




Biodiversity Report for the Neighbourhood Plan Areas of:

- Leigh & Bransford
- Alfrick & Lulsley

Legend

-  BAP network (core area)
-  BAP network (dispersal extent)
-  Alfrick & Lulsley NHP area

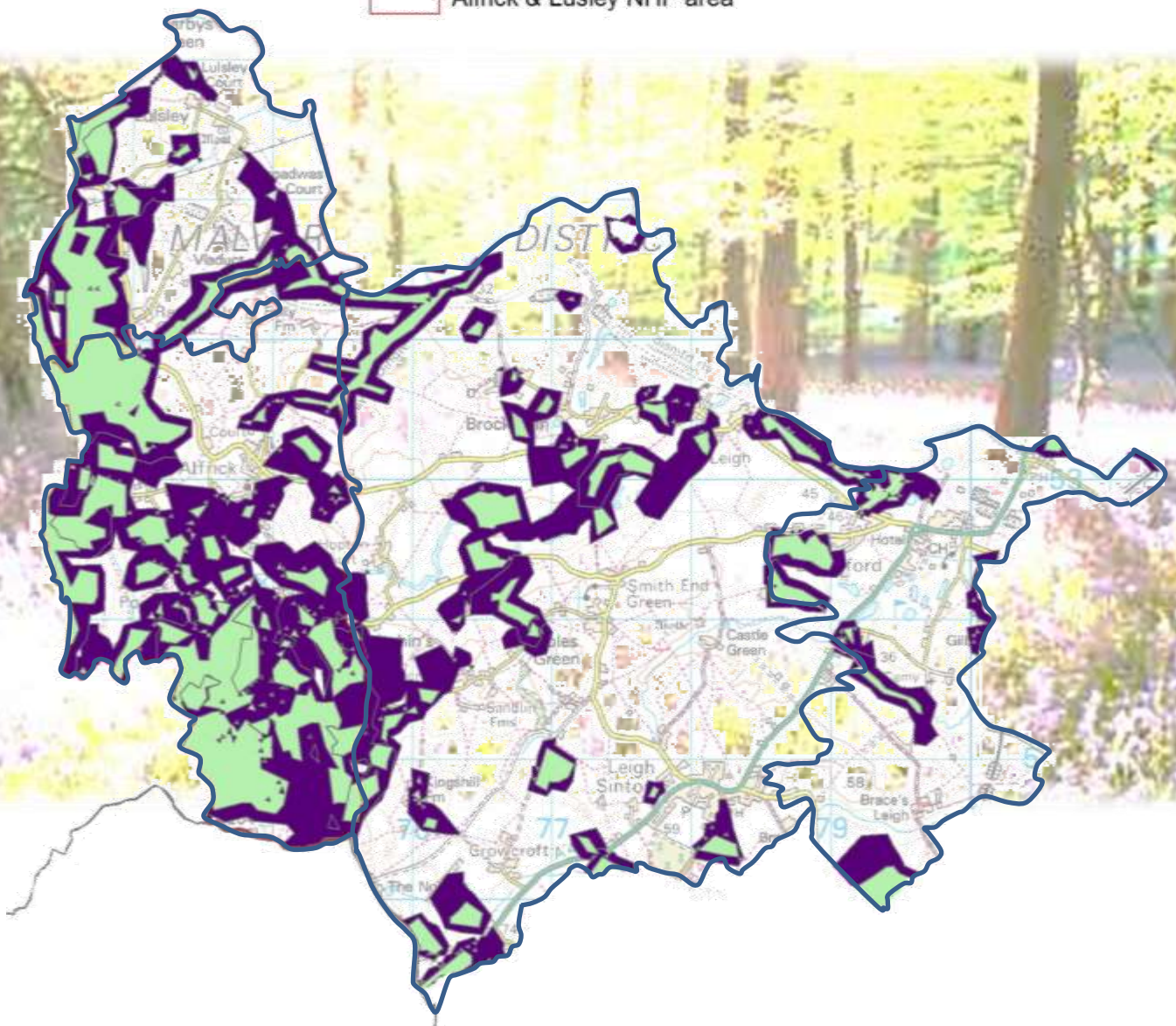


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Brief

This information is provided by Worcestershire County Council in contribution towards the evidence base supporting formulation of the emerging Neighbourhood Plans for the parishes of ALRFICK & LULSLEY and LEIGH & BRANSFORD. Information is provided on good faith and on the understanding that data is only to be used for the purpose of NHP preparation and will not be re-published or re-issued in any way to third parties other than with the written consent of Worcestershire County Council. Data is also provided with the courtesy of Worcestershire Biological Records Centre. It must be recognised that biological data represents a 'snapshot' of interest at the time of data preparation and should be treated with caution where records are not up-to-date. It is advisable to gather additional and ground-based surveillance where any doubt remains.

1. The Green Infrastructure Framework Setting

The two NHP areas are located in central-western Worcestershire, in a landscape context of Principal Wooded Hills and Principal Timbered Farmlands in the West, transitioning to Principal Timbered Farmlands in the east, with Riverside Meadow Landscape Character threaded along the Leigh Brook and River Teme corridor. The broader Environmental Character of these Landscapes is defined within the Worcestershire Green Infrastructure Framework as:



