



**LAND AT HALLOW  
WORCESTERSHIRE**

**ECOLOGICAL MANAGEMENT PLAN**

**Report to  
Hallow Parish Council**

**Project number 2020/010 A**

**Worcestershire Wildlife Consultancy  
Lower Smite Farm  
Smite Hill  
Hindlip  
Worcester  
WR3 8SZ**

**Tel: 01905 754909**

**[www.worcestershiREWildlifeconsultancy.org](http://www.worcestershiREWildlifeconsultancy.org)**

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## QUALITY ASSURANCE

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**Author:** Becca Bratt BA (Hons) MSc – Consultancy Ecologist  
**Internal reviewer:** Joshua Evans BSc (Hons) MCIEEM – Senior Ecologist  
**Authorised by:** Edward Leszczynski BSc (Hons) MSc MCIEEM – Consultancy Manager

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## **1. INTRODUCTION**

### **1.1 Brief**

The aim of this report is to provide an ecological evaluation and produce a management plan for three parish council-owned sites in Hallow, Worcestershire. The report was commissioned by Hazel Kemshall of Hallow Parish Council. The ecological evaluation was based on a site visit in May 2020. This site visit along with other sources, provide background information relating to the management of the habitats at the sites, in order to produce a management brief that describes the sites and outlines the land management options that will be required to manage the sites over a 5 year period.

### **1.2 Site Description**

This report covers three sites within a short distance from each other in the village of Hallow, north-west of Worcester City Centre. Site one is known as 'Hollybank and area behind the Scout Hut and Recreational Field' and consists of a north-west facing, sloping grassland and a strip of woodland, which opens up into scrub and vegetation alongside a children's play area. Site two is a village green situated to the east of the recreation field and consists of mown, amenity grassland with mature trees which is split into two sections by an access road. Site three is approximately 260m to the east of the green and is the site of a former churchyard. Each site will be described in greater detail later in the report. Apart from scattered residential housing, the surrounding land use is agricultural; mainly arable with some pasture.

### **1.3 Desk Study**

A search for statutory sites of ecological significance within a 1km radius was undertaken using the Multi-Agency Geographical Information for the Countryside website (MAGIC). Northwick Marsh Site of Special Scientific Interest (SSSI) lies approximately 330 metres to the east of the old churchyard, beyond the woodland belt and River Severn.

## 2. Background Information

Becca Bratt of Worcestershire Wildlife Consultancy undertook the visit to all three sites on 18<sup>th</sup> May 2020. The visit involved a botanical and faunal assessment of each site. At 10am the weather was warm and dry with <5% cloud cover and an air temperature of 16° C. The aim of the botanical survey is to obtain a more comprehensive list of all plant species present and to establish if there is anything of particular interest that has established itself on site. This helps to identify the conservation significance of a particular habitat and will also inform the management regime on the site. Although the botanical survey was undertaken during the most optimal time for identifying plant species, it may have missed species which occur later on in the season, so the list provided cannot be seen as a comprehensive list. It's also important to gain an understanding of the faunal species that may be present on site by looking at the suitability of the habitat and its ability to support wildlife, as well as recording incidental observations.

**Table 1: Methodology**

<b>Phase 1 habitat survey</b>	The aim of the Phase 1 survey is to provide a description of the semi-natural vegetation of a particular site and is made in accordance with the JNCC Phase 1 Habitat Survey methodology (JNCC, 1990). Where necessary, the condition of habitat is described and full plant lists collated to provide greater detail, which helps when identifying the conservation significance of a particular habitat. The appraisal also aimed to identify invasive plants listed on Schedule 9 of the Wildlife & Countryside Act that could have implications for the management of the site. Where appropriate, maps are provided in other formats, such as annotated aerial photographs.
<b>Badgers</b>	The site is assessed for suitable habitats that may support badgers ( <i>Meles meles</i> ). Where relevant habitat occurs, evidence of badgers including setts, latrines, tracks, snuffle holes, padding or guard hairs is recorded.
<b>Bats</b>	The site is assessed for suitable habitats that may support bats. For example, buildings are assessed for holes in soffits, missing tiles and gaps in the masonry whilst trees are assessed for features such as cracks and holes.
<b>Birds</b>	The site is assessed for suitable habitats that may support birds in terms of feeding, nesting and roosting. Where relevant habitat occurs, evidence identifying the presence of birds including nests, droppings, pellets and feathers is recorded.
<b>Dormice</b>	The site is assessed for suitable habitats that may support dormice ( <i>Muscardinus avellanarius</i> ) including woodland and hedgerows. Where relevant habitat occurs evidence of dormice including nests and gnawed nuts is recorded.
<b>Great crested newts</b>	During the site visit the potential of the site to support great-crested newts ( <i>Triturus cristatus</i> ) is assessed; this includes looking for potential breeding sites such as ponds, disused swimming pools and other water-bodies. The appraisal also focuses on the potential for this species to find refuge in places such as log piles, rubble and compost heaps. Where still water-bodies occur a Habitat Suitability Index (HSI) is calculated. This is a standard appraisal method developed specifically to evaluate the habitat suitability for great crested newts (Oldham <i>et al.</i> 2000). A series of factors must be considered. Each factor is assessed along suitability guidelines and allocated a value of between 0.1 (highly unsuitable) to 1.0 (highly suitable). The geometric mean of these values provides an overall suitability value for the site. Although this is no substitute for a dedicated survey the suitability value informs the decision on whether to undertake a dedicated survey.
<b>Otters</b>	The area under appraisal is searched for suitable habitat along water-bodies, recording where appropriate, evidence pertaining to the presence of otters ( <i>Lutra lutra</i> ) in the form of holts, spraints, anal jelly, tracks and feeding remains.
<b>Reptiles</b>	The site is assessed for suitable habitats that may support reptiles. Slow-worms ( <i>Anguis fragilis</i> ) and common lizards ( <i>Zootoca vivipara</i> ) inhabit a variety of habitats, such as rough grassland, heathland and woodland edge where there are suitable opportunities for maintaining their body temperature and finding suitable prey. Grass snakes ( <i>Naatrix</i>

	<i>natrix</i> ) and barred grass snake ( <i>N. helvetica</i> ) are normally associated with water-bodies but they have a wide home range of up to 2km <sup>2</sup> and can occur anywhere within that range, particularly in grassy sites as the common name implies. Where relevant habitat occurs, evidence identifying the presence of reptiles, particularly tracks and sloughed skin is recorded.
<b>Water Voles</b>	The area under appraisal is searched for suitable habitat along water-bodies, recording where appropriate, evidence pertaining to the presence of water voles ( <i>Arvicola amphibius</i> ) in the form of burrows, latrines, runs, footprints and distinctive “feeding lawns”.
<b>White-clawed crayfish</b>	The area under appraisal is searched for suitable habitats that may support white-clawed crayfish ( <i>Austropotamobius pallipes</i> ). This typically includes freshwater streams and rivers but may also include still water-bodies.

Map 1: Site Locations



SITES AT HALLOW, WORCESTERSHIRE

ECOLOGICAL MANAGEMENT PLAN

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### 3. RESULTS, APPRAISAL & RECOMMENDATIONS

#### 3.1 Site 1 – Hollybank and area behind the Scout Hut and Recreational Field.

The site was split up into three different areas, where vegetation cover and composition changed most considerably (see Map 2). These areas consist of a sloping grassland, strip of woodland and an area of scrub and flowering plants leading to a more open, amenity area with children's playground. It covers approximately 1.9 ha is situated to the west of the recreation field near to the Village Hall. The mosaic of habitats and current sensitive management give a pleasing 'wild' feel to the site.

##### Sloping grassland (area behind the Scout Hut and Recreational Field)

This is a semi-improved, species-poor, neutral grassland which slopes towards the north-east and has the potential to become species-rich if managed more sensitively. The southern section towards the top of the slope has taller, more rank grasses while lower down towards the north and west, more desirable plant species are present. Because of the lack of management, grass tussocks are forming, creating microhabitats and the grassland may be suitable for reptiles such as grass snake and slow-worm. The following plant species were present within the grassland, with the most desirable listed first; Meadow vetchling (*Lathyrus pratensis*), lady's bedstraw (*Galium verum*), black knapweed (*Centaurea nigra*), pignut (*Conopodium majus*), meadow buttercup (*Ranunculus acris*), English bluebell (*Hyacinthoides non-scripta*), lesser stitchwort (*Stellaria graminea*), yarrow (*Achillea millefolium*), red fescue (*Festuca rubra* sp. *rubra*), red clover (*Trifolium pratense*), common vetch (*Vicia sativa*), germander speedwell (*Veronica chamaedrys*), cow parsley (*Anthriscus sylvestris*), common nettle (*Urtica dioica*), meadow foxtail (*Alopecurus pratensis*), rough meadow grass (*Poa trivialis*), false oat-grass (*Arrhenatherum elatius*), common sorrel (*Rumex acetosa*), common hogweed (*Heracleum sphondylium*), common mouse-ear (*Cerastium fontanum*), barren brome (*Anisantha sterilis*), cleavers (*Galium aparine*) broad-leaved dock (*Rumex obtusifolius*) and thistle (*Cirsium* sp.). There is an in-field common hawthorn (*Crataegus monogyna*), which is quite a large and old specimen for this species.

The field features a mature line of trees which forms a boundary along its western edge and a short, more defunct remnant hedgerow along its eastern boundary. The section of hedgerow along the southern edge of the field consists of a more a gappy line of trees.

Boundaries 1, 2 and 3 (B1, B2 and B3) are indicated on the map overleaf. Boundary 1 is mainly a fence line with ornamental garden shrubs from the adjacent properties helping to form a patchy hedge. It features elder (*Sambucus nigra*), common hawthorn, Leyland cypress (*Cupressus x leylandii*), copper beech (*Fagus sylvatica* f. *purpurea*), cherry (*Prunus* sp.), an identified cotoneaster (*Cotoneaster* sp.), bramble (*Rubus fruticosus* agg.), ivy (*Hedera helix*), honeysuckle (*Lonicera periclymenum*) and another cherry (*Prunus* sp.) species. Boundary 2 begins in the north-east as a thick, good quality hedgerow and becomes more of a well-established line of trees as it progresses westwards, featuring small-leaved lime (*Tilia cordata*), blackthorn (*Prunus spinosa*), hazel (*Corylus avellana*), common hawthorn, English elm (*Ulmus procera*), dogwood (*Cornus sanguinea*) and ivy. Boundary 3 is a gappy line of trees featuring common hawthorn, elder, cherry, ash (*Fraxinus excelsior*), lime, white bryony (*Bryonia dioica*) and ivy.

##### Woodland belt (western part of Hollybank)

Approaching the broadleaved woodland via a footpath from the grassland to the north, the canopy is at first quite open, with mature trees encircling a glade area. The land rises up along the eastern edge to form a bramble and nettle covered bank, where a line of mature ash stand. The land falls steeply down to the road along the western boundary and the canopy over the footpath is fairly closed. The mix of tree species within the woodland belt includes ash, field maple (*Acer campestre*), elder, common hawthorn, cherry, wych elm

(*Ulmus glabra*), wild privet (*Ligustrum vulgare*) and rowan (*Sorbus aucuparia*). Ground flora within the woodland glade area features the following species; cut-leaved cranesbill (*Geranium dissectum*), ground ivy (*Glechoma hederacea*), cow parsley, germander speedwell, cleavers, red clover, creeping and meadow buttercup, herb Robert (*Geranium robertianum*), wood dock (*Rumex sanguineus*), wood avens (*Geum urbanum*), lemon balm (*Melissa officinalis*), burdock (*Arctium* sp.), and violet (*Viola* sp.). Although ground flora was sparse in places beneath dense areas of canopy, elsewhere in the woodland flora included rough chervil (*Chaerophyllum temulum*), yarrow, bramble, garlic mustard (*Alliaria petiolata*), alexanders (*Smyrniolum olusatrum*), stinking iris (*Iris foetidissima*), and English bluebell.

