



**ECOLOGICAL WALKOVER SURVEY  
HANGING BANKS WOOD, WINGERWORTH**

**JULY 2015**

|                       |                            |
|-----------------------|----------------------------|
| <b>Project Name</b>   | Hanging Banks, Wingerworth |
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## 1. NON-TECHNICAL SUMMARY

Absolute Ecology were commissioned to undertake an ecological survey of Hanging Banks Woods, Wingerworth, Derbyshire (SK389 666), to inform a Woodland Management Plan which was required as a condition of a planning application for a housing development on arable land adjacent to the woodland.

The Phase I survey was undertaken on 30 May and 20 June 2015 by an experienced and licensed ecologist who is a full member of the Chartered Institute of Ecology & Environmental Management (CIEEM).

Hanging Banks is a semi-natural broadleaved woodland, dominated by sycamore with areas of abundant silver birch, oak and alder. The understorey is generally sparse except in the southern part where the understorey is dense and diverse, and included hazel, hawthorn, holly, rowan, elder and blackthorn. Ground flora ranged from bramble and bracken dominating, with areas dominated by bluebells in spring. The ground flora was most diverse in the southern half of the woodland, particularly along the stream corridor and included some species often found in older / ancient woodlands and included yellow archangel, wood anemone, remote sedge, bluebell, Dog's mercury, wood millet and creeping soft-grass and a range of ferns including Lady fern, common male fern and broad-buckler fern.

Bats may roost in trees if suitable features are present. No particular features were observed during the walkover, and the similar age class of the trees (early maturity) is likely to limit roosting opportunities for bats. It is likely the woodland provides a valuable foraging resource for local populations of bats, particularly woodland species such as brown long-eared.

Two badger outlier setts were found on the slopes of the woodland. Foraging signs and latrines were also found.

No signs of otter or water voles were found along the stream which runs through the woodland. It is assumed that dormice are not present due to the limited and localised populations known in Derbyshire.

Nesting birds may use the trees and nest boxes within the woodland for breeding. Tawny owl was confirmed to breed within the woodland.

The woodland edges may be used by reptiles such as grass snakes, although previous survey found no occurrence of reptiles.

Great crested newts and other amphibians may use the woodland, but as the pond is 420 m away from the survey boundary, any individuals present are more likely to remain in the portion of woodland closer to the pond.

The woodland is likely to support a range of common invertebrates associated with this type of

habitat.

Occasional rhododendron and laurel occurs throughout the woodland. Low abundance of Himalayan balsam is present along the stream corridor.

Recommendations were made to include enhancement of the woodland by providing bat boxes and bird nesting boxes and habitat piles. Badger, bat and nesting bird surveys are recommended prior to ground works and tree works. Recommendations are incorporated into the Woodland Management Plan for Hanging Banks.

## **2. INTRODUCTION**

### **2.1 Background & Objectives**

Absolute Ecology were commissioned to undertake an ecological survey of Hanging Banks Woods, Wingerworth, Derbyshire (SK389 666), to inform a Woodland Management Plan which was required as a condition of a planning application for a housing development on arable land adjacent to the woodland.

The ecological walkover was undertaken on 30 May and 20 June 2015 by an experienced ecologist who is a full member of the Chartered Institute of Ecology & Environmental Management (CIEEM). The objective of this report is to provide the client with information on any known or potential protected or rare species that may be using the site, and to outline recommendations on how to proceed with the works in a legal and ecologically sensitive manner.

Unless the client indicates to the contrary, information on the species found to be present on the site will be passed to the county biological records centre to update records held for the area.

### **2.2 Site Description**

Hanging Banks is a semi-natural broadleaved woodland, which contains a diversity of plants although the woodland is not listed under the Ancient Woodland Inventory (the adjoining Sutcliffe Wood is listed as Ancient Woodland). The eastern part of the woodland within the survey boundary shown in Figure 1 below, is approximately 12 hectares and lies over moderate to steep south and east facing slopes. There is a stream (Redleadmill Brook which branches off into Mill Goit) which runs through the woodland at its lowest point.

### **2.3 Site Location**

Figure 1: Location of site (left) and aerial view of site (right)



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### 3. METHODOLOGY

#### 3.1 Data Search

Statutory internationally, nationally and locally designated sites within 2 km of the site were identified using Natural England's web-based database ([www.magic.defra.gov.uk](http://www.magic.defra.gov.uk)).

A data request was made to Derbyshire Wildlife Trust (DWT) for records of protected species and species of conservation concern within Hanging Banks Local Wildlife Site (LWS) and a zone of 0.5 km from the boundary of the LWS. The Local Wildlife Site register information was also requested for Hanging Banks.

Ordnance survey maps (1:25,000) and aerial images of the site ([www.streetmap.co.uk](http://www.streetmap.co.uk) and [www.maps.google.co.uk](http://www.maps.google.co.uk)) were examined online.