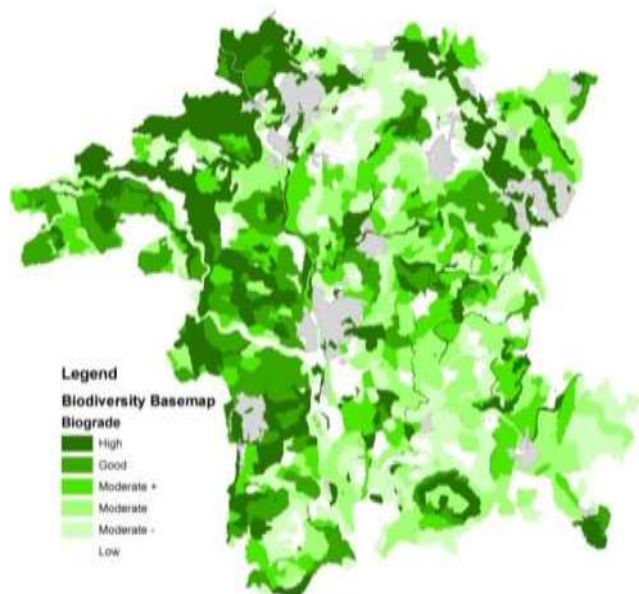
Environmental Character Area 9: Malvern Chase & Commons

Strategic GI Approach	Protect and Enhance
Overarching principles:	Protect and enhance acid and neutral grassland habitats and wooded landscape of orchards, woodlands and scrub.
Biodiversity Priorities:	<p>Priority to protect, buffer and enhance existing sites to create linked networks of habitat where possible.</p> <p>Protect and enhance grassland habitats (acid and neutral) and the wooded landscape including orchards, woodlands and scrub. Conserve parkland and veteran trees. Maintain traditional field boundaries including hedges, where appropriate to aid habitat connectivity.</p>

Environmental Character Area 21: River Teme Corridor

Strategic GI Approach	Protect and Restore
Overarching principles	Protect and restore multi- functional river valley corridor and floodplain.
Biodiversity Priorities	<p>Newly created GI features should aim to augment the existing resource concentrating on the main priorities for protection and creation including wetland and floodplain habitats in the river corridors.</p> <p>Create and enhance existing neutral grassland habitats and traditional field boundaries to aid connectivity and landscape permeability</p>

2. Worcestershire Habitat Inventory Overview Area Report



The Worcestershire Biodiversity Basemap identifies that the two NHP areas are located in an area identified as holding significant value for biodiversity:

2a. Landscape Scale Patterns of Biodiversity

West Worcestershire (west of the rivers Stour and Severn) contains large areas of relatively intact ancient countryside, much of which is of high biodiversity importance. When

considered in a wider landscape context, this swathe of countryside is likely to form a critical element of a nationally important ecological network that stretches from the south west via the Severn corridor and Forest of Dean, through west Gloucestershire, east Herefordshire and west Worcestershire, and on into Shropshire and Cheshire.

Laugherne Valley/ Northern Malvern Chase Area (covers much of Alfrick and a sliver of the western border of Lulsley NHP)



This area to the West and North-west of Worcester sits just above the Northern part of Malvern chase. This area has a diverse geology and is relatively biodiverse. The high coverage of broadleaved woodland incorporates numerous areas of ancient woodland with a range of woodland communities. Though some areas are predominantly arable, much semi-natural habitat is retained in steep valleys, on scarps, bluffs, outcrops and in linear features. Much of the area retains elements of ancient countryside, and a high coverage of traditional orchards and a relatively good network of open water add to this character. The area has a varied geology ranging through from basic, through neutral, to acidic and so the flora is very varied and diverse in places. Coverage of possibly unimproved grassland and probably improved grassland is very high with 'known' neutral grassland

coverage being really quite low and 'known' coverage of neutral meadows, calcareous and acid grassland being very low. Though much of this area, especially the grassland element, is not covered

by existing survey, and survey possibly of unimproved grassland may reveal previously unknown sites of BAP or near BAP quality, and potential sites for grassland restoration.

Malvern Chase Central, Southern, Northern Chase (covers much of Leigh & Bransford as well as the majority of Lulsley NHP area)

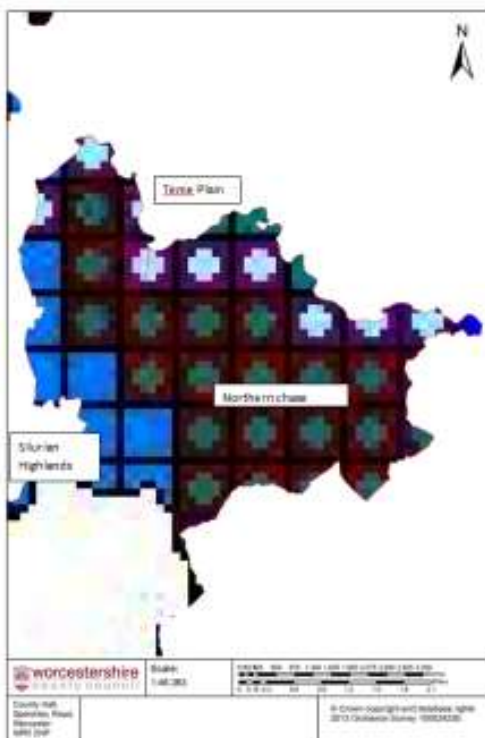
Malvern Chase, in the west and south-west of the county encompass three distinct areas which differ in character from one another; these are the northern, central and southern chases. The northern chase is quite exploited by agriculture, but retains biodiversity in valleys and on steep slopes, as well in hedgerows and verges.

Semi-natural habitat in Malvern Chase is variable, and biodiversity value is variable across the three areas. Much of the land use in the area is arable land or is grassland likely to have been agriculturally improved to some degree. There are scattered pockets of broadleaved woodland in the central, and more frequently the northern chase, where a greater proportion of this is ancient woodland.

