period (begin review in spring)					X
4. High cost using contract labour	Control of Japanese Knotweed & Persian Ivy (dependent on control methods employed)	X	X	X		

9 TABLE 2 – ESTIMATED COSTS OF MANAGEMENT PRIORITIES

	Management item	Estimated costs
Low cost using volunteers	General site supervision, removal of litter Making and putting up bird boxes Ring barking Digging up hybrid Bluebell Digging test pits for ponds Collecting/growing acorns and Hornbeam seed Planting replacement Oak & Hornbeam Moor Lane hedge - planting and laying	None (assuming the City Council would cover the cost of disposal of any controlled waste) Minimal – use salvaged timber or donated timber. Small cost for fixings None – no specialist tools needed None – no specialist tools needed None – no specialist tools needed None – can be grown in normal soil using recycled pots etc. None – no specialist tools needed None – additional shrubs from Wild Derby annual scheme, laying by volunteers
High cost using volunteers	Plug planting woodland plants - <i>Purchase of plugs</i> - <i>Planting of plugs</i> Interpretation board - <i>Fabrication of board</i> - <i>Design and erection of board</i> Digging small woodland pools Putting up bat boxes <i>Purchase of 'woodcrete' type boxes</i> <i>Putting up boxes</i>	£250/yr (500 plants/yr) over 4 years = £1,000 - (9/m ² @ £0.50/plant over 18,600 m ²) None £1,500 None, normal hand tools to dig holes and set board in place Liners (£88) and protective under cushions (£32) x 2 = £240 . Dug using hand tools 12 x 36cm boxes @ £40/box = £480 Minimal amount for fixings
Low cost using contract labour	Review management plan	3 days consultancy @ £390/day = £1170 or could be included as part of existing Service Level Agreements that Derby City might have with ecological organisations/consultancies
High cost using contract labour	Control of Japanese Knotweed & Persian Ivy	Unknown – control of Japanese Knotweed would form part of the City Council's ongoing programme to control this plant within Derby. Lack of information regarding the feasibility, or, desirability, to control Persian Ivy or the methods which might be employed.

10 TABLE 3 – ADDITIONAL INFORMATION REGARDING PROPOSED MANAGEMENT

	Management item	Additional Information
1	<p>General site supervision</p> <p>Bird boxes</p> <p>Ring barking</p> <p>Removing hybrid Bluebell</p> <p>Planting Oak & Hornbeam</p> <p>Moor Lane hedge</p>	<p>Regular site visits (minimum 6 per year)</p> <p>Suggest 20 standard hole type boxes and 10 open fronted boxes, place out of reach of vandals</p> <p>Trees should not be close to path. Remove bark for 30cm from ground upwards</p> <p>Removed bulbs should not be replanted in the wild</p> <p>Target replacement trees close in vicinity of existing mature trees of same species but look for gaps in the canopy</p> <p>Plant a mix of Holly, Hazel, Field Maple, Dog-rose, Honeysuckle and Dogwood – ensure native provenance</p>
2	<p>Digging small pools</p> <p>Interpretation board</p>	<p>Should be located in areas as shown on desired state map.</p> <p>Suggested maximum size of each pond to be 3m x 2m x 0.5m. To be lined with an appropriate liner (e.g. 'Epalyn') (4.4m x 4.18m - allowing for 0.2m overlap) and a protective under cushion (9.2 m x2m).</p> <p>Spoil to be spread on the woodland edge leading onto Moorways Sports Centre</p> <p>Aim for interpretation board of a type that is robust against vandalism but which is of a type that allows maximum room for site information</p>
2	Putting up bat boxes	<p>Strongly recommend 'woodcrete' (wood sawdust, concrete & clay composition) type box because of their highly successful occupancy rates</p> <p>Erect around the perimeter of the wood.</p> <p>Ensure that sufficiently high up trees to avoid vandalism</p>

GENERAL POINTS : 'Wild Derby' are able to provide training, first aid kits, insurance and access to hand tools for volunteers