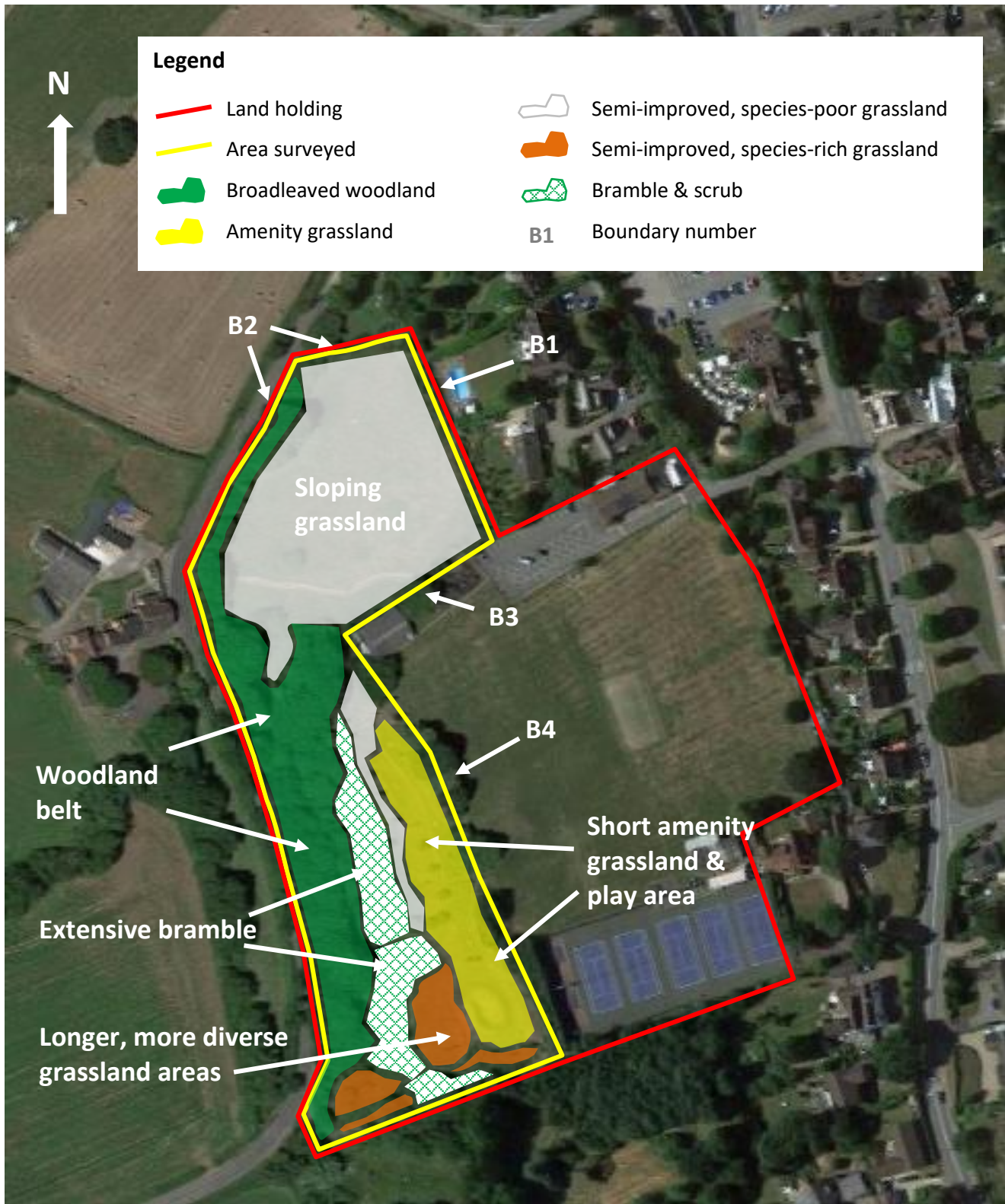
#### Scrub and transition to grassland and amenity area

Towards the south-western edge of the site the woodland opens out to an area of scattered trees amongst bramble and grassland, rising uphill to the east of Hollybank until the land flattens out to an area of short, mown amenity grassland and children's play equipment. There is a good transition here between these habitats, important for a range of species. Within the bramble, there are young saplings of oak, field maple, hawthorn and ash growing through and as this scrub transitions to grassland, there is a surprisingly diverse range of flowering plant species in abundance in places, including agrimony (*Agrimonia eupatoria*), bird's-foot trefoil (*Lotus* sp.), perforate St John's wort (*Hypericum perforatum*), oxeye daisy (*Leucanthemum vulgare*), cowslip (*Primula veris*), black knapweed, meadow vetchling, self-heal (*Prunella vulgaris*), wild strawberry (*Fragaria vesca*), ladies' bedstraw, rough chervil, germander speedwell, red dead-nettle (*Lamium purpureum*), white dead-nettle (*Lamium album*), ribwort plantain (*Plantago lanceolata*), red clover, common mouse-ear, sweet vernal grass (*Anthoxanthum odoratum*), teasel (*Dipsacus fullonum*), ragwort (*Jacobaea vulgaris*) and knotgrass (*Polygonum aviculare*). It appears that the grazing activities of rabbits are helping to maintain shorter, more open swards in some areas which benefits plants such as bird's foot trefoil, strawberry, speedwell and clover and contributes to the plant diversity and varied structure of the grassland.

Along the eastern boundary (B4) there is a large patch of wild turnip (*Brassica rapa*) adjacent to the hedgerow / dense line of trees which is made up of Leyland cypress, blackthorn, common hawthorn, rowan, oak, birch (*Betula* sp.) and ivy. Towards the northern half, the eastern boundary opens up and ceases to become a hedgerow, featuring instead larger and more mature tree specimens including oak, lime, sycamore (*Acer pseudoplatanus*), horse chestnut (*Aesculus hippocastanum*), ash, beech, common hawthorn and cherry.



Map 2: Site 1 and main habitats



SITE 1 - HOLLYBANK AND AREA BEHIND THE  
SCOUT HUT AND RECREATIONAL FIELD

PHASE 1 HABITAT MAP

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### 3.1.1 Protected/notable species and habitats – Site 1

Table 2: Protected/notable species appraisal – Site 1

Species	Habitats/features	Evidence	Likelihood of presence
BADGERS	The sloping grassland appears to be used by badgers and foxes as part of their wider territory. No setts were found.	Several well-worn tracks across the field, badger latrines and badger snuffle holes were found.	Present. Foraging and passing through.
BATS	There are several mature trees, mainly along the boundaries of the site but most of these are still too young to have developed the roosting features that only occur with age, such as cracks, fissures, rot holes, flaking bark etc. However, some trees may have suitable features that were not able to be seen from the ground. The woodland and hedgerow habitats would provide good foraging habitat for bats. The sloping field and areas with long grassland also provides very good habitat for flying insects like moths and small Diptera, and therefore food sources for bats. Several bat boxes are present, installed on trees within the woodland.	It is not known if the bat boxes are used by bats.	Potentially present in the bat boxes.  Highly likely to be foraging on site given the mosaic of habitats and the presence of the Laughern Brook which runs just to the west of the site.
BIRDS	The mature trees along the boundaries and within the woodland, as well as the in-field hawthorn tree and dense bramble / scrub provide very good habitat for birds, not only for nesting, but also for the food resources and shelter they offer. Additional nesting opportunities in the form of nest boxes are also installed on trees mainly within the woodland and scattered trees to the west of the site.	<u>Sloping grassland (area behind the Scout Hut and Recreational Field)</u> Common whitethroat ( <i>Sylvia communis</i> ), robin ( <i>Erithacus rubecula</i> ), jackdaw ( <i>Corvus monedula</i> ), great spotted woodpecker ( <i>Dendrocopos major</i> ) and pheasant ( <i>Phasianus colchicus</i> ) were all noted on site. Green woodpecker ( <i>Picus viridis</i> ) was heard nearby but it is safe to assume it would find feeding opportunities within the tussocky grassland. The great spotted woodpecker may have had a nest in one of	Presence confirmed - nesting and foraging.



		<p>the trees just over the western boundary. An old bird's nest from a previous season was discovered within the in-field hawthorn.</p> <p>The Scout Hut situated on the recreation field also provides niches for nesting birds and a blue tit (<i>Cyanistes caeruleus</i>) was observed provisioning chicks on the northern aspect of the building.</p> <p><u>Woodland belt / scrub / playground</u> Great spotted woodpecker, blue tit, song thrush (<i>Turdus philomelos</i>), wren (<i>Troglodytes troglodytes</i>), blackcap (<i>Sylvia atricapilla</i>), chiffchaff (<i>Phylloscopus collybita</i>) and jackdaw were all noted in the woodland and scrub areas mainly in the western half of the site, as would be expected because of the habitat. Blue tits were seen feeding chicks in two nest boxes towards the south west of the site.</p>	
DORMICE	<p>The hedgerows / tree lines are not classed as species-rich and provide sub-optimal habitat for dormouse. The woodland offers minimal suitable habitat for dormice due to its small size, minimal amounts of hazel and human presence. Connectivity across the landscape is limited to the north towards more urban areas but there is better connectivity to the south along the Laughern Brook and associated riparian vegetation. Whilst dormice are known to occur west of the River Severn in Worcestershire, they are generally concentrated along the woodlands around the Malvern Hills and the Herefordshire border. Typically, dormice use woodlands of 20 Ha or more, but this is not restrictive. Nevertheless, it is considered unlikely that they will be present.</p>	No evidence of dormice.	Highly unlikely due to disturbance from human presence, breaks in habitat and limited connectivity to areas where they might be present further afield.

<b>GREAT CRESTED NEWTS</b>	There is no suitable static waterbody on site or immediately next to it and therefore no breeding habitat. The terrestrial habitat in the sloping field and other tall grassland to the south of the site is considered to be highly suitable.	None.	Unlikely due to a lack of breeding habitat, but research has shown that great crested newts can disperse up to 500m from their breeding ponds. However, 95% are found within 63m of the pond <sup>1</sup> .
<b>OTTERS, WATER VOLES &amp; WHITE-CLAWED CRAYFISH</b>	There are no running waterbodies on site but the Laughern Brook flows parallel to the woodland, approximately 30 metres to the west, beyond Broadheath Lane.	None.	None.
<b>REPTILES</b>	The sloping grassland appears to have remained uncut for a number of years, resulting in the formation of tussocks and is now considered excellent habitat for slow-worms and grass snakes. Areas for basking can be found where the sward is shorter towards the bottom of the slope and on the well-trodden paths. Reptiles may move across the landscape via the area of rough grassland immediately to the south of the site and via the gardens to the north-east.	No direct physical evidence but the habitat is suitable.	Potentially present.

<sup>1</sup> Jehle, R. Thiesmeier, B. & Foster, J. 2011. The Crested Newt. British Herpetological Society, London.

OTHER SPECIES (NOT PROTECTED)	<p>The cover and food resources provided by vegetation offers good habitat for a range of other species including small mammals and invertebrates.</p>	<p>Fox (<i>Vulpes vulpes</i>) scat was seen within the sloping grassland and rabbit (<i>Oryctolagus cuniculus</i>) droppings were frequent, particularly along the transition from mown grass to longer wildflowers in the southern half of the site. Grey squirrels (<i>Sciurus carolinensis</i>) and mole (<i>Talpa europaea</i>) hills were also observed on site.</p> <p>A white tailed or buff tailed bumblebee (<i>Bombus lucorum</i> / <i>Bombus terrestris</i>) nest was accidentally uncovered within the tussocky sloping grassland to the north.</p> <p>Other invertebrates observed across the site: Seven spot ladybird (<i>Coccinella septempunctata</i>), common carder bee (<i>Bombus pascuorum</i>), red tailed bumblebee (<i>B. lapidarius</i>), honeybee (<i>Apis mellifera</i>), holly blue butterfly (<i>Celastrina argiolus</i>), orange tip butterfly (<i>Anthocharis cardamines</i>), small white butterfly (<i>Pieris rapae</i>), beautiful demoiselle damselfly (<i>Calopteryx virgo</i>), ground beetle (Carabidae sp.) and many crane flies (Tipulidae) and spiders (Araneae).</p>	Present.
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### 3.2 Site 2 – The Village Green

Site 2 is a small (0.2ha), flat area of closely mown amenity grassland. The most ecologically valuable features here are the trees on site, particularly the mature oak to the north and especially the veteran oak to the south. Apart from grasses, flowering plants that could be identified within the sward included yarrow, daisy (*Bellis perennis*), cat's-ear (*Hypochaeris radicata*), common ragwort, ribwort plantain, greater plantain (*Plantago major*), dandelion (*Taraxacum officinale* agg.), black medick (*Medicago lupulina*), white clover (*Trifolium repens*) and creeping buttercup. Tree species are labelled on the map below.