“Possibly improved” grassland is scattered throughout the chase and is interspersed with BAP (MG5) neutral meadows and pastures and other neutral grassland, some of which can be found in common land or on verges and small meadows and pastures forming a good network of grasslands. Orchard coverage in Malvern Chase is relatively low, but where orchards are present (more often in the central and northern chase) they form well connected networks. The pond networks analysis shows that there is potentially a high degree of connectivity between standing water/small ponds. Wetland coverage in Malvern Chase is low, and is often confined to small areas or micro features



3. Ecological Zone overview



The Silurian Highlands A very distinctive and well defined natural area. This is the series of hills and low ridges running north from Mathon to the Abberley Hills. The underlying strata are predominately Silurian Limestones such that the flora is predominately basic. The geology is not simple and the presence of sandstones, Permian and even Malvernian rocks adds diversity to an already very rich flora. It is an incredibly rich area. The vast majority of the landscape is clothed in semi-natural habitats with a series of ancient woodlands forming the core interest. These are some of Britain's most diverse woodlands in terms of their tree and shrub component. Large-leaved lime is present over much of the range and hornbeam is on the edge of its native British limit here. An exceptionally high quality landscape for biodiversity.

The Teme Plain The river itself and the valley floor habitats (where they survive) support a very distinctive flora throughout the length from Little Hereford to the Severn confluence. For this reason it is given a sub region of its own. Interestingly there are many common features with river systems of the Scottish Border country - *Scirpus sylvaticus*, *Scrophularia umbrosa* but with a distinct southwest British element as typified by *Aconitum napellus*. The Teme is the best British river for a number of different groups. A superb natural zone.

The Northern Chase The northern section of this area is reasonably biodiverse. This in part relates to the relief. The stream valleys as they descend towards the Teme are highly incised. In these areas semi-natural habitats have survived. The pattern of both land tenure and farming practice is different. Hop and fruit growing were both widespread. These forms of agriculture were less destructive for wildlife.

4. Worcestershire Habitat Inventory dataset

Introduction

The WHI is intended primarily for use as a tool to assist decision making by WCC officers and partners and has already fed into the Green Infrastructure, Worcestershire BAP, and priority project targeting.

WHI is a systematic survey of the whole of Worcestershire on a field by field basis. Habitats have been mapped into a GIS database; largely this was from aerial photograph interpretation, though it does also incorporate habitat data and other relevant data from a wide range of sources including limited ground-truthing.

WHI network analysis

It has been suggested that an ecological network based approach should be considered as a mechanism for identifying conservation and enhancement priorities in areas that retain strong semi-natural habitat networks and subsequently in areas where these networks are easily restorable (Catchpole and Buchanan 2007, Catchpole 2008). The aim of this analysis phase was to identify the primary and restorable semi-natural habitat networks, as well as areas where it is unlikely to be practical or cost effective to maintain or create viable semi-natural habitat networks; for example areas where semi-natural habitat are more dispersed, fragmented or isolated and so where alternative conservation and enhancement measures are likely to be more appropriate.

Key uses

WHI Analysis has highlighted areas of high biodiversity value within the county and provides an important tool for Strategic Planning, site planning, and master planning.

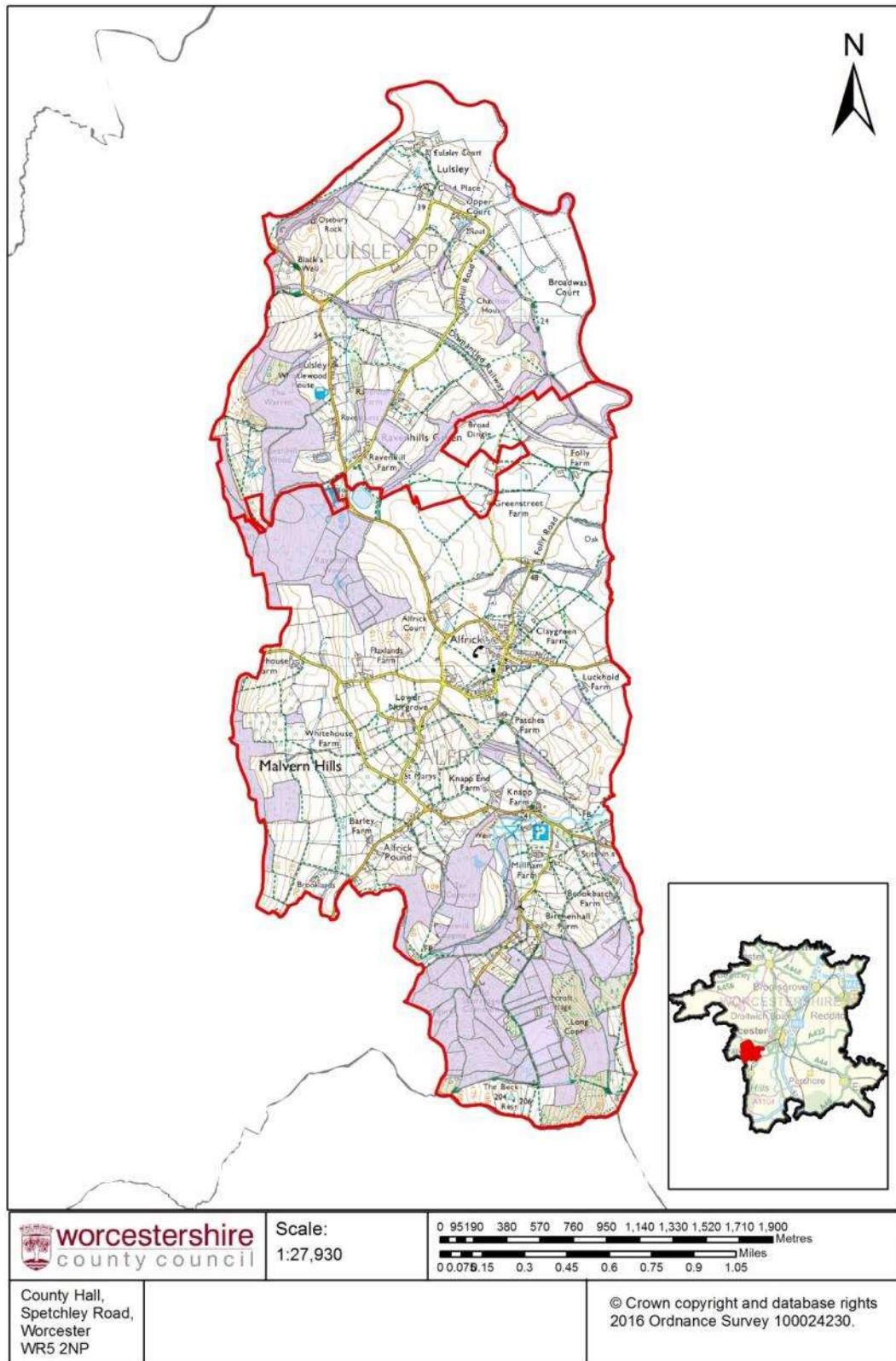
The Network analysis provides a visual representation of habitat connectivity at an authentic scale. Both the WHI network and Biodiversity basemap, particularly when used in conjunction, provide a useful tool to highlight areas of higher and lower biodiversity value and also the potential impacts of prospective schemes.