#### 3.2 Habitats

The area of woodland within the survey boundary (i.e. the eastern half of Hanging Banks woods) was surveyed on two ecological walkover surveys on 30 May 2015 and 20 June 2015, to map the vegetation within the woodland along with any features of ecological interest and evidence or potential for protected species. The woodland was compartmentalised according to changes in vegetation, and an estimate of abundance of the main species present in each compartment was recorded. The plant communities present were compared with those listed in the National Vegetation Classification (NVC) to give a likely classification for the woodland.

Weather conditions during the surveys were cloudy, dry and still.

#### 3.3 Species

During the walkover surveys, the site was inspected for any field signs of protected species or species of conservation concern (see Table 1 – Legislation is detailed in Appendix 3). In addition, the habitats on, and immediately adjacent to the site were assessed for their potential to support such species.

*Table 1: Protected fauna species relevant to site, habitats and field signs*

| Species | Habitats / Features  | Field signs (in addition to sightings of individual animals)                                |
|---------|--|---|
| Bats    | Roost sites: Trees, buildings and other structures (e.g. mines, caves, bridges etc)<br><br>Foraging areas: Waterbodies and wetland areas, river and stream corridors, grassland, parkland, woodland/edges, hedgerows and gardens<br><br>Commuting routes: Hedgerows, water courses and other linear features | At potential roost sites – droppings, staining from urine, feeding remains, individual bats |
| Badger  | Setts can occur in most urban and rural habitats, often found in woodland, along hedgerows and fields  | Sett entrances, day nests, well-worn pathways, latrines, snuffle holes, hairs, prints.      |

| Species            | Habitats / Features  | Field signs (in addition to sightings of individual animals)   |
|--------------------|--|--|
| Dormouse           | Hedgerows, scrub and woodland  | Characteristically chewed hazelnuts, nests   |
| Otter              | Rivers, streams, canals, lakes, fish-stocked ponds   | Holts, spraints, feeding remains (fish bones, crayfish etc), prints, slides on bank into water.  |
| Water vole         | Slow-moving rivers, streams, canals, ponds/wetland areas   | Burrows, cropped 'lawns' around burrows, latrines, feeding remains (short lengths of vegetation), prints (although very similar to brown rat). |
| Birds              | Trees, scrub, grassland, hedgerows, buildings  | Nests, droppings below nest sites, pellets   |
| Reptiles           | Rough grassland, logpiles, rubble, hedgebanks, wetland   | Sloughed skins   |
| Great crested newt | Ponds within 500 metres of site. Terrestrial habitat includes rough grassland, scrub, woodland, hedgerows, log and rubble piles, stone walls, animal burrows.  | No field signs – presence is only confirmed by individual animals and eggs within pond.  |
| Invertebrates      | Although all habitats will support an assemblage of invertebrates, certain sites may support particularly diverse invertebrate fauna, or rare species. Sites with a mosaic of habitats, wetland habitats and semi-natural ancient habitat types may be particularly important. Brownfield sites such as old industrial workings and quarries may also support diverse or rare invertebrates. | Few field signs although certain species (e.g. ground-nesting wasps) may have burrows.   |

### 3.4 Survey Constraints

#### *Data Search*

Desk study data provides information on recorded species in the area and can be helpful for targeting survey. However, it is possible that protected species that have not been identified within the data search may occur on or adjacent to the site.

#### *Field Survey*

Fauna species present may not always leave field signs and in addition, species may take up residence on site subsequent to the survey.



## 4. RESULTS

### 4.1 Data Search – Protected Sites

#### ***International Designations***

There are no internationally designated sites within 2 km of the site.

#### ***National Designations***

There are no nationally designated sites within 2 km of the site.

#### ***Local Designations***

There are no local nature reserves within 2 km of the site.

#### ***Non-statutory Designations***

Sutcliffe and Hanging Banks woods is listed as a Local Wildlife Site (LWS) by Derbyshire Wildlife Trust. The woods are registered as a LWS due to presence of ancient semi-natural alder (in Hanging Banks along Redleadmill Brook and Mill Goit) and ancient semi-natural oak woodland (in Sutcliffe Wood which adjoins Hanging Banks and is listed in the Ancient Woodland Inventory).

The Avenue Washlands is a wetlands Nature Reserve owned and managed by Derbyshire Wildlife Trust. It is located approximately 750 m to the east of Hanging Banks and is known to support populations of water voles, great crested newts and numerous bird species.

### 4.2 Data Search – Protected Species

DWT returned the following records of protected species which may be relevant to the site's habitats and which have been recorded within Hanging Banks or within 0.5 km of the site boundary.

There were 2 brown long-eared bat roosts and 5 pipistrelle roosts recorded in the nearby residential estates of Wingerworth. The closest to the woodland were a pipistrelle roost *Pipistrellus sp.* on Mill Crescent and a brown long-eared *Plecotus auritus* roost on Hockley Lane. It is likely that bats from these roosts would use Hanging Banks woods / woodland edge for foraging and commuting.

Water vole *Arvicola amphibius*, was recorded further downstream on Redleadmill Brook in 1997. This is part of the same watercourse which runs through Hanging Banks. Water voles were also recorded in a ditch near Lead Mill, adjacent to the A61.