	Management item	Additional Information
2	Plug planting woodland plants	<p>Species to be planted should be considered as two distinct groups;</p> <p>(1) light demanding woodland, marginal/hedgerow species – for planting on wood edge</p> <p>(2) deep shade tolerant woodland core species – for planting in the centre of the wood</p> <p>Within these groupings the following species are recommended</p> <p>(1) Garlic Mustard <i>Alliaria petiolata</i> Wood False-Brome <i>Brachypodium sylvaticum</i> Giant Fescue <i>Festuca gigantea</i> Wood Avens <i>Geum urbanum</i> Red Campion <i>Silene dioica</i> Hedge Woundwort <i>Stachys sylvatica</i> Greater Stitchwort <i>Stellaria holostea</i></p> <p>(2) Bluebell <i>Hyacinthoides non-scripta</i> (Bulbs) Ramsons <i>Allium ursinum</i> Woodruff <i>Galium odoratum</i> Sweet Violet <i>Viola odorata</i> Bugle <i>Ajuga reptans</i> (In damper areas) Wood Anemone <i>Anemone nemorosa</i> Enchanter's-nightshade <i>Circaea lutetiana</i> (In damper areas) Yellow Archangel <i>Lamium galeobdolon ssp montanum</i> Wood Speedwell <i>Veronica montana</i></p> <p>Use equal quantities of species in planting mix to increase chances of establishment and expansion. Advance order to ensure availability at planting time. Source from reputable supplier using material of native (UK) provenance. Target planting away from Persian Ivy, Japanese Knotweed and pond areas where disturbance is likely</p>
3	Review management plan	Important to ensure that the review is begun early in the previous year to that the review can assess the site during the spring/early summer.
4	Control of Japanese Knotweed & Persian Ivy	Persian Ivy is a non-native species normally grown in gardens. It is unknown whether the presence of this species within the wood represents a constraint to the management objective to increase the diversity of woodland plants in the field layer. There may be a need to undertaken some trial control work.

11 TABLE 4 – SITE USAGE

Educational	<p>The site provides a useful resource for primary and secondary educational visits and is particularly valuable as a potential Forest School site. The relatively small size and security fencing around the road and adjacent industrial complex boundaries of the site provide a reasonable degree of security for school visits.</p> <p>The wood also provides a resource for adult education for example guided walks</p>
Research	<p>The site provides a useful resource for higher level secondary education and undergraduate research projects. One aspect that research projects could focus on is investigation into the value of the wood for species, particularly invertebrates, despite its small size and relative isolation within an urban setting. Examples of possible research topics (many of which would be of value regarding future management of the wood) might be:</p> <ul style="list-style-type: none"> • A comparison of the woodland leaf litter invertebrate composition in Elm Wood with woodlands of similar size and composition in the wider countryside • A comparison of the usage of Elm Wood by bird species with woodlands of similar size and composition in the wider countryside • An investigation to consider whether the presence of an established population of Persian Ivy is detrimental to the ecology of Elm Wood • An investigation into the control of Persian Ivy in semi-natural habitats • An investigation into the colonisation by aquatic invertebrate species of newly created woodland pools in Elm Wood • An investigation to monitor the establishment and subsequent increase in population size of introduced woodland plants in Elm Wood
Other	<p>As an urban woodland site Elm Wood has an intrinsic social value providing somewhere where people can enjoy the experience of being within a woodland whilst still within the city. The existing path provides good access. Examples of specific groups for which Elm Wood is potentially of value are</p> <ul style="list-style-type: none"> • Osmaston Green Gym • The Probation Service • Local resident associations • ‘Be active’ experience activities associated with the Moorways Sports Centre

12 APPENDICES

12.1 Appendix 1 - Ecological Survey (2005-06)

Date: 13/10/2005 & 22/5/2006

Surveyor: Nick Law (DWT – Local Wildlife Sites Officer)

Woodland Structure and Composition

Canopy

A few scattered specimen, mature Pedunculate Oak and more rarely Hornbeam (limited to a couple of trees) and a single Field Maple represent the older elements of a canopy where the majority of trees are younger. With the exception of a few isolated Scots Pine, the canopy trees are all broadleaved. Ash is particularly frequent and often in discrete blocks where close, regular spacing probably indicates a former planting programme. Also present as semi-mature to mature trees are a few scattered Elm although this species is more prevalent as well grown shrubs or young trees, and more locally, frequently as suckering growth. In isolated areas there is evidence of Elm disease, indicated by standing dead trees. Although determination of mature Elm to species is difficult suckering growth is English Elm suggesting that the canopy trees are likely to be this species. Other canopy constants included Lime (indeterminate but most likely *Tilia x europaea* but Large-leaved Lime is also present). These limes, like the Ash have possibly been planted. Downy Birch and Silver Birch are also present within the canopy but only rarely so and even more rarely Osier and a single mature Sycamore complete the canopy constituents. However, on the north boundary alongside the swimming pool White Willow, Grey Willow and locally occasional Italian Alder were noted – presumably planted.