Use of the WHI can only be undertaken in recognition of the data limitations and constraints to data analysis as set out in the WCC WHI Report, Parker (2010).

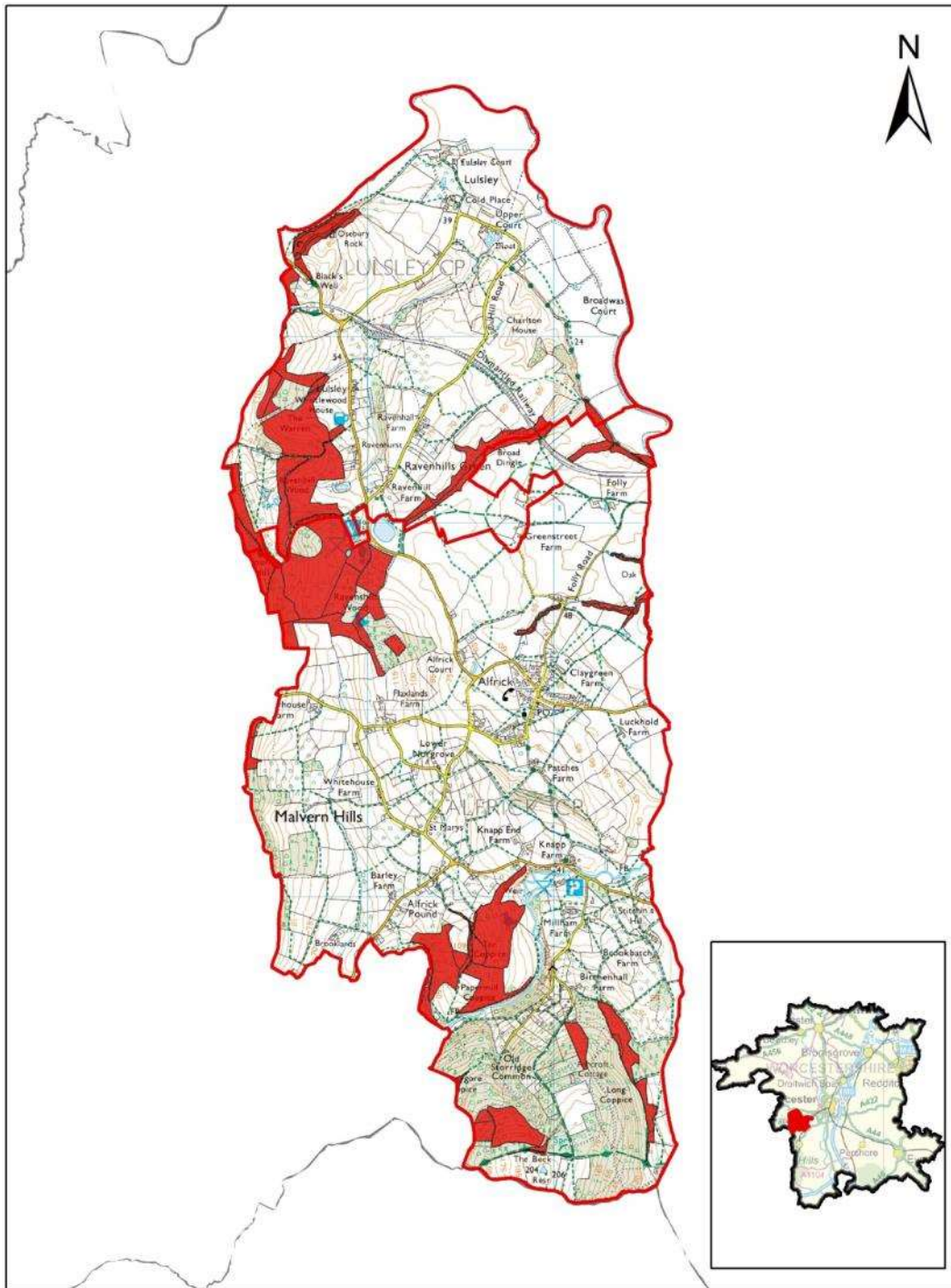
4a. Alfrick & Lulsley

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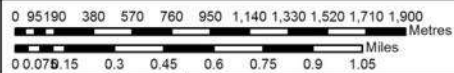