There are records of badger *Meles meles* within 0.5 km of Hanging Banks woods. Exact locations are not detailed in this report for confidentiality.

There are numerous records of great crested newt *Triturus cristatus* to the east and south of Hanging Banks. However, none of the records are within 500 metres of the woodland boundary.

There is one pond 420 m to the north of Hanging Banks woods. This pond may support great crested newts, but access to survey it was previously denied (see Reasonable Avoidance Measures for Great Crested Newts; Absolute Ecology, June 2014).

There is a record of grass snake *Natrix natrix* within 0.5 km south of the site.

Song thrush *Turdus philomelos* was recorded within 0.5 km of Hanging Woods, and dunnoek *Prunella modularis* was recorded within Hanging Banks itself. Both species are Biodiversity Action Plan (BAP) species.

Purple willow *Salix purpurea* (locally scarce/declining) was recorded in 1991 in Hanging Banks woods, and there are records of veteran sweet chestnut *Castanea sativa* and hazel *Corylus avellana* within Hanging Banks.

### 4.3 Field survey

#### General Woodland Description

The area of Hanging Banks included in the survey boundary lies on a gentle east facing slope with a steeper south-facing bank. Where Redleadmill Brook and Mill Goit run through the southern part of the woodland, the terrain is flatter and damper. There is a small disused quarry on the southern edge of the woodland.

In general, sycamore *Acer pseudoplatanus* and silver birch *Betula pendula* are the dominant species along the slopes, with pedunculate (English) oak *Quercus robur* abundant in places. The majority of sycamore are of a similar age and size, suggesting the woodland was clearfelled during the Second World War. Sycamore and alder *Alnus glutinosa* dominate the wetter area along the stream corridor. There are also occasional to rarely occurring sessile oak *Quercus petraea*, turkey oak *Quercus cerris*, sweet chestnut *Castanea sativa*, beech *Fagus sylvatica*, ash *Fraxinus sylvatica* and crack willow *Salix fragilis* which are scattered within the woodland.

The understorey tended to be sparse on the slopes of the woodland, with occasional holly *Ilex aquifolium*, yew *Taxus baccata*, hawthorn *Crataegus monogyna*, hazel *Corylus avellana* and rowan *Sorbus aucuparia* occurring but with few areas of continuous understorey. The understorey was more developed and more diverse along the southern section of woodland and stream corridor, with dense areas of hazel coppice, blackthorn *Prunus spinosa*, holly, yew and elder *Sambucus nigra* with occasional honeysuckle *Lonicera periclymenum*.

The ground flora on the slopes included areas dominated to a greater or lesser extent by bramble *Rubus fruticosus* agg., bracken *Pteridium aquilinum* and bluebell *Hyacinthoides non-scripta*. Where the canopy was broken letting light in, and along the paths there were patches of creeping soft-grass *Holcus mollis*, common hemp-nettle *Galeopsis tetrahit*, greater stitch-wort *Stellaria holostea*, climbing corydalis *Ceratocarpus claviculata*, wood millet *Milium effusum* and tufted hair-grass *Deschampsia cespitosa*. Broad-buckler fern *Dryopteris dilatata* occurred occasionally throughout the woodland.

The ground flora in the wetter area of the woodland (the southern part along the stream corridor) was more diverse and included frequent yellow archangel *Lamium galeobdolon*, wood anemone *Anemone nemerosa* and Dog's mercury *Mercurialis perennis*. Wood speedwell *Veronica montana*, ramsons *Allium ursinum*, garlic mustard *Alliaria petiolata*, bluebell, lesser celandine *Ranunculus ficaria*, greater stitchwort and wood avens *Geum urbanum* were also among the plants recorded.

Lady fern *Athyrium filix-femina* and remote sedge *Carex remota* were recorded alongside the brook.

The woodland is used frequently by local dog walkers and families, and the paths are generally clearly defined and well used. There are reports of occasional presence of motorbikes in the woodland. The quarry area is used by revellers with evidence of a fire and rubbish in this area.

### Compartments

To aid survey and future management, the woodland was divided into compartments mapped out according to distinct vegetation communities / character. A summary of the compartments is shown on the following table. A map showing the compartments is shown in Figure 2.

Table 2: Compartments showing estimated abundance of tree and plant species and general description of character.