Map 3: The Village Green



SITE 2 – THE VILLAGE GREEN

SITE PLAN

2020/010

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### 3.2.1 Protected/notable species and habitats – Site 2

Table 3: Protected/notable species appraisal – Site 2

Species	Habitats/features	Evidence	Likelihood of presence
BADGERS	The site is very flat and exposed and has no potential for badgers to excavate a sett. The site is an island of lawn surrounded by roads and houses so holds little suitability for badgers.	No evidence of foraging behaviour such as snuffle holes.	Potential to be passing through the site as part of a wider foraging area.
BATS	The only tree on site likely to support roosting bats is the veteran oak towards the south of the site. Roosting features only occur with age, and include cracks, fissures, rot holes, flaking bark etc. No obvious features could be seen from the ground but some in the higher reaches of the canopy may have been missed. As this tree ages, it will become more and more valuable for wildlife because of the dead wood and other features (mentioned above) that it will provide.	No direct evidence.	Likely to commute and forage over the site.
BIRDS	The trees on site will no doubt provide food resources for birds in terms of insects, seeds and berries. They also provide cover and 'steppingstones' allowing them to evade predators between other habitats.	Bird species observed on site: blackbird ( <i>Turdus merula</i> ), goldfinch ( <i>Carduelis carduelis</i> ) and jackdaw. House martin ( <i>Delichon urbica</i> ) and house sparrow ( <i>Passer domesticus</i> ) were also seen and heard flying over or in the immediate vicinity of the green.	Presence confirmed – foraging and nesting nearby.
DORMICE	No suitable habitat.	None.	None.

GREAT CRESTED NEWTS	There is no suitable static waterbody on site or immediately next to it and therefore no breeding habitat. The terrestrial habitat is also broadly hostile for great crested newts.	None.	None.
OTTERS, WATER VOLES & WHITE- CLAWED CRAYFISH	There are no running waterbodies on or immediately near the site.	None.	None.
REPTILES	Closely mown grassland is hostile habitat for reptiles.	None.	None.
OTHER SPECIES (NOT PROTECTED)	The variation in the species, age and structure of the trees present on site will attract a range of invertebrate species such as flies, moths and spiders, which in turn provide food for birds and bats.	None noted.	Undoubtedly present.



### 3.3 Site 3 – The Old Churchyard

The Old Churchyard occupies an area of approximately 0.5ha and has developed into an extension of the adjacent woodland to its east, with small areas of open canopy where grasses and flowering plants have developed between the gravestones. Despite its relatively small size, it has a high diversity of tree species which include yew (*Taxus baccata*), holly (*Ilex aquifolium*), hornbeam (*Carpinus betulus*), ash, common hawthorn, sycamore, horse chestnut, oak, cherry, English elm (*Ulmus procera*), wych elm, rowan, Wellingtonia / giant redwood (*Sequoiadendron giganteum*), an unidentified conifer and holm oak (*Quercus ilex*). A spindle tree (*Euonymus europaea*) had recently fallen across the path to the south-east. The most important features for wildlife are the mature and veteran yew trees. Plants across the site include garlic mustard, shining and cut-leaved cranesbill (*Geranium lucidum*), herb Robert, meadow and creeping buttercup, red campion (*Silene dioica*), dog's mercury (*Mercurialis perennis*), ground ivy, enchanters nightshade (*Circaea lutetiana*), lords-and-ladies (*Arum maculatum*), violet, common and bush vetch, cow parsley, thyme-leaved speedwell (*Veronica serpyllifolia*), germander speedwell, ground elder (*Aegopodium podagraria*), Russian comfrey (*Symphytum x uplandicum*), nipplewort (*Lapsana communis*), black bryony (*Dioscorea communis*), rough meadow grass, common nettle, wood and broad-leaved docks, wood avens, forget-me-not (*Myosotis* sp.), spear thistle (*Cirsium vulgare*), ivy, hogweed, cleavers and dandelion.

Map 4: The Old Churchyard



SITE 3 – THE OLD CHURCHYARD

SITE PLAN

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### 3.3.1 Protected/notable species and habitats – Site 3

Table 4: Protected/notable species appraisal – Site 3

Species	Habitats/features	Evidence	Likelihood of presence
BADGERS	Apart from the very eastern edge of the site where the ground starts to slope slightly into the adjacent woodland, the site is flat and has little potential for badgers to excavate a sett.	No evidence of foraging behaviour such as snuffle holes.	Potential to be passing through the site as part of a wider foraging area, especially given the adjacent woodland habitat to the east.
BATS	There are several yew trees on site and two in particular have features which could support roosting bats. These features only occur with age, and include cracks, fissures, rot holes, flaking bark etc. The mature yew and veteran yew near the centre of the site have many of these features. There is also a large Wellingtonia tree to the south of the site which may also offer roosting habitat beneath its flaky, spongy bark. As these trees age further, they will become more and more valuable for wildlife because of the dead wood and other features (mentioned above) they will provide.	No direct evidence but the habitat is suitable.	Likely to find roosting opportunities within some of the mature trees on site. Highly likely to commute and forage over the site.
BIRDS	The holes and crevices within the yews and other mature trees on site provide nesting opportunities for a variety of bird species. The diversity of tree species within the old churchyard also supplies a variety of food resources for birds in the form of insects, seeds and berries. The churchyard provides an extension of habitat to the adjacent broadleaved woodland.	Jackdaws were nesting in a hole within the veteran yew in the centre of the churchyard. Great tits were also using a nest box within a hornbeam. Chicks were heard calling for food in both instances. Other bird species observed on site were blackbird, robin, woodpigeon ( <i>Columba palumbus</i> ), song thrush, long-tailed tit ( <i>Aegithalos caudatus</i> ), blue tit, magpie ( <i>Pica pica</i> ) and pheasant.	Presence confirmed - nesting and foraging.



<b>DORMICE</b>	Although the site abuts a strip of woodland along its eastern edge where dormice might be present, it is unlikely that dormice will be found within the old churchyard as the woodland structure lacks a dense understorey and there is a paucity of hazel. As indicated for Site 1, dormice have a limited distribution in areas west of the River Severn and typically require connectivity to larger woodlands. It is considered unlikely that they will be present.	None.	Unlikely.
<b>GREAT CRESTED NEWTS</b>	There is no suitable static waterbody on or immediately next to the site and therefore no breeding habitat for great crested newts. The terrestrial habitat is moderate, being better in more open areas where there is ground cover, but some areas are heavily shaded resulting in bare earth.	No direct evidence.	Unlikely
<b>OTTERS, WATER VOLES &amp; WHITE-CLAWED CRAYFISH</b>	There are no running waterbodies on or near the site and therefore there is no suitable habitat for the species mentioned here.	None.	None.
<b>REPTILES</b>	There is a small patch of grassland with a longer sward to the south of the site where the canopy is more open. However, this appears to be quite isolated from any other suitable grassland habitat where reptiles might occur. There are pockets of potentially suitable habitat for reptiles in the wider landscape and it is possible that reptiles could find their way from these areas to the relative seclusion of the old churchyard via residential gardens.	None.	Low – moderate.

OTHER SPECIES (NOT PROTECTED)	<p>The high diversity of the tree species in comparison to its size, along with its age and structural diversity will no doubt benefit a wider variety of wildlife. Invertebrate species such as flies, moths and spiders provide food for birds and bats. The secluded nature of the site and opportunities to forage may also favour hedgehogs.</p>	<p>Deer droppings were noted around the site as well as lay-up areas (i.e. resting places) for deer or other mammals such as fox or badger. The more open areas of canopy attracted invertebrates including bees, which included buff or white-tailed bumblebee, common carder and a large white butterfly (<i>Pieris brassicae</i>).</p>	<p>Undoubtedly present.</p>
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## **4. EVALUATION**

### **4.1 Worcestershire Biodiversity Action Plans – Habitats and species**

The following Worcestershire Biodiversity Action Plans relate to the habitats and species that are pertinent to the sites at Hallow:

#### Habitats

- Grassland – semi-improved neutral and calcareous grassland
- Woodlands
- Hedgerows
- Scrub
- Veteran trees

#### Species

- Reptiles – slow-worm, grass snake
- Bats
- Farmland birds

### **4.2 Habitat evaluation**

#### **4.2.1 Site 1 – Hollybank and area behind the Scout Hut and Recreational Field.**

##### Sloping Grassland (area behind the Scout Hut and Recreational Field)

The field to the northern part of the site is classed as neutral, semi-improved, species-poor grassland and is of moderate ecological interest due to its sloping, tussocky nature with potential to become species-rich. It appears to have had little management in recent years which has allowed tussocks to form, which provide microhabitats for reptiles, small mammals and invertebrates, but a lack of cutting and removing of the arisings also leads to greater nutrient load in the soil which favours more rank grasses and over time reduces the occurrence of the more desirable flowering plants. This is apparent at the top of the slope, to the southern end where species such as cock's foot, common nettle and cow parsley dominate, whereas at the bottom of the slope, towards the northern and western boundaries, the sward is shorter and contains a greater diversity of flowering plants, more fine grasses such as red fescue and fewer taller grasses. These more botanically diverse areas feature several of the more desirable plant species that are indicators of more species-rich grassland – Meadow vetchling, lady's bedstraw, black knapweed, pignut (although pignut is generally a plant associated with ancient woodland), English bluebell and meadow buttercup.

With sensitive management, the grassland could increase its biodiversity and become more flower-rich, which in turn will support a greater range of other species. There are other patches of uncultivated, rough grassland in the wider area, so it is possible that the grassland could support reptiles such as slow-worm and grass snake, which may have colonised from these nearby sites.

The hedgerows along the north and western boundary (that make up Boundary 2) contain at least 6 woody species and are of high ecological value. The northern section is lower in height, is thick and bushy and appears to have been managed in the past. The longer, western section has formed more of a dense line of trees with some maturity. It is this structural and species diversity that will provide different niches and resources for a range of wildlife.

#### Woodland belt (Hollybank)

Although this is a small strip of secondary woodland (this area was not wooded on the 1842 OS map nor on 1938 OS map – secondary woodland has developed since this time), it nevertheless provides valuable habitat by extending the tree cover from the adjacent land to the south, linking with the well-established hedgerows of the northern grassland (boundary 2), thereby providing a corridor for wildlife to travel between nearby habitats. It is most valuable for the nesting opportunities, shelter and food resources it provides to woodland birds.

#### Scrub and transition to grassland (Hollybank)

This is an important habitat for several reasons. It is becoming more uncommon in the landscape because of the negative connotations given to it by humans, in that it is often considered 'untidy.' However, the density of the bramble / vegetation offers excellent cover from predators for wildlife, is often used by nesting birds, the bramble blossom provides nectar for pollinators such as bees and butterflies and the abundance of blackberries later in the season offers much needed food for a whole host of wildlife. It is also a good edge habitat, providing a 'buffer' or transition between very short grassland and the woodland habitat.

England has lost 97% of its species-rich, lowland meadows since the 1940s and Worcestershire contains approximately one fifth of those that remain, making it an important county for this declining habitat. The diversity of flowering plants in these longer sections of vegetation, particularly towards the south, are therefore important as they are becoming more uncommon in the surrounding landscape. There are at least eight species present here which are considered desirable in species-rich grasslands - these are black knapweed, wild strawberry, lady's bedstraw, perforate St John's wort, meadow vetchling, oxeye daisy, bird's foot trefoil and cowslip. Grasslands with eight or more of these such 'indicator' species which are widespread throughout a site are usually considered to be 'species-rich' grasslands, so this plant community is important in a Worcestershire context.

### **4.2.2 Site 2 - The Village Green**

The veteran oak tree to the south of the site is the most important feature here and as it grows and ages further, its value will continue to increase. Oak trees are known to support more species than any other native British tree, in the region of 2300 plus species and mature and veteran trees support even more wildlife due to the features that only occur on trees with age, such as fissured or flaking bark, snagged limbs, rot holes and cavities, sap runs and fungi, for example. With this in mind, the mature oak to the north of the green is also important, as this will become the veteran of the future.