i. 'Merged' woodland layer



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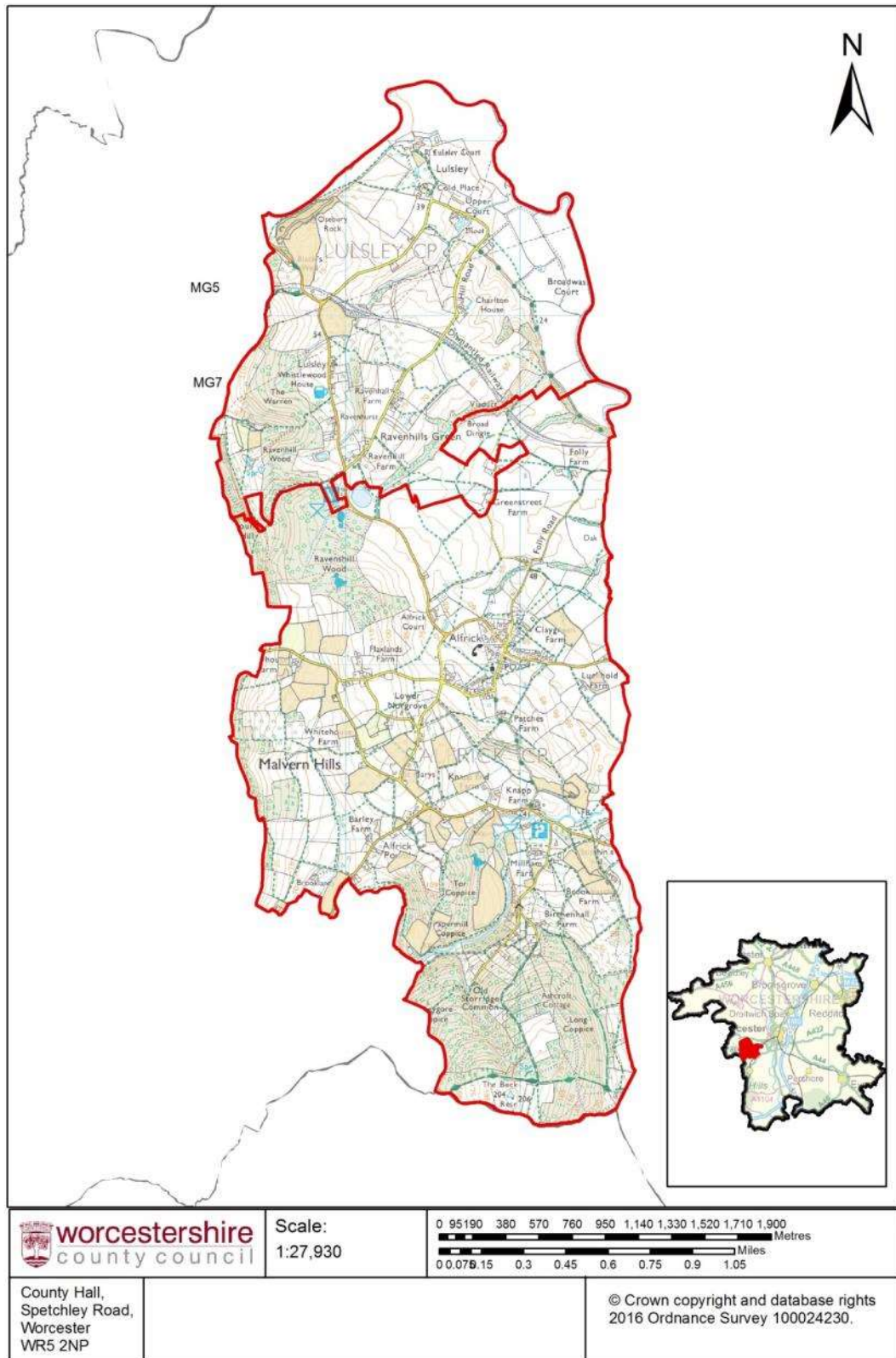
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