| Compartment | Canopy Layer  | Understorey  | Ground Flora   | General character / description  |
|-------------|---|--|--|--|
| <b>A</b>    | Silver Birch (25 - 75%)<br>Rowan (10%)<br>Sycamore (7 - 50%)<br>Pedunculate oak (8 - 50%)<br>Sessile oak (1 - 5%)<br>Turkey oak (<1%) | Holly<br>Hawthorn<br>Rhododendron<br>Hazel<br>Cherry<br>Yew            | Bramble (85%)<br>Bluebell (5%)<br>Bracken (8%)<br>H.Mollis (<2%)<br>Broad-buckler fern (<1%) | This compartment lay at the highest level of the woodland with a gentle east-facing slope and with a steep gradient to the south. The trees were dominated by mature silver birch at the top of the slope, forming a fairly open canopy, with oak and sycamore becoming more dominant on the slope, and a higher, more closed canopy being apparent. The understorey was sparse, and restricted to occasional holly and hawthorn shrubs as well as individual young rowan, hazel and cherry saplings. Several rhododendron bushes were noted along the top and central boundary fenceline. |
| <b>B</b>    | Silver Birch (20%)<br>Pedunculate oak (50%)<br>Sycamore (30% - mainly on woodland edge and lower slopes)                              | Hawthorn<br>Rowan<br>Rhododendron<br>Elder<br>Holly<br>Hazel<br>Laurel | Bramble (85%)<br>Bluebell (5%)<br>Bracken (10%)  | This area was also a gentle east-facing slope with a sharp drop in gradient to the south. The tree composition was notably different to A, with pedunculate oak being more dominant than silver birch, and sycamore lining the woodland edge. The canopy was fairly open reflected by a dense covering of bramble scrub at ground level, with bracken and bluebell scattered amongst the bramble. The understorey was sparse, similar in composition and density to compartment A.   |
| <b>C</b>    | Sycamore (90%)<br>Silver Birch (5%)   | Rowan<br>Holly<br>Yew<br>Hazel   | Bluebell (75%)<br>Bramble (20%)<br>Broad-buckler fern (5%)                                   | This compartment was level to a gentle east-facing slope. The canopy of the mature sycamores was fairly closed, restricting light  |

| Compartment | Canopy Layer  | Understorey  | Ground Flora  | General character / description   |
|-------------|---|--|---|---|
|             | Pedunculate oak (5%)<br>Sessile oak (<5%)   |  |   | to the ground level. The understorey was sparse, restricted to individual yew and hazel and occasional holly and rowan. The ground flora here was dominated by bluebell, with bramble scrub scattered throughout, and occasional ferns.   |
| <b>D</b>    | Silver Birch (75%)<br>Sessile oak (15%)<br>Sweet Chestnut (5%)<br>Sycamore (5%)   | Honeysuckle<br>Blackthorn (along southern edge)<br>Hazel | Bracken<br>Bramble<br>Bluebell<br>Wood dock<br>Creeping soft-grass<br>Greater stitchwort<br>Wood avens  | This compartment was on a steep south-facing slope which was dominated by silver birch with occasional oak. The trees were sparsely distributed and absent in places, and the higher light levels produced a more diverse ground flora with patches dominated by bracken or creeping soft-grass.  |
| <b>E</b>    | Pedunculate oak (40%)<br>Silver Birch (30%)<br>Sycamore (30%)                     |  | Yorkshire fog (70%)<br>Bracken (20%)<br>Bramble (<5%)<br>Bluebell (<5%)<br>Common hemp-nettle (<5%)<br>Climbing corydalis (<1%)   | Moderate south-facing slope with gentle east-facing slope. Canopy completely open near path where silver birch has fallen over path. Oak and silver birch dominate the top of the slope, whilst sycamore is more dominant on the lower slope. No understorey present, additional light has allowed grasses to dominate in areas. Some silver birches near to path are dead and may be unsafe.                         |
| <b>F</b>    | Sycamore (95%)<br>Pedunculate oak (<4%)<br>Sessile oak (1%)<br>Silver birch (<1%) | Rowan<br>Holly<br>Elder<br>Honeysuckle                   | Bramble<br>Bluebell<br>Bracken<br>Nettle<br>Wood millet<br>Tufted hair-grass<br>Common hemp-nettle<br>Remote sedge<br>Cock's-foot<br>Red campion<br>Annual meadow-grass | Mature sycamore dominant with a fairly closed canopy creating a more shaded part of the wood. Understorey sparse, restricted to occasional young rowan and holly and an individual elder. Ground flora dominated by bramble and bluebell beneath the trees, the path was lighter, acting like a woodland ride and along the sides of the path the flora was more diverse with a range of grasses and flowering herbs. |
| <b>G</b>    | Sycamore (95%)<br>Ash (5%)  | Holly<br>Elder<br>Hawthorn<br>Hazel                      | Bramble<br>Bluebell<br>Tufted hair-grass<br>Wood avens<br>Wood millet<br>Broad-buckler fern   | This area of the woodland was fairly level and dominated by mature sycamore with a fairly closed canopy creating a highly shaded area of woodland. The understorey was sparse, with bramble dominating the ground flora.  |
| <b>H</b>    | Sycamore (50%)  | Hazel<br>Hawthorn  | Bramble<br>Bluebell   | This was the lowest part of the woodland, and with a stream   |