<i>Fraxinus excelsior</i>	Ash	Abundant
<i>Ulmus procera</i>	English Elm	Locally frequent
<i>Alnus cordata</i>	Italian Alder	Occasional
<i>Quercus robur</i>	Pedunculate Oak	Occasional
<i>Tilia sp.</i>	a lime	Occasional
<i>Acer pseudoplatanus</i>	Sycamore	Rare
<i>Betula pendula</i>	Silver Birch	Rare
<i>Betula pubescens</i>	Downy Birch	Rare
<i>Carpinus betulus</i>	Hornbeam	Rare
<i>Fagus sylvatica</i>	Beech	Rare
<i>Pinus sylvestris</i>	Scots Pine	Rare
<i>Salix alba</i>	White Willow	Rare
<i>Salix viminalis</i>	Osier	Rare

Understorey

The shrub layer comprises two distinct levels. Hawthorn is the most frequent shrub present although Blackthorn is locally abundant towards the Moor Lane boundary. Most of the Hawthorn is well grown and tends to form a sub-canopy to the main canopy. Joining the mature Hawthorn are Ash, Pedunculate Oak and much more rarely Field Maple. Towards the north of the wood Holly is to be found as odd bushes and there are a small number of Sycamore growing from previously cut stumps. It is very difficult to see a clear division between this sub-canopy and the main canopy. A more clearly defined shrub layer comprises occasional Hawthorn and Elm (which is sparse) and more rarely Sycamore and Elder.

<i>Crataegus monogyna</i>	Hawthorn	Frequent
<i>Ulmus sp.</i>	an elm	Frequent
<i>Prunus spinosa</i>	Blackthorn	Locally frequent
<i>Acer campestre</i>	Field Maple	Occasional
<i>Rosa arvensis</i>	Field Rose	Occasional
<i>Rosa canina agg.</i>	Dog Rose	Occasional
<i>Sambucus nigra</i>	Elder	Occasional
<i>Acer pseudoplatanus</i>	Sycamore	Rare
<i>Cornus sanguinea</i>	Dogwood	Rare
<i>Fagus sylvatica</i>	Beech	Rare
<i>Ilex aquifolium</i>	Holly	Rare
<i>Rosa rugosa</i>	Japanese Rose	Rare
<i>Rubus idaeus</i>	Raspberry	Rare
<i>Salix cinerea subsp. oleifolia</i>	Rusty Willow	Rare

Field Layer

There are few typical woodland plants in the ground flora, suggesting that if the wood is of ancient origin this may have been as grazed wood pasture, or that the area has been subject to considerable disturbance in the past.

Ivy is by far the most abundant species, predominately as ground cover but also frequently on trees as a climber. However, not all of the Ivy is native as there is a significant population of Persian Ivy, recognised by its substantially larger leaves, within the centre of the wood. In early spring Bulbiferous Celandine is locally abundant but rapidly disappears as the canopy comes into leaf shading the woodland floor.

Other herbs of note include Wood Avens which are frequent, particularly along the path edges, Three-nerved Sandwort and Black Bryony which are occasional throughout and Pignut which is rare towards the southern boundary.

More ruderal species include Cleavers which are frequent to abundant throughout; occasional to locally frequent Common Nettle and Cow Parsley; locally frequent. Rough Meadow-grass and occasional Cock's-foot along the path edges.

In addition to the Persian Ivy there are other non-native plant species which are of concern. Of particular concern is a large area of Japanese Knotweed growing in association with the Persian Ivy in the central part of the wood. Growth of this potentially very invasive species was however not particularly vigorous - possibly due to previous control treatments. Two small clumps of Hybrid Bluebell are present along the southern edge of the wood.

Ferns

<i>Dryopteris filix-mas</i>	Common Male Fern	Rare
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Grasses

<i>Poa annua</i>	Annual Meadow-grass	Frequent
<i>Brachypodium sylvaticum</i>	Wood False-brome	Occasional
<i>Dactylis glomerata</i>	Cock's-foot	Occasional
<i>Poa trivialis</i>	Rough Meadow-grass	Occasional
<i>Bromopsis ramosa</i>	Hairy Brome	Rare
<i>Festuca gigantea</i>	Giant Fescue	Rare