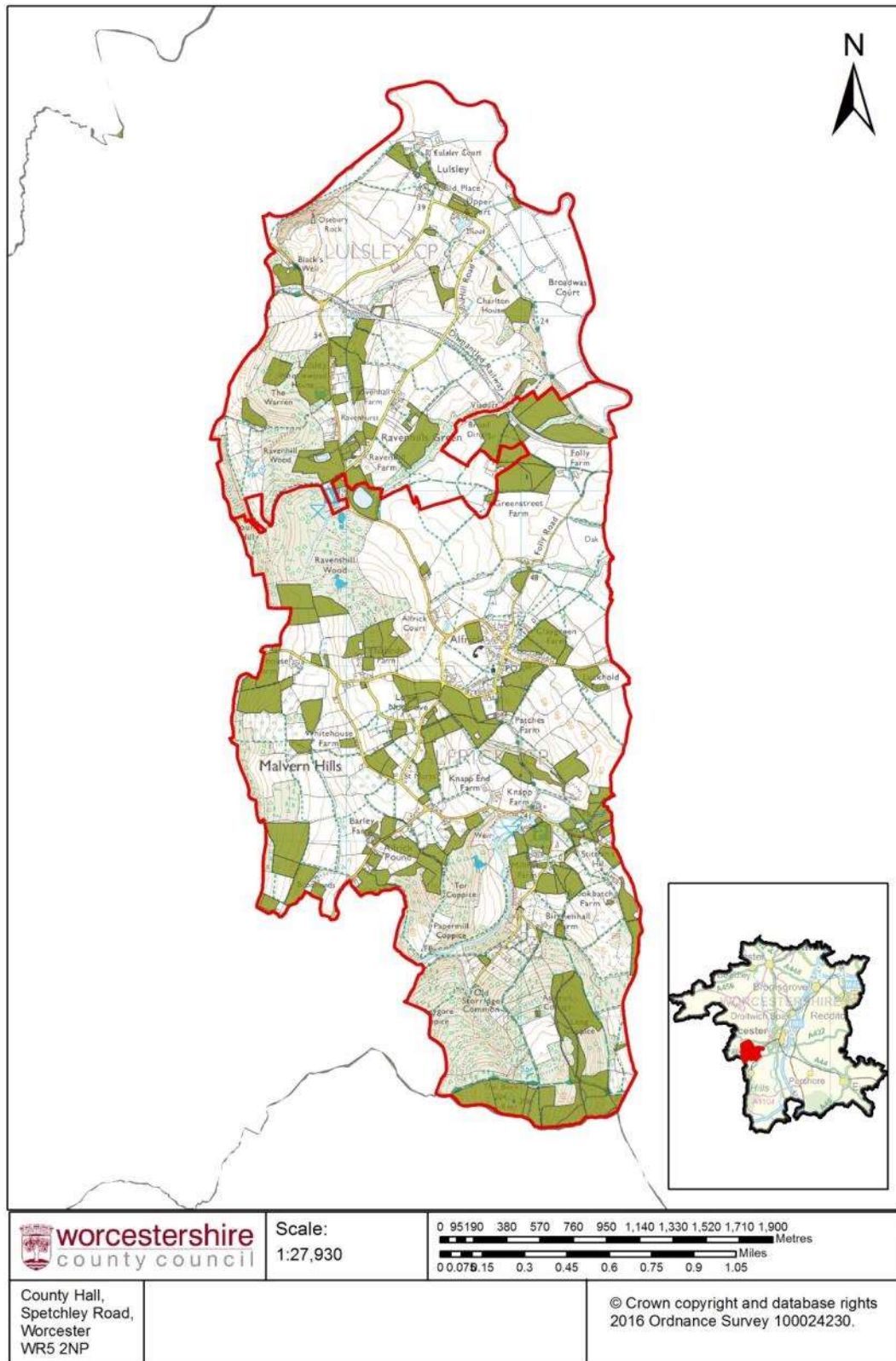
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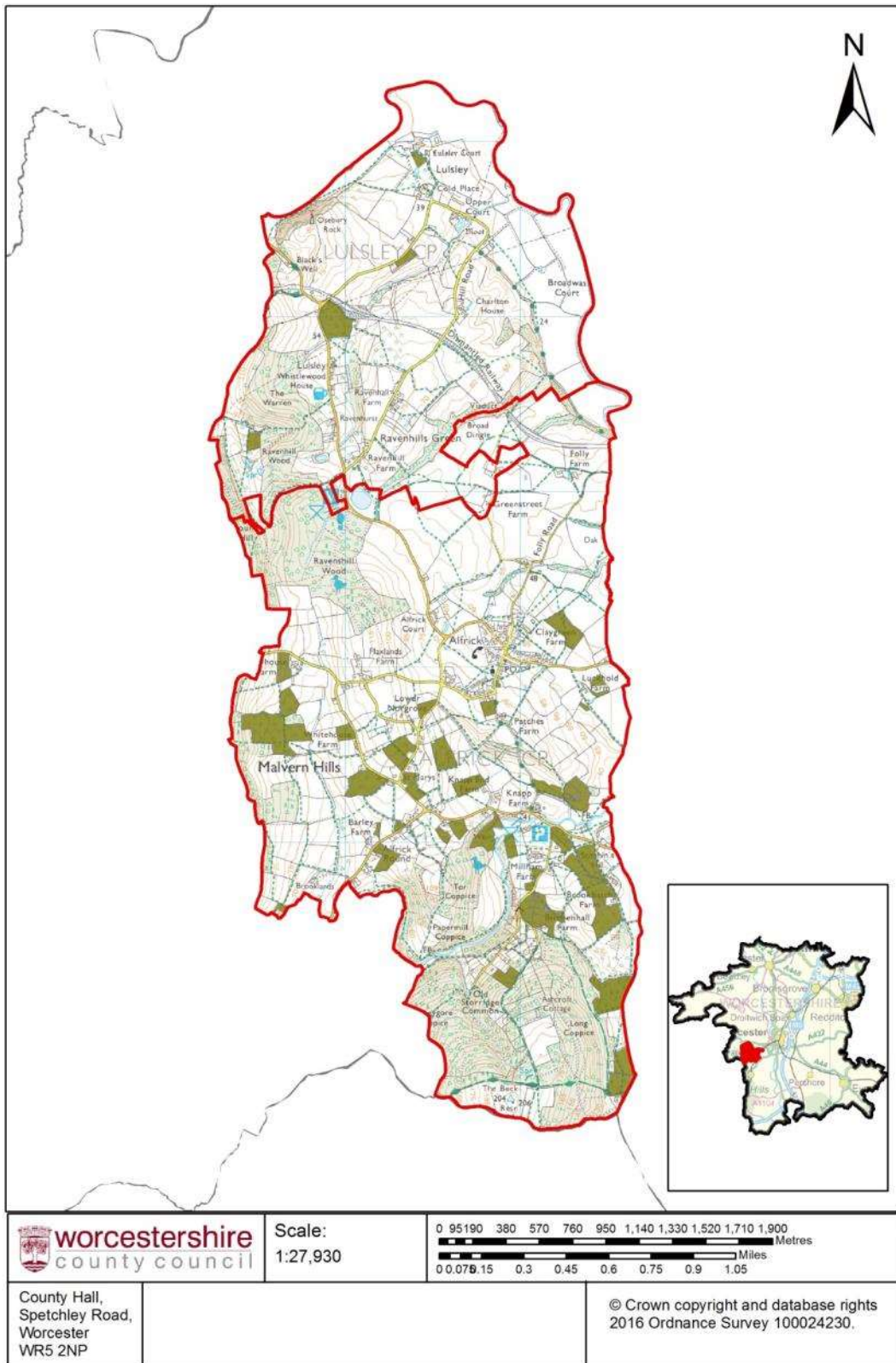
ii. Semi-Natural Ancient Woodland