| Compartment | Canopy Layer   | Understorey                                | Ground Flora   | General character / description  |
|-------------|--|--|--|--|
|             | Oak (20%)<br>Alder (15%)<br>Ash (15%)  |  | Garlic Mustard<br>Yellow Archangel<br>Wood Anemone<br>Greater Stitchwort<br>Wood avens<br>Watercress<br>Wood speedwell<br>Himalayan Balsam<br>Dog's Mercury<br>Wood Dock<br>Lesser Celandine<br>Cow Parsley<br>Ramsons<br>Woodrush<br>Broad-buckler fern | running through was a damper substrate which was reflected in the species present. Although sycamore still dominated the canopy layer, oak, alder and ash also were frequent. To the south of the stream, there was a dense understorey of hazel, but the rest of the compartment, the understorey was sparse. The ground flora was generally dominated by bramble, but was much more diverse than in other parts of the woodland. Wood anemone and yellow archangel were abundant near to the stream. Other herbs noted were occasional to rarely occurring. Frequent Himalayan Balsam was noted along the stream edge.   |
| I           | Sycamore (90%)<br>Silver Birch (3%)<br>Pedunculate oak (2%)<br>Rowan (5%)                                | Hazel<br>Holly<br>Rowan saplings<br>Laurel | Bramble (95%)<br>Bluebell (<5%)<br>Broad-buckler fern (1%)<br>Common male fern (<1%)   | This compartment was on the south side of the brook, with a mainly level terrain with a north facing bank along the southern boundary. Mature sycamore formed a closed canopy over hazel coppice.  |
| J           | Alder (10%)<br>Sycamore (80%)<br>Ash (<5%)<br>Beech (<1%)<br>Pedunculate oak (<5%)<br>Crack willow (<1%) | Holly<br>Hazel<br>Yew<br>Willow<br>Elder   | Bramble (50 - 85%)<br>Bluebell (5 - 25%)<br>Remote sedge (<5%)<br>Common male fern (<1%)<br>Lady fern (<1%)<br>Wood sorrel (<1%)   | This compartment included part of the stream corridor with a north facing moderate slope on south side of stream and included the area of a disused quarry on the southern edge of the woodland. The trees had a more varied and natural age class, indicating this area may not have been felled during wartime as other parts appeared to have been. Sycamore was still dominant, but mature alder were frequently occurring along the stream. The understorey was dense and diverse. The ground flora was dominated by bluebell on the slope, with bramble dominating areas where light could penetrate the canopy. The stream banks had frequent ferns and remote sedge. |

#### National Vegetation Classification (NVC)

The area of woodland to the north of the stream corridor, in particular the slopes of the woodland were characteristic of W10 *Quercus robur- Pteridium aquilinum - Rubus fruticosus* woodland. In

areas sycamore and silver birch are abundant to dominant, and although wood sorrel was not noted on the upper slopes, some areas had characteristics of both W10e *Acer pseudoplatanus* - *Oxalis acetosella* sub-community and W16 *Quercus spp.* - *Betula spp.* - *Deschampsia flexuosa* woodland.

Compartments H, I and J along the stream corridor had characteristics of W7 *Alnus glutinosa* - *Fraxinus excelsior* - *Lysimachia nemorum* woodland; in places, W7b *Carex remota* - *Cirsium palustre* sub-community fitted the vegetation present.

## Species

### **Bats**

The majority of trees appeared in good condition within the woodland. No particular features were noted in any of the mature sycamore or oak trees; there were some silver birch which were dead or declining, but no features suitable for roosting bats were observed. However, there could be features such as cracks, knot holes or woodpecker holes on trees not seen during the walkover that may be suitable for roosting bats.

The woodland is likely to be used by foraging bats; in particular brown long-eared bats *Plecotus auritus* and *Myotis* species may forage within the cluttered areas of the woodland and stream corridor, whilst pipistrelles *Pipistrellus* sp. are more likely to forage along the woodland edge, canopy and open areas of woodland.

### **Badger**

Two 'outlier' badger setts were found within the woodland (See separate Confidential Badger Map). Both had single entrances which were semi-active, with a badger hair found at each sett. Occasional foraging signs of badger were noted on the slopes of the woodland ('snuffle holes'). Badger latrines and foraging signs were found under the hazel coppice to the south of the brook.

### **Dormouse**

The woodland provides potentially suitable habitat for dormouse *Muscardinus avellanarius*, although the area around the stream with its dense understorey and hazel coppice was more suitable than the open, even-aged stands of sycamore with sparse understorey on the slopes of the woodland. However, given the rarity of the species in Derbyshire (there is a reintroduction site which is thriving in the Derwent valley but currently they are very localised in distribution), it is considered unlikely that the site would currently support this species.

### **Otter**

Although stream corridors may be used by otters commuting between larger watercourses, no signs of otter *Lutra lutra* were found on the section of Redleadmill Brook or Mill Goit which run through the woodland. No suitable features for holts were found, and given the regular disturbance by dog walkers within the woodland, it is considered unlikely that otters would breed on site.

### **Water vole**

Although there are records of water voles downstream of the site on Redleadmill Brook, no evidence of water voles was found along the stream banks within the woodland during the walkover survey. It is possible that the shading from the woodland or possibly disturbance reduces suitability for water voles.