Herbs

<i>Hedera helix</i>	Ivy	Abundant
<i>Ranunculus ficaria</i> subsp. <i>bulbilifer</i>	Bulbiferous Celandine	Locally abundant
<i>Galium aparine</i>	Cleavers	Frequent
<i>Aegopodium podagraria</i>	Ground-elder	Locally frequent
<i>Anthriscus sylvestris</i>	Cow Parsley	Locally frequent
<i>Fallopia japonica</i>	Japanese Knotweed	Locally frequent
<i>Geum urbanum</i>	Wood Avens	Locally frequent
<i>Hedera colchica</i>	Persian Ivy	Locally frequent
<i>Heracleum sphondylium</i>	Hogweed	Locally frequent
<i>Moehringia trinervia</i>	Three-nerved Sandwort	Occasional
<i>Ranunculus repens</i>	Creeping Buttercup	Occasional
<i>Rubus fruticosus</i> agg.	Bramble	Occasional
<i>Rumex conglomeratus</i>	Clustered Dock	Occasional
<i>Silene dioica</i>	Red Campion	Occasional
<i>Stachys sylvatica</i>	Hedge Woundwort	Occasional
<i>Stellaria media</i>	Common Chickweed	Occasional
<i>Tamus communis</i>	Black Bryony	Occasional
<i>Taraxacum aggregatum</i>	Dandelion	Occasional
<i>Urtica dioica</i>	Common Nettle	Occasional
<i>Arum maculatum</i>	Lords-and-ladies	Rare
<i>Bellis perennis</i>	Daisy	Rare
<i>Epilobium hirsutum</i>	Great Willowherb	Rare
<i>Geranium robertianum</i>	Herb-Robert	Rare
<i>Hyacinthoides x massartiana</i>	Hybrid Bluebell	Rare
<i>Lamium album</i>	White Dead-nettle	Rare
<i>Lonicera periclymenum</i>	Honeysuckle	Rare
<i>Ranunculus acris</i>	Meadow Buttercup	Rare
<i>Ranunculus bulbosus</i>	Bulbous Buttercup	Rare

Woody seedlings

<i>Ulmus</i> sp.	an elm	Occasional
<i>Quercus robur</i>	Pedunculate Oak	Occasional
<i>Sambucus nigra</i>	Elder	Occasional
<i>Acer campestre</i>	Field Maple	Occasional
<i>Acer pseudoplatanus</i>	Sycamore	Occasional
<i>Crataegus monogyna</i>	Hawthorn	Occasional
<i>Fraxinus excelsior</i>	Ash	Occasional

Mosses

<i>Eurhynchium praelongum</i>	Common Feather-moss	Frequent
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Deadwood

The deadwood resource within the wood is limited and largely restricted to the few dead Elms, with very little deadwood elsewhere.

Faunal Interest

Birds

Several common species of bird were noted.

<i>Accipiter nisus</i>	Eurasian Sparrowhawk	Present
<i>Columba palumbus</i>	Common Wood Pigeon	Present
<i>Dendrocopos major</i>	Great Spotted Woodpecker	Present
<i>Prunella modularis</i>	Hedge Accentor	Present
<i>Erithacus rubecula</i>	European Robin	Present
<i>Aegithalos caudatus</i>	Long-tailed Tit	Present
<i>Parus caeruleus</i>	Blue Tit	Present

Mammals

<i>Sciurus carolinensis</i>	Grey Squirrel	Present
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Spiders

A random sample of leaf litter was examined for spiders and produced a single female *Ozyptila praticola*. This was a particularly significant record as this is believed to be only the second record for this 'crab spider' in Derbyshire. In addition the more common spiders *Clubiona terrestris* and *Amaurobius similis* were also recorded. Although just a very random sample the record for *O. praticola* demonstrates that although not botanically diverse and isolated, a small area of mature woodland such as Elm Wood can be very important for certain species. This point is further reinforced by field records for Purple Hairstreak butterfly from Elm Wood. This species is dependent on Oak for breeding and therefore the occasional mature Oak within the wood are very important – indeed a single individual tree may be supporting the population.

Spiders

<i>Amaurobius similis</i>	1 f	Voucher retained.
<i>Amaurobius similis</i>	1 m	Voucher retained.
<i>Clubiona terrestris</i>	3 f	Voucher retained.
<i>Clubiona terrestris</i>	2 m	Voucher retained.
<i>Ozyptila praticola</i>	1 f	Voucher retained.

General comments.

Some grass clippings and shrub clippings had been left in the wood.

Security fencing forms the boundary along Moor Lane and across the south boundary by the car park. The rest is open to the Moorways Centre (athletics track).

Litter is generally sparse and relatively good for a city site. There is a small amount of youth activity - tree cutting etc.

12.2 Appendix 2 - Past History

The first edition Ordnance Survey map, dated 1887, shows Elm Wood to be occupying the same area as the current site boundary, but with a second area of wood (Oak Wood) linked at the northern end. Subsequent maps show the wood as being continuous to the present time.

Little is known of the past history of the wood at the time of writing. Because the Derbyshire Ancient Woodland Inventory has only considered woodland in excess of 2 ha, there is little documentary evidence to suggest that the wood is Ancient Woodland.