#### 4.2.3 Site 3 – The Old Churchyard

This semi-natural, mainly broadleaved woodland habitat, featuring a high diversity of tree species for its size, offers moderate ecological importance. Broadleaved woodland tends to have greater biodiversity interest than coniferous woodland, in general supporting more native species. The exception here is yew, which is a native, coniferous species and very old specimens are often found in churchyards. The veteran yew near the centre of the site has high ecological importance because of its age and associated features (as mentioned above). It has several cavities and at the time of the appraisal one of these holes was being used by nesting jackdaws. The other conifer species on site will nevertheless provide ecological interest, hosting a surprising number of invertebrates including beetles and hoverflies and providing habitat and foraging for birds including goldcrest (*Regulus regulus*), sparrowhawk (*Accipiter nisus*) and siskin (*Carduelis spinus*). The quiet, undisturbed nature of the site along with the diversity of tree species provides a haven for many birds, as observed during the appraisal. The plants that make up the ground flora are all common and widespread species but nevertheless benefit local pollinators such as bumblebees and butterflies.

## 5. MANAGEMENT

### 5.1 Site 1 – Hollybank and area behind the Scout Hut and Recreational Field

#### 5.1.1 Sloping Grassland

Traditional hay meadows tend to support a wide range of invertebrates and plants along with nesting birds and small mammals. In addition, they have a high intrinsic value and can be a place where people can find stress-relief. True meadows are grasslands that have a long history (usually centuries) of management towards the production of hay and are generally nutrient deficient. As a result, traditional meadows tend to be herb-rich and have tall plants (herbs and grasses) between mid-May and mid-July, prior to being cut and later grazed in other parts of the year. This means that it is difficult to reproduce a traditional meadow in a short- or medium timeframe but a herb-rich grassland can be created.

In order to encourage a greater diversity of flowering plants and reduced the dominance of rank grasses, the sloping grassland on site requires some management, i.e. an annual hay cut and removal of the arisings. However, as the habitat is suitable for reptiles, species such as slow-worm and grass snake may be present. The management regime below aims to safeguard reptiles by suggesting a sensitive approach:

- It is important that the flowering plants on site should be allowed to flower and set seed, to ensure they return the next year, so the hay cut should take place **no earlier** than the end of July in any given year. A quarter of the grassland should be retained each year, preferably within the more rank areas, such as around the central hawthorn tree or along the eastern edge, providing an uncut area of refuge for reptiles and invertebrates.
- When cutting rough or long grass it is important to take the possible presence of reptiles into account, to ensure they are not harmed. Reptiles are usually active between late March and the end of October, and the rest of the year they hibernate below ground, in banks or habitat piles.
- Prior to mowing, walking through areas of long grass should disturb any creatures and encourage them temporarily to move elsewhere. It is important not to flatten the grass at it makes it difficult to cut.
- Working slowly with machinery allows time for animals to escape. Slow-worms and grass snakes are particularly sensitive to vibration and should move away quickly. However, as these reptiles need to bask to become active, they can be more sluggish when they first emerge (spring), prior to hibernation in early autumn, and early in the morning and evening.
- Avoid cutting too low, as slow-worms will often move about in the basal zone of grasses and could be injured. If possible, cut on a warm day when reptiles will be active and therefore readily able to move out of the way. Allow temperatures to rise and reptiles to become active.

- Work in a way that offers an escape route *i.e.* from middle outwards – so that animals do not become trapped by the mowing.
- Once cut, the arisings should either be moved off site, or used to create habitat piles that will provide potential hibernation sites for creatures such as hedgehogs and grass snakes. A suitable zone should be designated for this, away from the more floristically diverse areas (see below). It is vital that the arisings are removed, so that they do not rot back into the soil and enrich it.
- Scrub that encroaches from the woodland edge will need to be cut back during the winter period, ensuring that wood piles are created to provide additional habitat and refuge for reptiles and other wildlife.
- No artificial fertilisers or chemical sprays should be applied to the meadow grassland.

As long as the grassland is continued to be managed in a sympathetic manner (as intended by the present owner and as per the recommendations above) the floristic value of the site should be maintained for the future.

### **Creating habitat piles for reptiles**

- Wildlife rich areas should be avoided because the decomposition will add nutrients to the flower-rich sward, encouraging rank growth. Habitat piles should not be constructed where their decomposition may result in leachate entering water courses (including ground water). Nor should they be stacked right up against tree trunks or against hedges. Ideally, the pile should be situated where it is in sun for part of the day and will not need to be disturbed.
- Habitat piles need good aeration and good moisture content. Ideally the base of the heap should be crisscrossed with a layer of coarser material such as branches or logs, followed by material such as prunings and grass. This provides an internal structure to the heap, which makes it more attractive to reptiles. Habitat piles are used for basking and are particularly favoured by grass snakes for laying their eggs.
- The same habitat pile can be replenished each year.

### **Legal protection**

All of Worcestershire's reptiles have partial protection under the Wildlife and Countryside Act 1981, which means that they are protected against intentional killing and injuring and against sale or transporting for sale. All reptiles are Biodiversity Action Plan species, which means that they are a priority for conservation.

## Hedgerow management

Any gaps in the hedgerows could be planted up with other native hedge species or fruit varieties such as those suggested in Appendix 3. Hedgerows should be allowed to grow thick and bushy, particularly at the base, as this provides the most valuable habitat and shelter for a range of wildlife, particularly birds and small mammals. Cutting hedgerows every year prevents them from flowering and therefore producing fruits and seeds. For hedgerows to provide maximum benefit for wildlife, they must be allowed to flower. Sensitive management could include cutting on a three-year rotation (i.e. one side of the hedgerow cut in year 1, the other side cut in year 2 and no cutting in year 3). This should take place during the late winter period, preferably during January and February, to allow birds to benefit from the berries and to avoid any complications with nesting birds.

The Hedgerow Manifesto, produced in collaboration with the local council and conservation organisations in Monmouthshire, is an excellent guide to best practice for hedgerow management and the link to the document can be found in the bibliography.

### 5.1.2 Woodland belt

The broadleaved woodland belt covers a small area, so it is not feasible or desirable to embark upon ambitious management. Because of this, the woodland should be maintained and enhanced by a minimum intervention approach.

- This should aim to maintain a continuous supply of young growth and develop structural diversity through *occasional* felling or coppicing, whilst protecting mature features, such as large trees and dead wood. This will create greater structural diversity in the understorey and will also allow more light to reach to ground, encouraging the regeneration of ground flora, which was lacking in areas.
- As part of the management, a large proportion of the dead wood should be left on site as habitat piles, as it is a significant interest for wildlife such as saproxylic invertebrates and small mammals. Standing dead trees, fallen and felled tree trunks, rotten coppice stools and trunks should always be retained and managed (see below).
- The existing bird boxes appeared to be successfully housing the nests and chicks of generalist species so additional bird and bat boxes could be installed within the woodland. An audit should be undertaken every few years to establish the condition of the nest boxes, to see which may need repairing or replacing.
- Hedgehogs – a hedgehog house could be positioned on the edge of the woodland, but well away from the footpath to avoid being seen / disturbed by the public.



## Dead Wood Installation

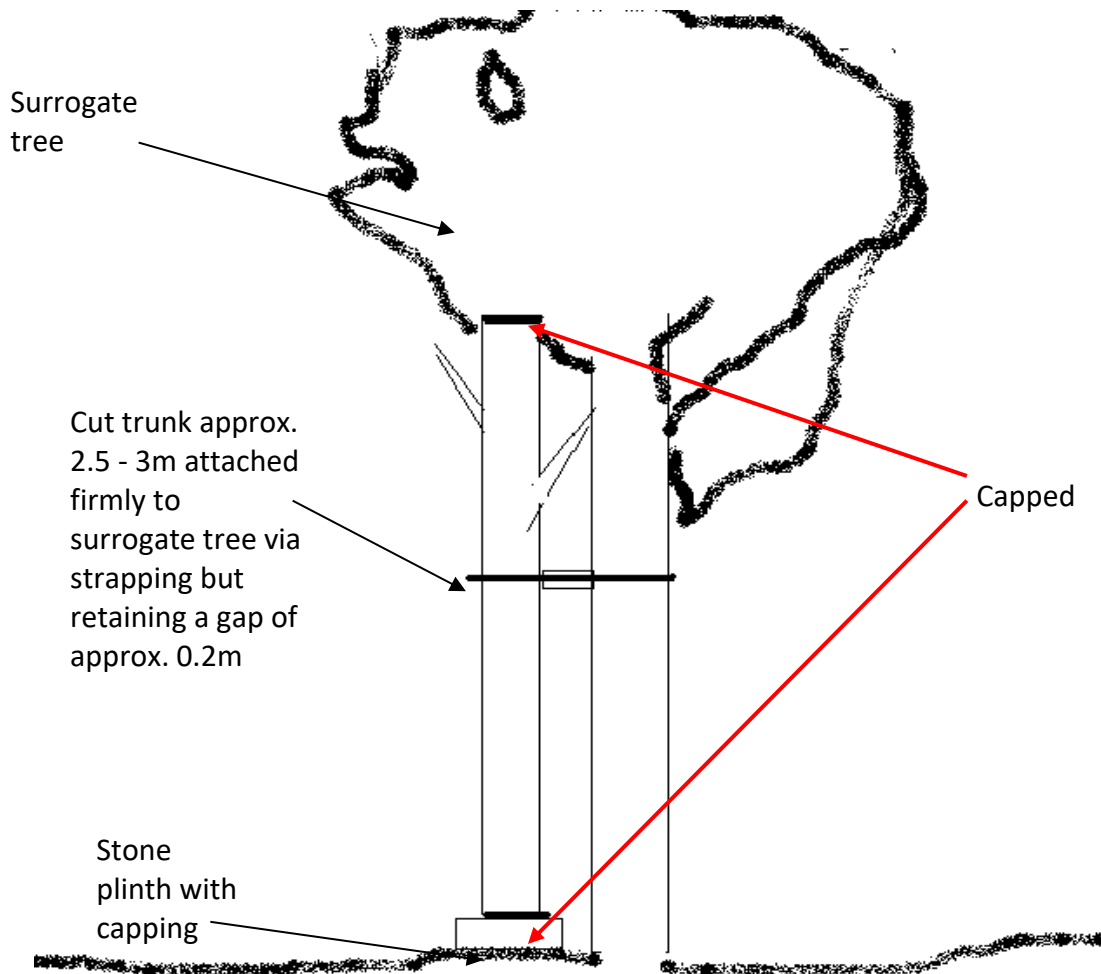
There is a paucity of dead wood currently present within the woodland belt, due to its size and relatively young age. The provision of coarse woody debris will allow a range of saproxylic (those that depend on dead or decaying wood) organisms to inhabit dead or dying wood from standing or fallen, dead or dying trees and in turn increase the invertebrate assemblage on site. They play an essential role in the woodland, breaking down the deadwood and releasing nutrients. In order to encourage these saproxylic organisms, one should aim to have a minimum of 5 cubic metres of deadwood (greater than 15cm diameter) per hectare (or proportionally) over the wooded area. Since there are limited sources of dead wood on site, it is recommended that it is sourced locally from either the Forestry Commission or a local woodland owner, although coppiced material could be used for this purpose. The wood must be from native broadleaf species.