### **Birds**

During the walkover surveys, the following bird species were recorded on site:

| <b>Bird English Name</b> | <b>Scientific Name</b>        | <b>Status</b>       |
|--------------------------|-------------------------------|---------------------|
| Chiff Chaff              | <i>Phylloscopus collybita</i> |                     |
| Tawny Owl                | <i>Strix aluco</i>            |                     |
| Chaffinch                | <i>Phylloscopus collybita</i> |                     |
| Blackcap                 | <i>Sylvia atricapilla</i>     |                     |
| Blackbird                | <i>Turdus merula</i>          |                     |
| Song Thrush              | <i>Turdus philomelos</i>      | UKBAP, Red status   |
| Tree creeper             | <i>Certhia familiaris</i>     |                     |
| Nuthatch                 | <i>Sitta europaea</i>         |                     |
| Buzzard                  | <i>Buteo buteo</i>            |                     |
| Goldcrest                | <i>Regulus regulus</i>        |                     |
| Bullfinch                | <i>Pyrrhula pyrrhula</i>      | UKBAP, Amber status |
| Great tit                | <i>Parus major</i>            |                     |
| Blue tit                 | <i>Cyanistes cyanistes</i>    |                     |
| Magpie                   | <i>Pica pica</i>              |                     |
| Jay                      | <i>Garrulus glandarius</i>    |                     |

There are numerous make-shift nesting boxes attached high on mature trees on the slopes of the woodland. A tawny owl chick was noted to be using one nest box (Target Note 14) made from a plastic container (see Plate 1) confirming this species breeds within the woodland. Other species of bird are likely to use trees for breeding although there was a noticeable lack of natural features (knot or rot holes, hollow trunks etc) associated with older trees that may be used by cavity nesting species. There were also few signs of woodpecker presence within the woodland.

### **Reptiles**

The woodland edge may support species such as grass snake *Natrix natrix*. Previous reptile surveys on the adjacent fields to the north of the site did not find any reptiles present (see Reptile survey report, June 2014, Absolute Ecology).

### **Amphibians**

The woodland habitat is suitable for amphibian species including great crested newts. The nearest pond is close to the top half of Hanging Banks woods, but 420 m from the survey boundary. It is therefore likely that if a population of great crested newts was present in this pond, they would

largely use the part of the woodland closest to the pond, rather than the area within the survey boundary.

### ***Invertebrates***

The woodland is likely to support a range of common and widespread invertebrates. Speckled wood *Pararge aegeria* butterfly was recorded during the walkover.

### ***Veteran and scarce trees***

Several old/veteran sweet chestnut trees (Target Note 6) were noted along the south slopes of the woodland. The purple willow noted to be present in the desk study was searched for but not found during the walkover.

### ***Invasive species***

There were occasional rhododendron and laurel *Laurus* sp. bushes scattered on the slopes and woodland edge to the north and south of the woodland (Target Notes 9 - 12). Himalayan balsam *Impatiens glandulifera* was present in low abundance along the stream corridor.



*Plate 1: Sycamores and bluebells (Compartment C) and tawny owl chick in nesting box*





*Plate 2: Oaks and bramble/bracken in compartment A; grass/bracken slopes of compartment D*

*Plate 3: Shady damp part of woodland in compartment H and looking across brook to compartment I*



*Plate 4: Hazel coppice in compartment I and quarry in compartment J*



*Plate 5: Redleadmill brook in compartment J (left) and compartment I (right)*

## **5. DISCUSSION & RECOMMENDATIONS**

### **5.1 Summary of Findings**

The woodland is dominated by sycamore areas of abundant silver birch, oak and alder. The understorey is generally sparse except in the southern part where the understorey is dense and diverse. Ground flora ranged from bramble and bracken dominating, with areas dominated by bluebells in spring. The ground flora was most diverse in the southern half of the woodland, particularly along the stream corridor and included some species often found in older / ancient woodlands including yellow archangel, wood anemone, remote sedge, bluebell, Dog's mercury, wood millet and creeping soft-grass.

Bats may roost in trees if suitable features are present. No particular features were observed during the walkover, and the similar age class of the trees (early maturity) is likely to limit roosting opportunities for bats. It is likely the woodland provides a valuable foraging resource for local populations of bats, particularly woodland species such as brown long-eared.

Two badger outlier setts were found on the slopes of the woodland. Foraging signs and latrines were also found.

No signs of otter or water voles were found along the stream which runs through the woodland. It is assumed that dormice are not present due to the limited and localised populations known in Derbyshire.

Nesting birds may use the trees and nest boxes within the woodland for breeding. Tawny owl was confirmed to breed within the woodland.

The woodland edges may be used by reptiles such as grass snakes, although previous survey found no occurrence of reptiles.

Great crested newts and other amphibians may use the woodland, but as the pond is 420 m away from the survey boundary, any individuals present are more likely to remain in the portion of woodland closer to the pond.

The woodland is likely to support a range of common invertebrates associated with this type of habitat.

Occasional rhododendron and laurel occurs throughout the woodland. Low abundance of Himalayan balsam is present along the stream corridor.