The earliest document relating to the wood in the Derbyshire Wildlife Trust files is dated 1982 when a brief visit to the site was made by P Kirby. The site card describes the wood as:

“Small area of deciduous wood, once with much elm, now dead giving considerable fallen timber. Most of the remaining shading trees oaks. Ground flora uninspiring”.

During 1988 Elm Wood was surveyed as part of the Derby City Wildlife Project. The survey record sheet describes the wood as follows:

Many newly planted trees. Large areas of grass and rank with occasional damp-marshy areas. One large area of Phalaris [Reed Canary-grass] beside the footpath at the south-east corner of the site. Woodland most evident at the west and south areas of the wood with mature trees including Beech, Ash and Oak. Five mature Hornbeam were identified but all are in a sickly condition with bare twigs and few leaves. Typical woodland underflora restricted to south-west corner. Poor drainage in some areas results in large areas of surface water during winter and spring. Recreational equipment on site – commando type.

The wood appears to have been visited during most of the 1990's by volunteers to the Trust who made brief observations. These are summarised as follows:

1991: Describes the site as unchanged since the 1988 survey. Paths through the wood well used. Notices erected discouraging entry. Some discarded rubbish.

1992: Paths in wood 'tidied up'. These still well used.

1993: Little change to wood or level of public usage

1994: New security fencing erected around most of the wood.

1995-98: No obvious change to wood

1997: Correspondence between Derbyshire Wildlife Trust and City Council regarding management of site

Discussion

From the known history of the site and the more recent information resulting from the 2005 and 2006 surveys it would seem that several key changes have occurred with the wood during the past 25 years. These can be summarised as follows.

Canopy.

Elm has always been an important canopy component, hence the name of the wood. Like most populations of Elm in Britain this has suffered badly due to disease. One effect of this has been considerable deadwood at the stage when disease took hold. Elm persists within the wood via suckering growth and continues to make an important contribution to the canopy but, like most populations, still succumbs to disease when it reaches a certain age.

The results of the large numbers of trees planted during the mid 1980s can be clearly seen now. These are the younger trees which now form the main canopy, which is lower than the fragmented canopy formed by older specimens of Pedunculate Oak, Hornbeam and more rarely Field Maple.

Shrub layer

Past history for the wood gives little information regarding the shrub layer but it is highly likely that many of the existing shrubs are planted as part of the management in the mid 1980s.

Field layer

The ground flora does not appear to have been particularly diverse at any point during the past 25 years. Of particular note is the fact that in 1988 the wood is described as having large areas of rank grassland and large areas of impeded drainage.

Therefore, in summary, past management seems to have been successful in establishing a more diverse woodland in terms of woodland structure and species composition in relation to the shrub and canopy layers. The ground flora however, remains species poor with few typical woodland plants and the presence of potentially invasive non-native species.

The site hydrology appears to have changed with seasonally wet ground now appearing to be absent. Whether this has been due to management intervention or other external influences is unknown.

In order to maximise the biodiversity value of a woodland some general guidelines can be applied. Woods with a well defined woodland structure of high canopy, sub-canopy, shrub layer and ground flora (both plants and leaf litter), stand the best chance of having a high biodiversity value. The incorporation of other structural features such as managed woodland edges, rides and glades, woodland ponds and deadwood will all enhance the biodiversity value. In reality, many woods will not have this complete set of features for a variety of reasons.

As previously described, Elm Wood has good a good structural, and species, composition in terms of the woody component. There is nothing to indicate that there has been any subsequent management of the wood following the tree planting so the current structural diversity is resulting through the establishment of the planted trees rather than through any woodland management technique.

However, Elm Wood lacks open space features such as rides and glades or a managed woodland edge. As Elm Wood is, relatively speaking, a very small wood incorporation of these features is not realistic. If a glade were to be created within the wood this would have to be of a certain size to be able to achieve its function, and this would represent a significant proportion of the overall size of the wood. Similarly, for rides to be able to function effectively they need to be reasonably wide and long, something which is difficult to achieve within a small wood.

Deadwood is a structural feature which can be achieved in any size of wood. A diversity of deadwood type is very important and ideally there should be deadwood on living trees (e.g. dead limbs), standing deadwood (standing dead trees), fallen deadwood and small brash. The recurrence of disease in the Elm is likely to continue to provide a source of standing, and ultimately fallen, deadwood. Additional material could be created as part of any thinning management by ring-barking selected trees. Often deadwood piles are created as part of woodland management. However, where there is public access these piles can provide a focus for anti-social behaviour with the deadwood providing fuel for unauthorised fires. Therefore, in situations like Elm Wood it is preferable to leave fallen deadwood in the length.