To cater for saproxylic invertebrates and species dependent on decaying wood for their larvae, a range of features must be created: -

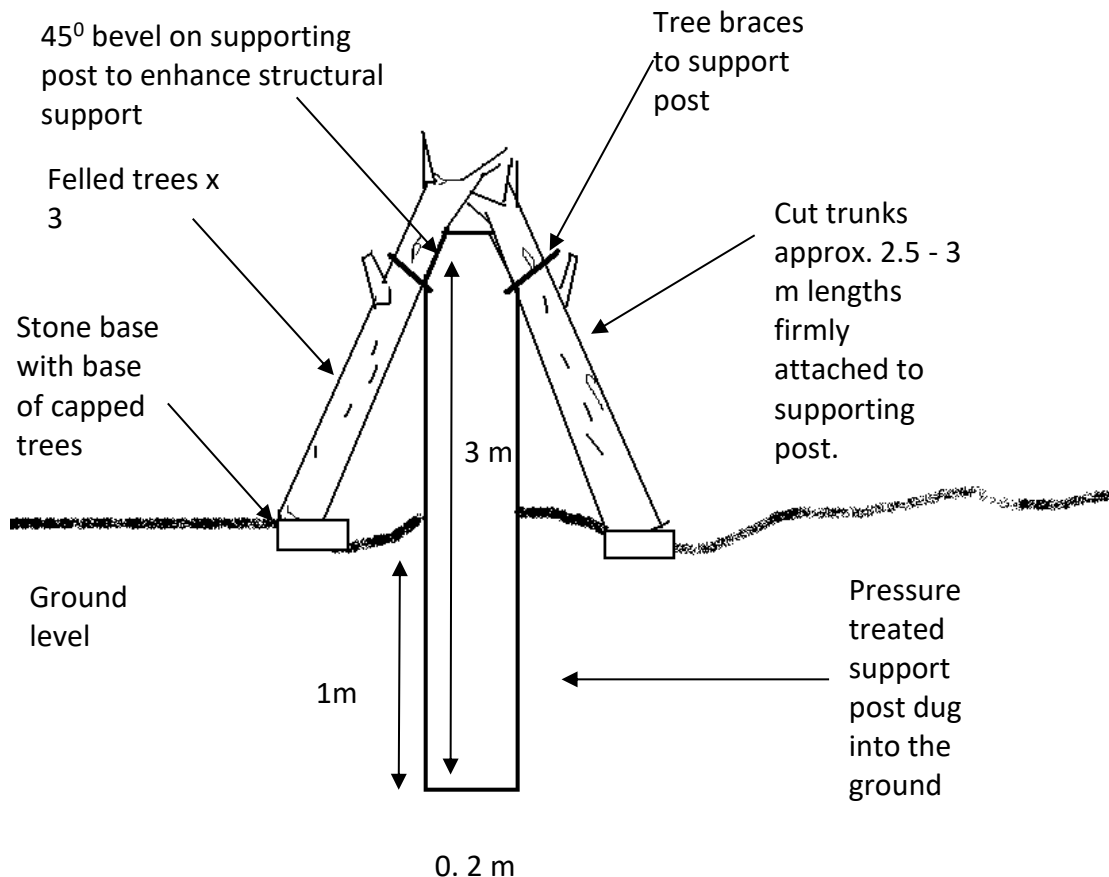
- Wood chip pile. Applying woody brash to these piles, is also recommended.
- Horizontal log pile stacks. There should be at least two stacks positioned throughout the wooded area with different aspects, with one stack being located in the shadiest area of the wood and at least another in full sun. Each log will measure at least 1m in length and measuring 15cm girth.
- Vertical log stacks.
- Any standing deadwood will be left in place to provide habitat for deadwood invertebrates.

Other ways of creating standing dead wood resources in a small space, where it is not feasible / desirable to ring bark are described below:

Felled trees / limbs can be taken from elsewhere on site, for example where it is necessary for them to be removed because of safety concerns. Decaying trees / limbs can also be taken from a donor site. These cut trunks will be strapped to a retained tree (as shown in Figure 1), while other cut trunks will be stacked to form a pyramid habitat stack (as shown in Figure 2). These dead wood enhancements can be undertaken anywhere in the woodland where there is a suitably mature and healthy surrogate tree. Laying such trees on the ground will be avoided in order to prevent the cut trunks becoming too damp/decaying too quickly for some saproxylic invertebrates to use. The base of the decaying tree must be capped following cutting to prevent excess external moisture from entering the base of the tree, which would then result in the tree decaying too quickly. It is important to note that any cut trunks, whether they are fixed to a surrogate tree or a used to create a pyramid habitat stack, must be secured firmly so as to avoid these features from collapsing or from being vandalised and therefore being dismantled.



**Figure 1. Cut trunks strapped to retained tree**



**Figure 2. Pyramid stack**

### Dead Wood Creation

It is suggested that one or two trees (within the wooded area) are sacrificed, to create standing dead wood features. The preferable species for this would be sycamore, as it is not considered to be native, being introduced in Britain around the year 1500. Methods include ring-barking or boring random multiple holes within the trunk and creating cuts whereby sap exudation can occur (especially in spring). The trees should not be mature specimens, as these hold their own wildlife value. Also, in the interest of public safety, these should be away from the footpath and must not be the tallest trees currently present.

Decaying trees will be felled between October to February of any given year, with those containing holes/crevices being inspected by a licensed bat ecologist prior to their removal.

By applying coarse woody debris in the three forms described above, a greater range of dead wood insects will occur as different habitat preferences will be made available.

## **Maintenance of Dead Wood**

Maintaining deadwood habitat will involve, in the long-term:

- retaining existing old and large trees;
- retaining accumulations of deadwood;
- ensuring a continuous supply of deadwood by diversifying even-age stands of trees;
- not removing standing or fallen dead or dying trees (unless health and safety requires it).

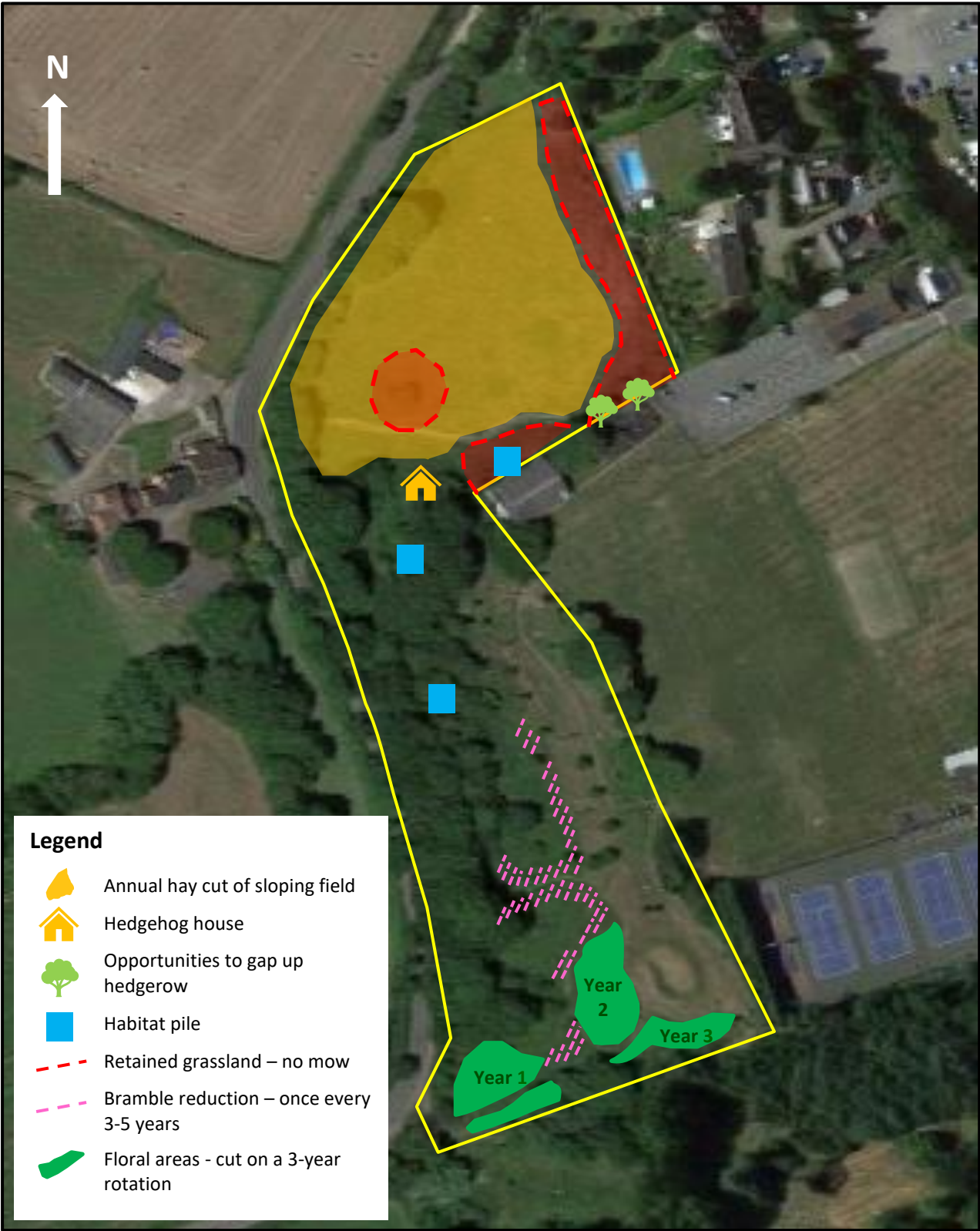
### **5.1.3 Scrub and transition to grassland**

On the whole, the cutting regime here can remain largely the same as the current management, as it has created variety in the length and composition of the sward, forming different microhabitats. The large areas of bramble are a vital wildlife resources but can be cut back up to 3 metres, once every 3 to 5 years, to prevent it encroaching into the flower rich areas. The areas that have been cut back should then be free from any further mowing until the next rotation, to allow more floral diversity to develop along the edges. This would be particularly beneficial along path edges – both for the enjoyment of the public and for pollinators which will make use of these warmer, botanical rides. Cutting back the bramble should take place outside the nesting bird season (bird nesting season generally considered to be between the end of February and the end of August) and ideally after October to avoid destroying vital food resources for wildlife i.e. blackberries. Caution should be used when cutting back the bramble, as it is good cover for species such as hedgehogs during the autumn and winter months.

The more flower-rich grassland areas to the south can be treated in a similar way to the sloping grassland by taking a 'hay' cut, no earlier than the end of July, after all plants have flowered and set seed. To maintain areas of shelter, it is advisable that these areas are cut on rotation (see Map 5), only being cut once every three years. It is important that all the cuttings are removed to prevent them enriching the soil, which favours less desirable plant species.

Other wildlife enhancements can be made by installing bug hotels – either bought or created with a volunteer group – on trees or freestanding in open, sunny areas. Examples are given in Appendix 3.

Map 5: Management suggestions – Hollybank & area behind Scout Hut & Recreational Field



SITE 1 – HOLLYBANK AND AREA BEHIND  
THE SCOUT HUT AND RECREATIONAL FIELD

MANAGEMENT SUGGESTIONS

2020/010



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## **5.2 Site 2 – The Village Green**

If any management is needed on the veteran oak tree, the advice of a qualified and experienced arboriculturist should be sought. Otherwise, it should be left to grow and age naturally.

Closely mown grassland has very little ecological value, but it is understandable that being a village green, this space has to be maintained as such for the benefit of the community and their activities. However, small patches / linear strips could be selected to turf strip and sow wildflower seed, or simply to relax the mowing in these areas to create longer, more natural grassy areas. These would benefit invertebrates and birds and provide added interest and amenity value for local people.

### **Creating Wildflower Areas**

Wildflower areas can be created in several areas on the green and can be between approximately 15-20m in length and 2-3 metres wide, or whatever area is desired. These will enhance the ecological value of the site by providing nectar rich sources for invertebrates to forage on.

Delivery methods could be either sowing a herb-rich seed mix (Option 1) or by taking arisings from a local unimproved or species-rich, semi-improved, neutral grassland (Option 2).

Option 1: Emorsgate EM7 Meadow Mix for loamy, sandy soils. A mix of grass and native wildflower seeds sown/drilled evenly during the autumn months. The list of native grasses and forbs to be used is provided in Appendix 3.

Ideally, the initial stage would be to scrape back the topsoil with an excavator to expose the subsoil. The turf could be deposited in an appropriate place on Site 1, creating a habitat mound, mixed in with tree logs; in effect another conservation feature for the site. The important point is the removal of the organic level of soil where most of the existing seed bank and nutrient would be stored. Then the exposed area can be tilled and be re-seeded with either a local hay cut (i.e. arisings from a site nearby in June or July) or seeds purchased from a reputable company. Once this stage is complete the soil will be seeded with the EM7 mix at a seeding rate of 4g per m<sup>2</sup>. Following seeding, the seedbed will be gently firmed.

Option 2 will rely on making an agreement with local farmers/land owners/local wildlife trust to obtain a herb-rich, green hay cut which will be scattered over the exposed soil, allowing the seeds within to fall.

### **Post Establishment**

Once established, the wildflower strips will be managed as a traditional hay meadow with a single hay cut taken in late July or early August and the arisings removed. Removal of the cut material will help to reduce the fertility which in turn will reduce the dominance of coarse grasses and allow the wildflower strips to develop further. Taking a single cut once a year should also reduce costs compared to multiple cuts.