### **5.2 Potential Impacts of Works**

It is proposed that cycleways and footpaths are created within the woodland, with natural woodland play areas created along the paths.

There will be some tree and vegetation management to ensure safety and to open up areas for the woodland play scheme. Management should also seek to reduce invasive species.

Works to trees may affect roosting bats or nesting birds, if present. Work to paths or tree management may impact badgers, if a sett is nearby.

Creation of play areas may cause some minor loss of ground flora, including bluebells. The current locations proposed for the play areas (Target Notes 1 - 4) were mostly bramble dominated with only a scattering of bluebells present.

Additional human presence in the woodland may cause disturbance to the habitats and species present. A well maintained network of paths and cycleways is likely to encourage people to keep to the paths; frequent presence of walkers and cyclists may also reduce motorcycle use of the woodland.

### **5.3 Recommendations**

#### ***Bats***

Any trees planned for removal should be checked for presence of features suitable for roosting bats. If any features are present, they should be surveyed for roosting bats either by climbing endscope inspection or bat activity surveys (which can only be undertaken between May and September). If this is not possible, due to urgent work needed, soft-felling should be undertaken with a check of the limb / feature when on the ground.

Bat boxes should be installed throughout the woodland and woodland edge to increase the value of the woodland to roosting bats. A range of long-lasting 'woodcrete' should be used, installed at south-east, south-west and south aspects on mature trees with no low level branches that may hinder flight access to the boxes. The boxes should be at least 4 m high.

#### ***Badgers***

As badger activity can change in a short space of time, it is recommended that a badger survey is undertaken immediately prior to any tree works and work to create the cycleways, play areas and pathways. It may be that locations of pathways and play areas may need to change slightly if badger setts are found within 30 m, to avoid damaging or disturbing tunnels that may be present.

#### ***Birds***

Nesting birds may be present within the trees, scrub and nest boxes during the bird breeding season (March to August inclusive). Tree management should be undertaken outside of this time; however, if tree removal is urgently required during these months, a prior check for nesting birds should be undertaken by an ecologist. Any active nests that are found must not be moved until fledglings have dispersed.

It would be of conservation benefit to install a wider variety of nesting boxes for different bird species within the site at a range of heights and throughout the woodland, to further enhance the site for

nesting birds and encourage bird diversity. Information on bird nesting boxes can be found here: <http://www.rspb.org.uk/advice/helpingbirds/nestboxes/>.

### ***Habitat Management***

It would be of benefit to remove non-native laurel and rhododendron shrubs which are scattered on the slopes of the woodland. In time, these species can take over and out-compete native flora. As these invasive species are currently at a level which is manageable, it would be of benefit to control them before they become a problem.

There are several areas where bracken is dominant, and it would be of benefit to undertake regular bracken control as part of the management programme, to encourage a greater diversity of other ferns and ground flora and to allow natural regeneration of the woodland.

There are low levels of Himalayan balsam along the stream. Again, this non-native species can out-compete native flora, so it is recommended that regular management is undertaken to remove the species before it becomes a problem.

The woodland contains a large amount of similarly aged sycamore trees. Whilst this is unlikely to be a natural state for such a woodland, it does bring benefits - the areas of highest bluebell density were where the sycamore trees were dominant and the closed canopy had shaded out the competing bramble. To change the tree composition of a woodland would be a long-term initiative, and not within the scope of a ten year management plan. However, where thinning is recommended by the arboriculturist, it may be of benefit to selectively fell sycamore trees which surround specimen oak trees, to provide light and space to encourage healthy growth of the trees to be retained.

It is considered that the areas along the stream corridor (notably within Compartments H and J) were of a more natural age and species composition, with a good diversity of understorey and ground flora. Management of this area could focus on thinning sycamore where specimen alder and oak trees are present.

Compartment I had an area of hazel coppice with sycamore standards; it is considered that the coppice would benefit from thinning the sycamore standards to provide more light to the coppice; this would also benefit the ground flora which was sparse in this area. Continuing to coppice the hazel on rotation would be of conservation benefit, but again, this is a long-term management strategy.

### ***Habitat Creation***

There was little dead wood within the woodland, due to the even age stands of sycamore which were mostly in good condition. All wood arising from woodland management including felled trees should be kept on site, and used to create wood and brash piles throughout the woodland and woodland edges, to provide shelter and food for invertebrates, amphibians, reptiles and birds. Any brash which is chipped may be used to supplement pathways and the play areas.

New planting on the field margins to provide a buffer between the new residential estates and the



woodland should use locally sourced native shrub species which are known to grow within the woodland. Species may include a mixture of hazel, hawthorn, blackthorn, wych elm, elder, rowan, cherry and honeysuckle.