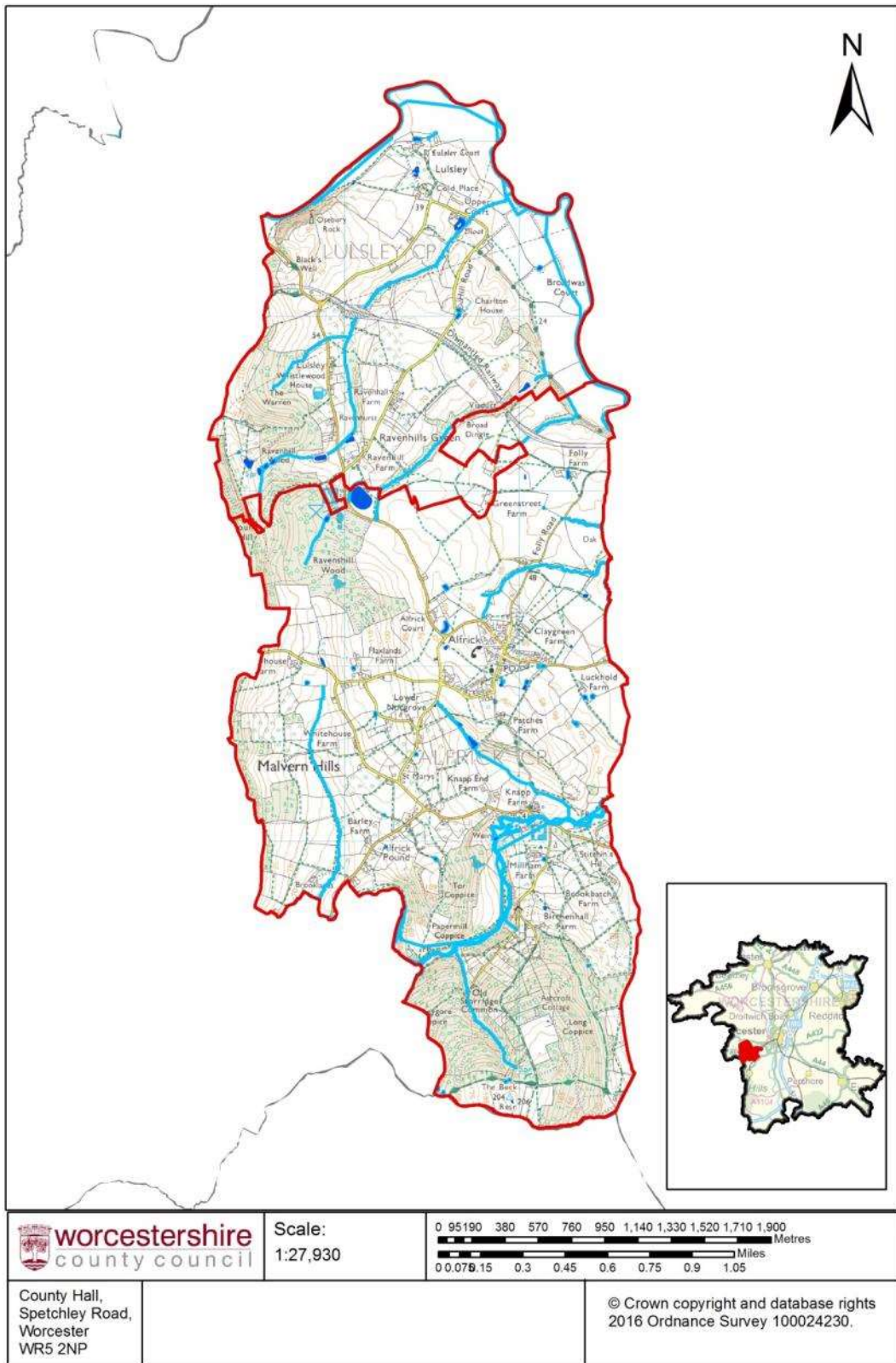
iii. Biodiversity Action Plan (BAP) quality grasslands