It may be necessary to monitor and control invasive weeds, particularly creeping thistle (*Cirsium vulgare*), preferably by hand pulling. Mowing should take place during a dry period to prevent disturbance to any soft ground and to prevent the deterioration of the herbage. Arisings should always be removed.

#### Map 6: Management suggestions – The Village Green



### 5.3 Site 3 – The Old Churchyard

The Old Churchyard requires little management other than to ensure that the trees are in good condition for the safety of the people who may be enjoying the site. Any fallen limbs (such as the fallen privet to the east of the site) should be retained on site where possible, as a dead wood resource. The corners of the site for example could be used as areas to place log / brash piles, which will encourage hedgehogs, birds, invertebrates and small mammals. These should be left to rot down naturally and can be replenished with fresh material when it is available. A hedgehog house could also be positioned in a quiet corner, away from the paths and out of sight from people. As in Site 1, bug boxes / hotels could be positioned on a south facing aspect in the more open areas of the site to provide nesting and overwintering opportunities for invertebrates (please see Appendix 3).

The grassy areas can be strimmed to allow access to the paths, but it is recommended that this occurs on rotation, with no more than a third being cut in any one year. This will help to retain botanical interest and cover for wildlife.

It may be necessary in the future to assess whether the dense tree cover in the Old Churchyard is having a detrimental effect on the veteran yew through over shading of its boughs. However, any management to the surrounding trees would have to be undertaken gradually, as too much too rapidly could stress the tree and cause it harm, rather than promoting new growth. As this is beyond our area of expertise, it would be worthwhile contacting an arboriculturist to provide more specific advice on the care of the trees within the Old Churchyard, particularly the veteran yew and the Wellingtonia.



Map 7: Management suggestions – The Old Churchyard



SITE 3 – THE OLD CHURCHYARD  
MANAGEMENT SUGGESTIONS  
2020/010



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Worcestershire Biodiversity Action Plan:

[http://www.worcestershire.gov.uk/info/20252/environmental\\_policy/1155/biodiversity\\_action\\_plan](http://www.worcestershire.gov.uk/info/20252/environmental_policy/1155/biodiversity_action_plan)

UK Biodiversity Framework

<http://jncc.defra.gov.uk/page-6189>



## Appendix 1: Photographs

### Site 1 – Hollybank and Area behind the Scout Hut and Recreational Field



**Plate 1: looking west over the sloping grassland – cow parsley in tall sward.**



**Plate 2: Looking east towards the scout hut and tree line along the southern grassland boundary.**





**Plate 3: Grassland forming tussocks. Looking south, up the slope.**



**Plate 4: Shorter sward with more floral diversity along the northern boundary.**





**Plate 5: Looking north-east along the thick hedgerow. Note the grassland slope.**

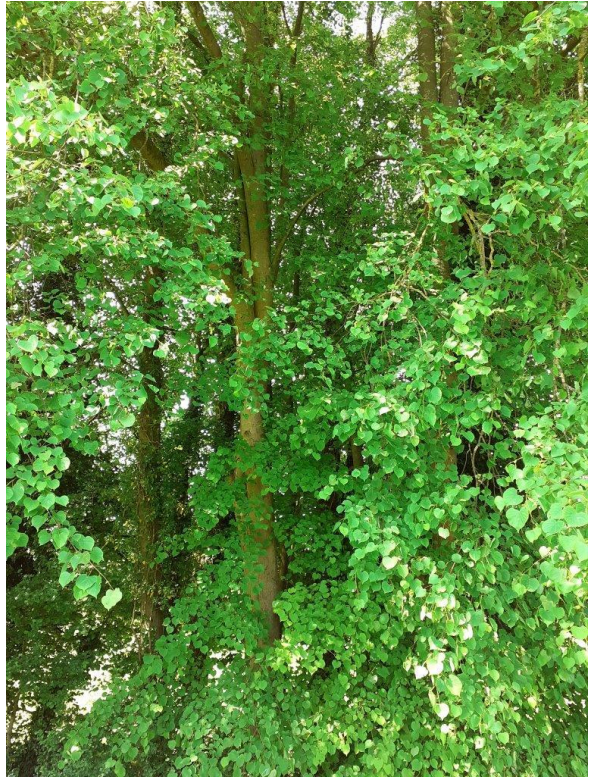


**Plate 6: Northern hedgerow and edge habitat with encroaching young blackthorn.**





**Plate 7: Mammal track through grassland.**



**Plate 8: Mature lime in hedgerow 2.**

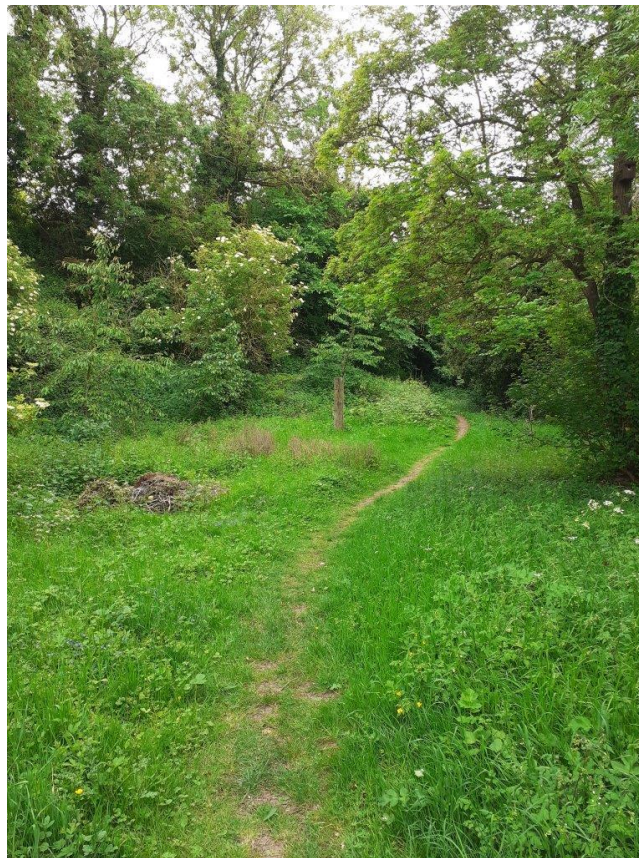


**Plate 9: Richer ground flora to the west – black knapweed, pignut, meadow buttercup, yarrow and lady's bedstraw.**





**Plate 10: Aging hawthorn within the sloping grassland – ideal nesting habitat for birds.**



**Plate 11: Pathway into the woodland from the northern end.**

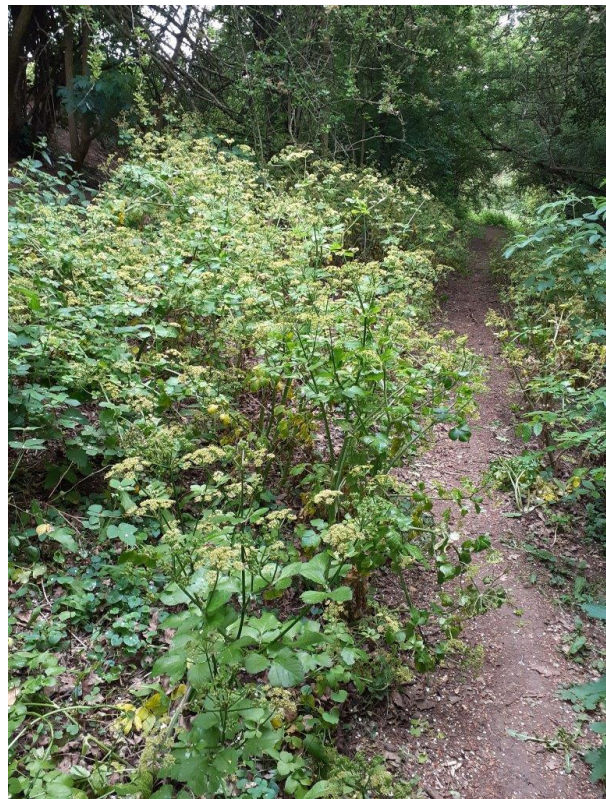




**Plate 12: Bramble and nettle bank leading up to a line of mature trees at the northern end of the woodland.**



**Plate 13: Looking east through the woodland.**



**Plate 14: Stand of 'Alexanders' along the woodland track, looking south.**





**Plate 15: Birds foot trefoil & lady's bedstraw within shorter sward, grazed by rabbits.**



**Plate 16: Meadow vetchling amongst taller plants adjacent to amenity lawn.**



**Plate 17: Transition from short to long grassland with a variety of flowering plants.**





**Plate 18: Knapweed, bird's foot trefoil and speedwell.**



**Plate 19: Area of bramble, nettle and flowering plants acting as important buffer habitat between the mown amenity areas and the woodland.**