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UKBAP: <http://jncc.defra.gov.uk/page-5155>

[www.rspb.org.uk](http://www.rspb.org.uk)

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### Web addresses for access to full UK legislation and policy text:

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APPENDIX 1: Figure 2



Key:

**A** Compartments based on vegetation communities and character

**1** Target Note



SCALE: Not to Scale  
Areas marked are approximate estimation only

Project: Hanging Banks, Wingerworth

Woodland Management Plan

Figure 2 Ecological Walkover Survey

Date: June 2015





## APPENDIX 2: Target Notes

Table 3: Target Notes (shown on Figure 2)

| Number | Target Note   |
|--------|---|
| 1      | Open area with bramble, nettle, wood avens, red campion and broad-buckler fern. Could be used for play area.  |
| 2      | Area at top of slope with bracken, creeping soft-grass, young trees including sessile oak, sycamore and silver birch, occasional bluebell.  |
| 3      | Open area dominated by bracken and bramble, several silver birch some of which are old / diseased.  |
| 4      | Bramble and bracken with occasional bluebell scattered through mature sycamore.   |
| 5      | Disused stone quarry surrounded by mature sycamore and ash - lots of rubbish, graffiti and signs of fire / parties.   |
| 6      | Veteran sweet chestnuts   |
| 7      | Old hazel   |
| 8      | Old hazel   |
| 9      | Laurel  |
| 10     | Rhododendron along boundary   |
| 11     | Rhododendron  |
| 12     | Rhododendron  |
| 13     | Area under mature sycamores where ground flora was dominated by bluebells   |
| 14     | Makeshift nest box with tawny owl chick   |
| 15     | Stream which runs through the woodland. 10 - 20 cm in depth, 1 - 3 m wide. Moderate flow. Stony substrate, some larger rocks and stones present. Banks generally vertical, with some beaches present. Banks were often bare soil, but bankside vegetation included remote sedge, Lady fern, bramble, grasses and rushes, mosses and liverworts. No evidence of water vole or otter was found. |

## **APPENDIX 3: Relevant wildlife legislation and policy**

### **Habitat Regulations**

The Conservation of Habitats and Species Regulations 2010 make it an offence to deliberately capture, kill or disturb any wild animal listed in Schedule 2. It is also an offence to damage or destroy a breeding site or resting place of such an animal, even if the animal is not present at the time. In UK, these European Protected Species include (in addition to other animals and plants not relevant to this site):

- ⤴ All species of bats
- ⤴ Great crested newt

Special Areas of Conservation (SAC) sites are also designated under the Habitats Directive, due to the presence of habitats and/or species which are important for conservation at a European level.

### **Wildlife & Countryside Act**

The Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way Act (CRoW) 2000 and the Natural Environment and Rural Communities Act (NERC) 2006, consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the Conservation of Wild Birds (Birds Directive), making it an offence to:

- ⤴ Intentionally kill, injure or take any wild bird or their eggs or nests (with certain exceptions) and disturb any bird species listed under Schedule 1 to the Act, or its dependent young while it is nesting;
- ⤴ Intentionally kill, injure or take any wild animal listed under Schedule 5 to the Act; intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any wild animal listed under Schedule 5 to the Act; intentionally or recklessly disturb certain Schedule 5 animal species while they occupy a place used for shelter or protection;
- ⤴ Pick or uproot any wild plant listed under Schedule 8 of the Act.
- ⤴ Plant or otherwise cause to grow in the wild any invasive plant listed under Schedule 9 of the Act.

Sites of Special Scientific Interest (SSSI) are also designated under this Act.

*In respect to this site, the widespread reptile species (adder, grass snake, common lizard and slow worm) have partial protection under Schedule 5, against intentional killing, injuring and trade. Bats and great crested newts also have full protection under Schedule 5. Japanese knotweed is listed as an invasive species under Schedule 9.*

### **Protection of Badgers Act**

The Protection of Badgers Act 1992 makes it illegal to kill, injure or take a badger or to intentionally or recklessly interfere with a badger sett. Sett interference includes disturbing badgers whilst they are

occupying a sett or obstructing access to it.

### **Hedgerow Regulations**

The Hedgerow Regulations 1997 (as amended) makes it illegal to remove or destroy 'important' hedgerows without Local Planning Authority permission (either through planning or a Hedgerow Removal Notice). Hedgerows that are at least 20 metres long, more than 30 years old and contain certain botanical species need to be assessed for 'importance' using a number of criteria set out in the Regulations.

### **Natural Environment & Rural Communities Act**

The NERC 2006 places a duty on authorities to have due regard for biodiversity and nature conservation during the course of their operations.

### **National Planning Policy Framework (NPPF)**

The recently published NPPF replaces Planning Policy Statements (e.g. PPS9) and sets out current government policy on biodiversity and nature conservation. Planners are required to set criteria based policies against which proposals for development which may affect legally protected species will be judged. The NPPF promotes sustainable development by ensuring that developments take account of the role and value of biodiversity with emphasis on maintaining ecological networks at a landscape level.

### **Biodiversity Action Plans**

The UK Biodiversity Action Plan (UKBAP) was organised to fulfil the Rio Convention on Biological Diversity in 1992, to which the UK is a signatory. A list of national priority species and habitats has been produced with all listed species/habitats having specific action plans defining the measures required to ensure their conservation. Regional and local BAPs have also been organised to develop plans for species/habitats of nature conservation importance at regional and local levels.