**Plate 20: Looking west over a bramble bank towards the woodland.**



**Plate 21: Looking east from the south-west corner over an area of cow parsley.**





**Plate 22: An area of grassland sensitively retained beyond the play equipment to the north.**



**Plate 23: Mature tree line along the eastern boundary viewed from the recreation field.**



**Site 2 – The Village Green**



**Plate 24: The Village Green looking north towards the veteran oak.**



**Plate 25: Impressive canopy of veteran oak.**





**Plates 26 & 27: Veteran oak's multiple aerial branches covered in lichen.**



**Plate 28: Mature oak, looking south.**





**Plate 29: Looking north over the closely mown amenity lawn, towards the mature oak.**



**Site 3 – The Old Churchyard**



**Plate 30: Entrance to Hallow Old Churchyard.**

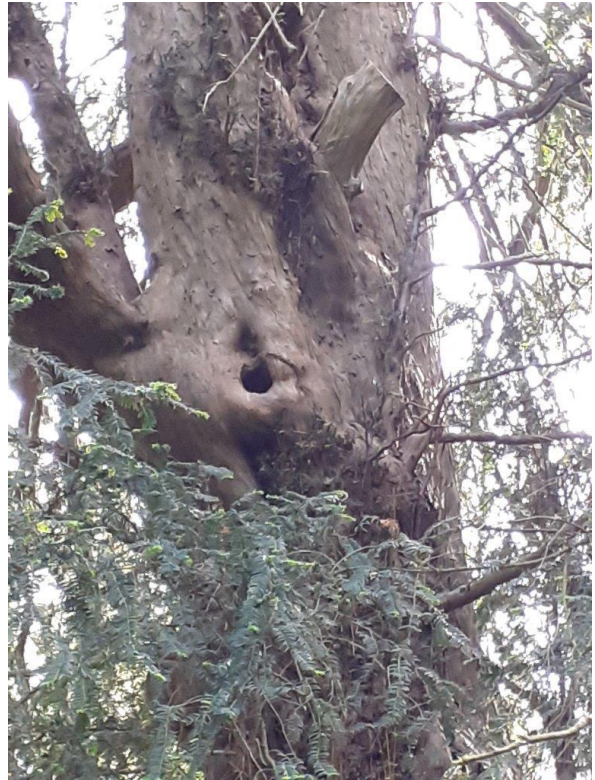


**Plate 31: View through the old churchyard. Note sparse ground flora in foreground.**





**Plate 32: Veteran yew.**



**Plate 33: Hole in yew – site of jackdaw nest.**



**Plate 34: Mature yew with fissured bark.**

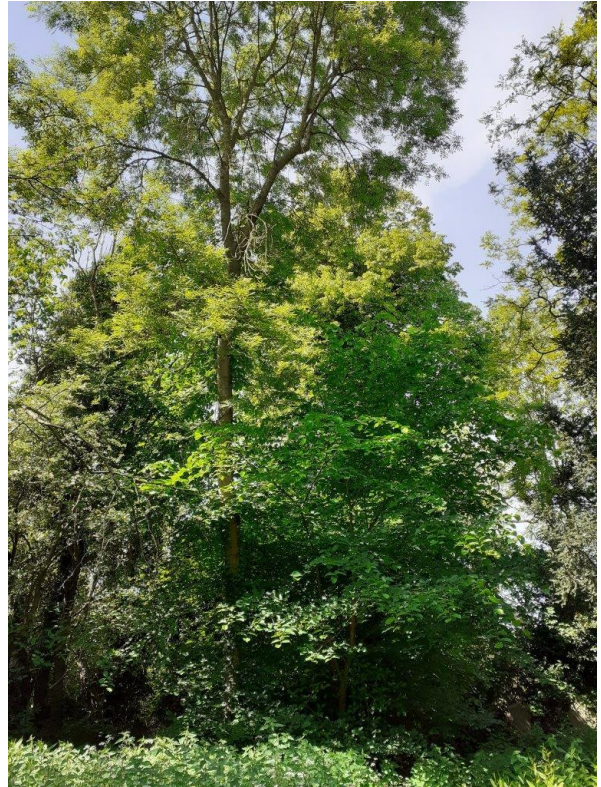


**Plate 35: Bird box containing great tit chicks.**





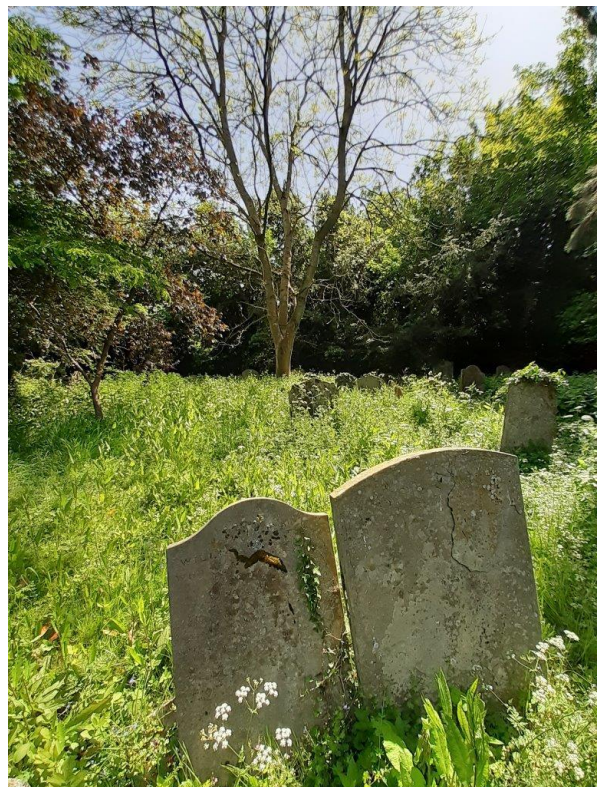
**Plate 36: Regrowth on coppiced wych elm.**



**Plate 37: Tall ash in tree canopy.**



**Plate 38: Wellingtonia to the south.**



**Plate 39: Longer grassland in areas of open canopy.**





**Plate 40: Ground flora to the south.**



**Plate 41: View across open areas from the south-east looking north-west.**



## Appendix 2: Wildlife Legislation

### Badgers

Under the ***Protection of Badgers Act 1992*** and the ***Wildlife Order (NI) 1985***, it is illegal to:

- wilfully kill, injure, take, possess or cruelly treat a badger – or attempt to do so
- intentionally or recklessly damage, destroy or obstruct access to a badger sett (whether or not there is a badger in it at the time)
- disturb a badger while it is occupying a sett
- sell, keep or mark a healthy badger or possess any dead badger or part thereof.

### Bats

Under the ***Wildlife and Countryside Act 1981***, the ***Wildlife Order (NI) 1985*** and the ***Conservation of Habitats and Species Regulations 2017*** (and ***NI 1995***) it is illegal to:

- intentionally or deliberately kill, injure or capture bats
- intentionally, deliberately or recklessly\* disturb bats
- intentionally, deliberately or recklessly\* damage, destroy or obstruct any place used for shelter or protection, i.e. bat roosts (even if they are not currently occupied)
- possess, sell or transport a bat, or anything derived from it.

### Dormice

Dormice and their habitat are fully protected under the ***Wildlife and Countryside Act 1981 (as amended)*** and the ***Conservation of Habitats and Species Regulations 2017***, making it illegal to:

- intentionally or deliberately kill, injure or capture dormice
- intentionally, deliberately or recklessly\* disturb dormice
- intentionally, deliberately or recklessly\* damage, destroy or obstruct breeding or resting sites or places used for shelter or protection (whether occupied or not)
- possess or transport a dormouse (or any part thereof) unless under licence
- sell or exchange dormice.

### Otters

Otters and their habitat are fully protected under the ***Wildlife and Countryside Act 1981 (as amended)***, the ***Wildlife Order (NI) 1985*** and the ***Conservation of Habitats and Species Regulations 2010*** and ***(NI) 1995***. It is illegal to:

- intentionally or deliberately kill, injure or capture otters
- intentionally or recklessly\* disturb otters
- intentionally or recklessly\* damage, destroy or obstruct breeding or resting sites or places used for shelter or protection (holts, couches etc) – whether occupied or not
- possess or transport an otter (or any part thereof) unless under licence
- sell or exchange otters.

### Water Vole

Water voles are protected under the ***Wildlife and Countryside Act 1981 (Amendment 1998)***, making it illegal to:

- intentionally or deliberately kill, injure or capture water voles
- intentionally or recklessly\* disturb voles
- intentionally or recklessly\* disturb, destroy or obstruct access to any place that water voles use for shelter or protection (whether occupied or not);

- possess or transport a water vole (or any part thereof) unless under licence
- sell or exchange water voles.

### **Birds**

All wild birds (i.e. resident, visiting and introduced species) in the UK are protected by law under the ***Wildlife and Countryside (WCA) Act 1981 (as amended)***, the ***Wildlife (NI) Order 1985***, and the ***Wildlife and Countryside (Amendment (Scotland) Regulations 2001***, making it illegal to:

- kill, injure or take any wild bird
- take, damage or destroy the nest of any wild bird while it is being built or in use
- take or destroy the eggs of any wild bird
- possess or control (e.g. for exhibition or sale) any wild bird or egg unless obtained legally.

### **Birds that receive special protection**

Species listed in ***Schedule 1*** of the ***WCA 1981*** and the ***Wildlife Order (NI) 1985***, such as the barn owl and peregrine falcon, receive special protection. In addition to the above legislation, it is also illegal to *intentionally or recklessly\** disturb any bird listed on ***Schedule 1*** while it is nest-building, or at or near a nest containing eggs or young, or to disturb any of its dependent young. Disturbance could occur, for example, through noise caused by construction works in close proximity to the nest. \* The term “recklessly” applies in England and Wales following the ***CRoW Act 2000***.

### **White-clawed crayfish**

Under the ***Wildlife and Countryside Act 1981 (as amended)*** it is illegal to *intentionally take (i.e. capture), sell, barter or exchange* white-clawed crayfish.

### **Great crested newt**

Great crested newts and their habitat are *fully protected* under the ***Wildlife and Countryside Act 1981 (as amended)***, and ***Conservation of Habitats and Species Regulations 2017***. It is illegal to:

- intentionally or deliberately capture, kill or injure great crested newts
- intentionally, deliberately or recklessly\* damage, destroy or obstruct access to any place used for shelter or protection, including resting or breeding places (occupied or not)
- deliberately, intentionally or recklessly\* disturb great crested newts when in a place of shelter
- sell, barter, exchange or transport or offer for sale great crested newts or parts of them. The legislation covers all life stages: eggs, larvae, juveniles and adults.

### **Widespread Amphibians**

***In England, Scotland and Wales*** the common frog, common toad, smooth newt and palmate newt are all protected against sale, trade etc under the ***Wildlife and Countryside Act 1981 (as amended)***.

### **Widespread reptiles**

All native British reptiles are protected against intentional killing and injury under the ***Wildlife and Countryside Act 1981 (as amended)*** and the ***Wildlife (NI) Order 1985***. ***In England, Scotland and Wales***, slow-worm, common lizard, adder and grass snake are also protected against

killing, injury and sale, barter or exchange, but their habitats or places of shelter are not specifically protected.

### **Invertebrates**

Certain invertebrate species are covered by the ***Wildlife and Countryside Act (WCA) 1981 (as amended)*** and the ***Wildlife (NI) Order 1985 (as amended)*** and given full protection against killing and injury, damage and/or destruction of their place of shelter, or taking. Other species are protected against sale only. For those species receiving *full protection*, it is illegal to:

- intentionally kill, injure or capture
- intentionally or recklessly\* disturb
- intentionally or recklessly\* damage, destroy or obstruct places of shelter or protection, including breeding sites (occupied or not)
- possess or transport an animal (or any part thereof) unless under licence
- sell or exchange animals.

\* The term “recklessly” was added as an amendment to the ***Wildlife and Countryside Act 1981*** as a result of the ***CRoW Act 2000*** – this applies to England and Wales only.

### **Plants**

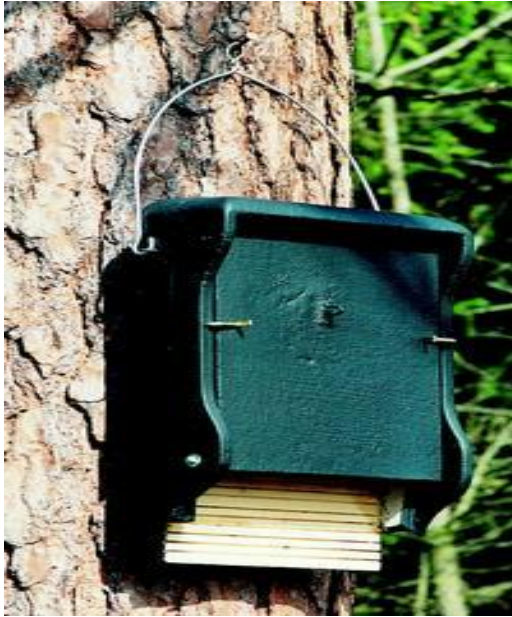
Plants are protected by the law. The ***Wildlife and Countryside Act 1981 (as amended)*** and the ***Wildlife (NI) Order 1985*** make it an offence for any person who is not “authorised” to intentionally uproot any wild plant. An “authorised” person can be the owner or occupier of the land on which the action is taken, or anybody authorised by them; or any person authorised in writing by the local authority for the area within which the action is taken. In addition, the ***Wildlife and Countryside Act 1981 (as amended)*** also includes, within ***Schedule 8***, in the order of 60 plant species that it is illegal for any person to intentionally pick, uproot or destroy. It also makes it an offence to offer wild bluebell (*Hyacinthoides non-scripta*) bulbs for sale.

### **The Hedgerow Regulations 1997 (Environment Act 1995)**

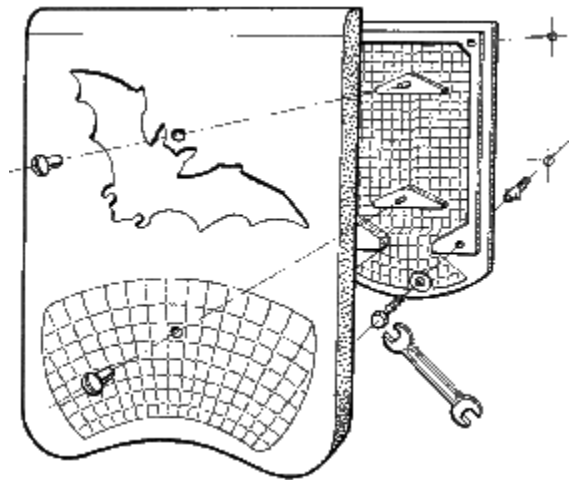
Under the Hedgerows Regulations it is against the law to remove most countryside hedges without first getting the permission of the local district council. These Regulations were introduced to offer protection to 'Important Hedgerows', as defined by the Regulations, in response to concern at the rapid loss of hedgerows in England and Wales. Various criteria specified within the regulations are used to identify important hedgerows for wildlife, landscape or historical reasons.

### Appendix 3: Ecological Enhancements

#### BAT ROOSTING FEATURES



Schwegler 1FF bat box



Schwegler 1WQ Summer & Winter bat box





**Schwegler 2FN bat box for installation in trees**



**Vincent Pro bat box**



**Beaumaris bat box**

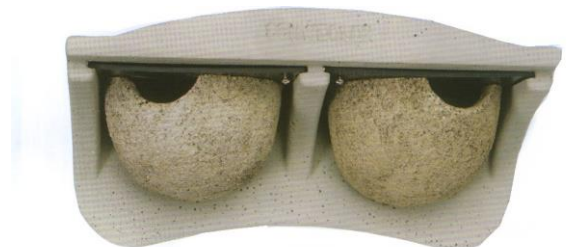
## BIRD BOXES



Various designs of swift boxes



House Sparrow terrace box



House Martin terrace box





Hole-fronted bird box (for trees)



Open-fronted bird box



Swallow cup



Hole-fronted bird box

## HEDGEHOG HOUSES



Hedgehog house from NHBS



Igloo hedgehog house from Ark Wildlife

## BUG HOTELS



Bug hotel - NHBS



Solitary bee house – RSPB



Bug hotel – Ark Wildlife

## Trees and shrubs suitable for hedgerow planting

Common name	Scientific name	Use
Apple	<i>Malus domestica</i>	Orchard, group planting
Blackthorn	<i>Prunus spinosa</i>	Hedgerow
Common hawthorn	<i>Crataegus monogyna</i>	Hedgerow
Crab apple	<i>Malus sylvestris</i>	Hedgerow
Damson	<i>Prunus domestica</i> ssp <i>insititia</i>	Hedgerow, orchard, group planting
Dogwood	<i>Cornus sanguinea</i>	Hedgerow
Field maple	<i>Acer campestre</i>	Hedgerow, specimen
Guelder rose	<i>Viburnum opulus</i>	Hedgerow
Hazel	<i>Corylus avellana</i>	Hedgerow
Holly	<i>Ilex aquifolium</i>	Hedgerow
Midland hawthorn	<i>Crataegus laevigata</i>	Hedgerow
Pear	<i>Pyrus communis</i>	Orchard, hedgerow, group planting
Pedunculate oak	<i>Quercus robur</i>	Hedgerow, specimen
Plum	<i>Prunus domestica</i>	Orchard, group planting
Rowan	<i>Sorbus aucuparia</i>	Hedgerow, specimen
Small-leaved lime	<i>Tilia cordata</i>	Hedgerow, specimen
Spindle	<i>Euonymus europaeus</i>	Hedgerow
Wayfaring tree	<i>Viburnum lantana</i>	Hedgerow
Wych elm	<i>Ulmus glabra</i>	Hedgerow

Note: This list is merely indicative, and a selection of species should be chosen



## Planting Choices for Wildlife



Many wildlife species benefit greatly from considerate planting choices that still meet our practical and aesthetic needs. Plants and trees provide food for wildlife as well as places to nest and rest. Vegetation providing a variety of these functions creates an environment more beneficial for wildlife.

### Non native species

Native species provide the best habitat for UK wildlife but there are also many non-native species, which are single flowering and/or provide fruits/nuts/seeds that can be used as food sources for insects, birds and small mammals. When using these non-native species in planting schemes, care should be taken to avoid invasive species such as Cotoneaster and Rhododendron. This is especially important when sites are adjacent to open countryside particularly nature reserves.



Fire thorn *Pyracantha coccinea*

### Uses of Wildlife Planting

Wildlife value can be easily incorporated into visually pleasing and useful green areas and amenity spaces, such as borders, grass verges and tree screens.

**Attractive Borders:** Well selected decorative borders can be valuable for many insects and birds. Native plants can be mixed with single flowering ornamental species to add aesthetic interest and increase the flowering period of a planting scheme.

**Shrubs and hedges:** Native spiky species like blackthorn and hawthorn are effective barriers when used in hedges. They also provide an attractive feature at all times of year especially when in blossom and fruit. Bushy areas of foliage provide useful nesting and feeding areas for birds and small mammals, as well as foraging/commuting corridors for bats.

**Grasses mixes and verges:** Leaving uncut areas of suitable grasses provides great wildlife value and is economical to manage. Diverse grassy areas and verges also create an attractive human environment with different flowers and colours. There are a range of native grass and flower mixes for various soil types available on the market.



Wild flower grass mix





## Species Selection

There are wildlife friendly species suitable for all situations, from fields, verges, shady corners or small gardens. Listed below are native wildlife friendly plant species organised by type and suitability for different locations.

### Large Trees

Ash *Fraxinus excelsior*  
Beech *Fagus sylvatica*  
English Elm *Ulmus procera*  
Oak *Quercus robur* or *Q. petraea*  
Small-leaved lime *Tilia cordata*  
White willow *Salix alba*  
Wild cherry *Prunus avium*



White willow

### Medium/small trees

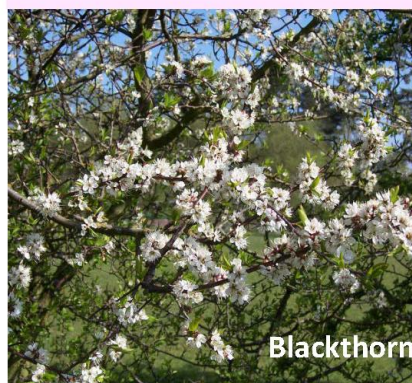
Alder *Alnus glutinosa*  
Aspen *Populus tremula*  
Crab apple *Malus sylvestris*  
Field maple *Acer campestre*  
Holly *Ilex aquifolium*  
Rowan *Sorbus aucuparia*  
Silver birch *Betula pendula*  
Yew *Taxus baccata*



Tussocky grassland

### Native shrubs

Blackthorn *Prunus spinosa*  
Dogwood *Cornus sanguinea*  
Elder *Sambucus nigra*  
Guelder rose *Viburnum opulus*  
Hawthorn *Crataegus monogyna*  
Hazel *Corylus avellana*



Blackthorn

### Plants for shady areas

Archangel *Lamium galeobdolon*  
Betony *Stachys officinalis*  
Bluebell *Hyacinthoides non-scriptus*  
Bugle *Ajuga reptans*  
Foxglove *Digitalis purpurea*  
Ground ivy *Glechoma hederacea*  
Lily of the valley *Convallaria majalis*  
Lords-and ladies/cuckoopint *Arum maculatum*  
Nettle-leaved bellflower *Campanula trachelium*  
Primrose *Primula vulgaris*  
Sweet violet *Viola odorata*  
Wild daffodil *Narcissus pseudonarcissus*

### Plants for marshy areas & pond edges

Bugle *Ajuga reptans*  
Hemp agrimony *Eupatorium cannabinum*  
Marsh marigold *Caltha palustris*  
Marsh woundwort *Stachys palustris*  
Meadowsweet *Filipendula ulmaria*  
Purple loosestrife *Lythrum salicaria*  
Ragged robin *Lychnis flos-cuculi*  
Water avens *Geum rivale*  
Water forget-me-not *Myosotis scorpioides*  
Water mint *Mentha aquatica*  
Water violet *Hottonia palustris*  
Yellow flag *Iris pseudacorus*



**Beneficial cultivated plants  
(generally non-natives)**

Grecian windflower *Anemone blanda*  
 Angelica *Angelica archangelica*  
 Aubretia *Aubretia deltoidea*  
 California poppy *Eschscholtzia californica*  
 Candytuft *Iberis sempervirens*  
 Christmas rose *Helleborus niger*  
 Cosmos *Cosmos bipinnatus*  
 Evening primrose *Oenothera biennis*  
 Fleabane *Erigeron* spp.  
 Forget-me-not *Myosotis* spp.  
 French marigold *Tagetes patula*  
 Globe thistle *Echinops ritro*  
 Grape hyacinth *Muscari botryodes*  
 Hollyhock *Althaea rosea*  
 Honesty *Lunaria rediviva*  
 Ice plant *Sedum spectabile*  
 Lenten rose *Helleborus orientalis*  
 Tree mallow *Lavatera* spp.  
 Michaelmas daisy *Aster nova-belgii*  
 Mint *Mentha x rotundifolia*  
 Perennial cornflower *Centaurea montana*  
 Perennial sunflower *Helianthus decapetalus*  
 Phlox *Phlox paniculata*  
 Poached-egg plant *Limnantes douglasii*  
 Red valerian *Centranthus ruber*  
 Snapdragon *Antirrhinum majus*  
 Spring crocus *Crocus chrysanthus* and hybrids  
 Sweet alyssum *Lobularia maritima*  
 Sweet bergamot *Monarda didyma*  
 Sweet William *Dianthus barbatus*  
 Tobacco plant *Nicotiana affinis*  
 Wallflower *Cheiranthus cheiri*  
 Alpine rock-cress *Arabis alpina*  
 Winter aconite *Eranthis hyemalis*  
 Yellow alyssum *Alyssum saxatile*

**Native wildflowers for borders**

Agrimony *Agrimonia eupatoria*  
 Betony *Stachys officinalis*  
 Bluebell *Hyacinthoides non-scriptus*  
 Chicory *Cichorium intybus*  
 Chives *Allium schoenoprasum*  
 Common poppy *Papaver rhoeas*  
 Corncockle *Agrostemma githago*  
 Cornflower *Centaurea cyanus*  
 Corn marigold *Chrysanthemum segetum*  
 Cowslip *Primula veris*  
 Cuckooflower *Cardamine pratensis*  
 Dame's-violet *Hesperis matronalis*  
 Devil's-bit scabious *Succisa pratensis*  
 Field scabious *Knautia arvensis*  
 Foxglove *Digitalis purpurea*  
 Goldenrod *Solidago virgaurea*  
 Great mullein *Verbascum thapsus*  
 Greater knapweed *Centaurea scabiosa*  
 Harebell *Campanula rotundifolia*  
 Herb-robert *Geranium robertianum*  
 Lady's bedstraw *Galium verum*  
 Marjoram *Origanum vulgare*  
 Meadow cranesbill *Geranium pratense*  
 Common mallow *Malva sylvestris*  
 Oxeye daisy *Leucanthemum vulgare*  
 Primrose *Primula vulgaris*  
 Red campion *Silene dioica*  
 Snowdrop *Galanthus nivalis*  
 Spiked speedwell *Veronica spicata*  
 Tansy *Tanacetum vulgare*  
 Teasel *Dipsacus fullonum*  
 Toadflax *Linaria vulgaris*  
 White campion *Silene alba*  
 Wild thyme *Thymus drucei*  
 Yellow loosestrife *Lysimachia vulgaris*



Marjoram



Cornflower



Perennial sunflower

## **Appendix 4: Ecological Experience**

### **Becca Bratt BA (Hons) MSc**

#### *Consultancy Ecologist*

Prior to joining the consultancy in 2018, Becca worked for the Wye Valley AONB as an ecological surveyor, undertaking Phase 1 Habitat surveys and veteran tree assessments. She also volunteered for two years at RSPB Coombes Valley, gaining experience in practical conservation, ecological surveying and public engagement. Alongside this, she completed a Masters degree in Ecology and Conservation, utilising the RSPB reserve and its historical data to investigate the habitat preferences of pied flycatcher. She has a broad ecological knowledge base, a keen interest in botany and an enthusiasm for ornithology. She has experience of using QGIS for map generation and is a volunteer bird recorder for the British Trust for Ornithology.



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**Worcestershire Wildlife Consultancy provides an independent professional ecological service, encompassing a broad range of ecological knowledge and skills. While maintaining a local focus within the Midlands, we also operate throughout the UK.**

We offer a competitive pragmatic solution based environmental service to the business and development sector, local authorities, public utilities, Natural England and non-governmental organizations (NGOs), as well as individual clients.

Worcestershire Wildlife Consultancy (WWC) has been the consultancy for Worcestershire Wildlife Trust since 1988, providing a wealth of experience to the environmental and ecological sector. All the profits of the ecological Consultancy are donated to Worcestershire Wildlife Trust and used to support its charitable work throughout the County.

Worcestershire Wildlife Consultancy has wide-ranging ecological and environmental expertise and a team of specialist associates allowing us to offer a comprehensive list of ecological services:

- Phase 1 Habitat Surveys
- Protected Species Surveys
- Bat Surveys
- Great Crested Newt Surveys
- Reptile Surveys
- Badger Surveys
- Nesting Bird Surveys
- Breeding Bird Surveys
- Barn Owl surveys
- Otter & Water Vole Surveys
- Dormouse Surveys
- Invertebrate surveys
- Small Mammal Surveys
- Botanical Surveys (incl. NVC – National Vegetation Survey)
- Hedgerow Surveys
- Invasive Weed Surveys
- Protected Species Licence Applications (incl. Bat Low Impact Class licence)
- Ecological Clerk of Works
- Mitigation Advice & Implementation
- Monitoring – Botanical & Wildlife
- BREEAM Assessments (incl. Code for Sustainable Homes)
- Ecological Planning Advice
- GIS Analysis
- Pond Surveys
- River Corridor Surveys
- Habitat Management Plans
- Habitat Creation/Restoration Advice & Implementation
- Arboricultural Surveys
- Training/CPD

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