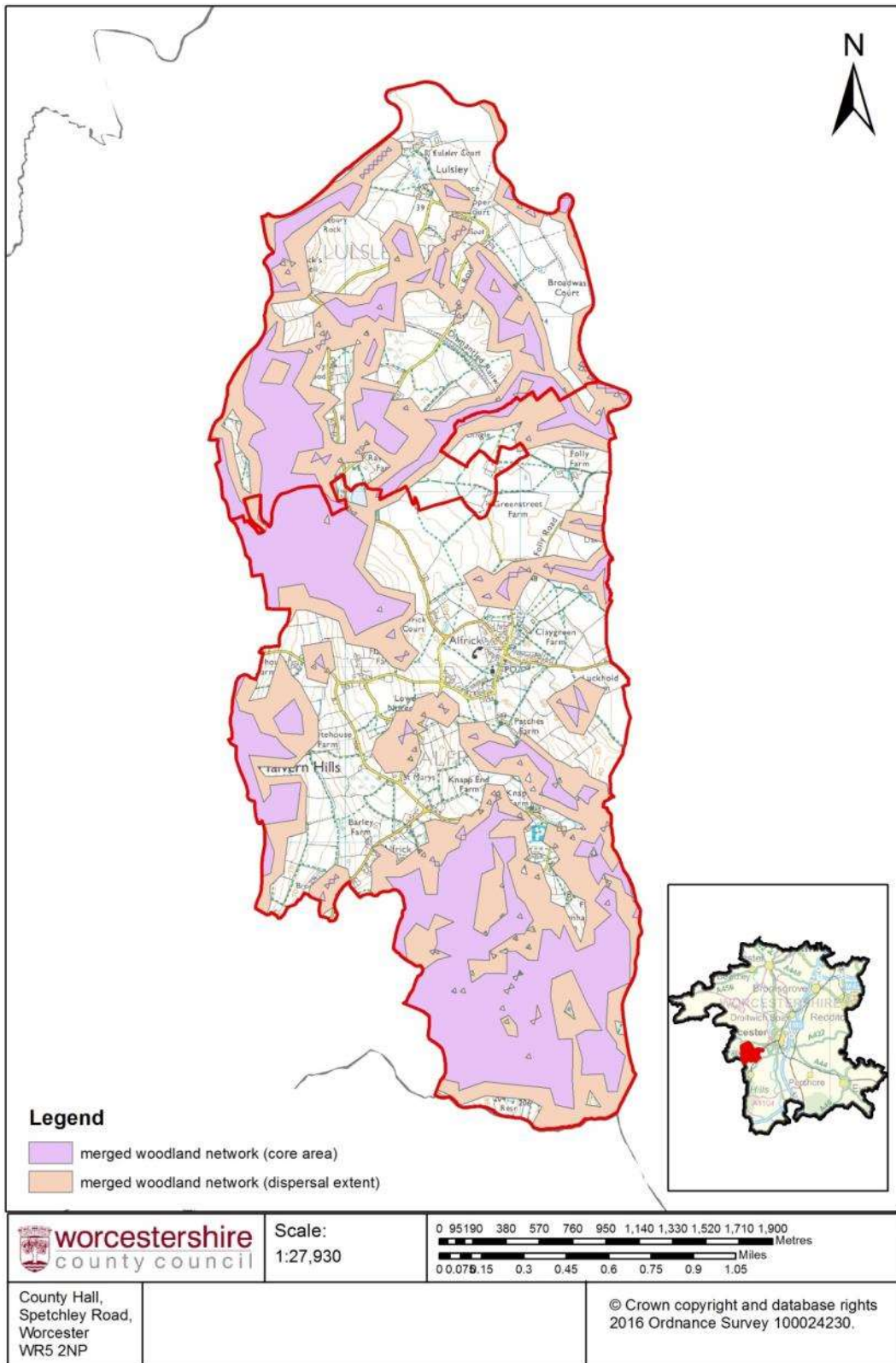
iv. Possibly unimproved grasslands



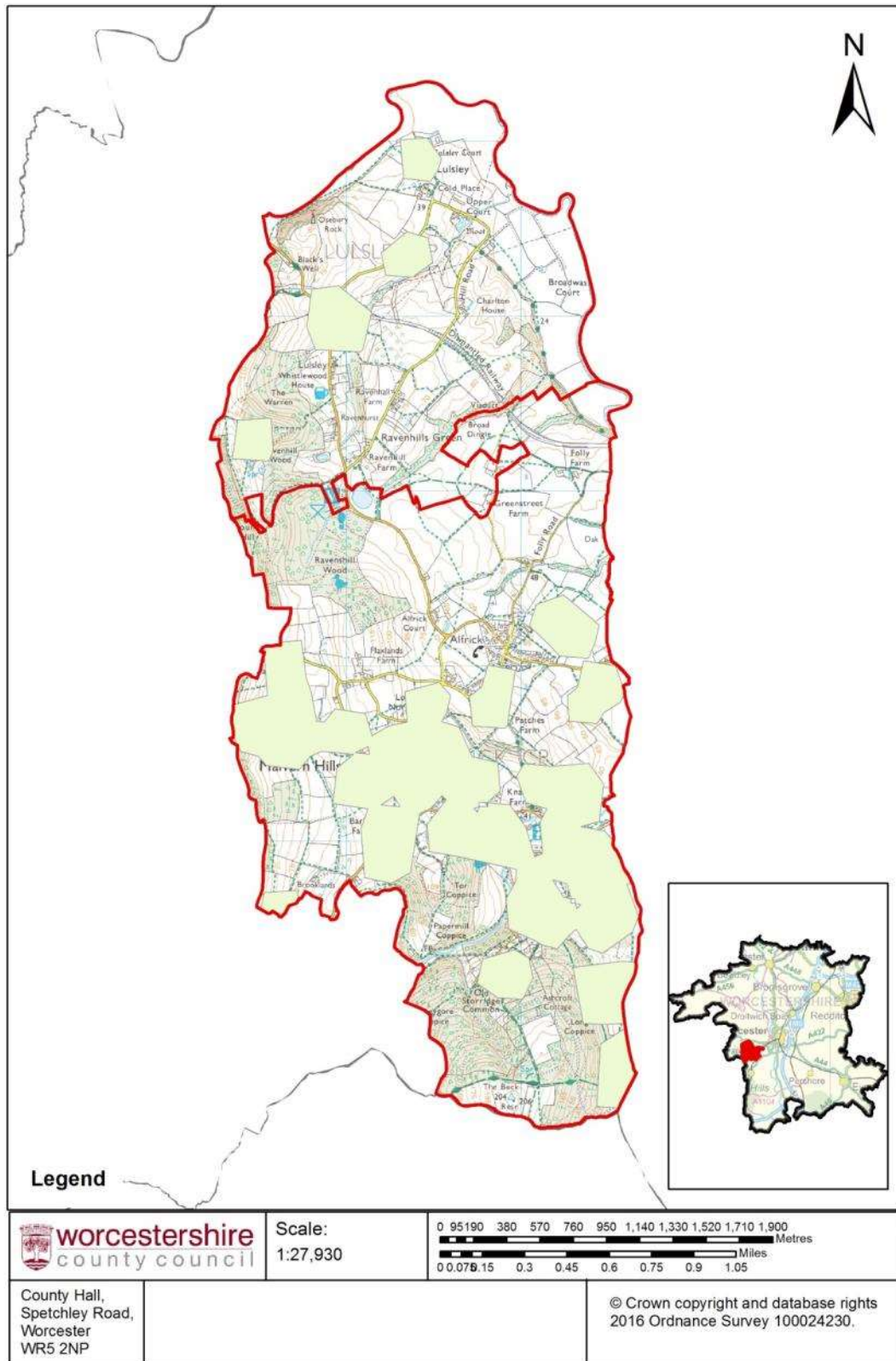
v. Traditional orchards



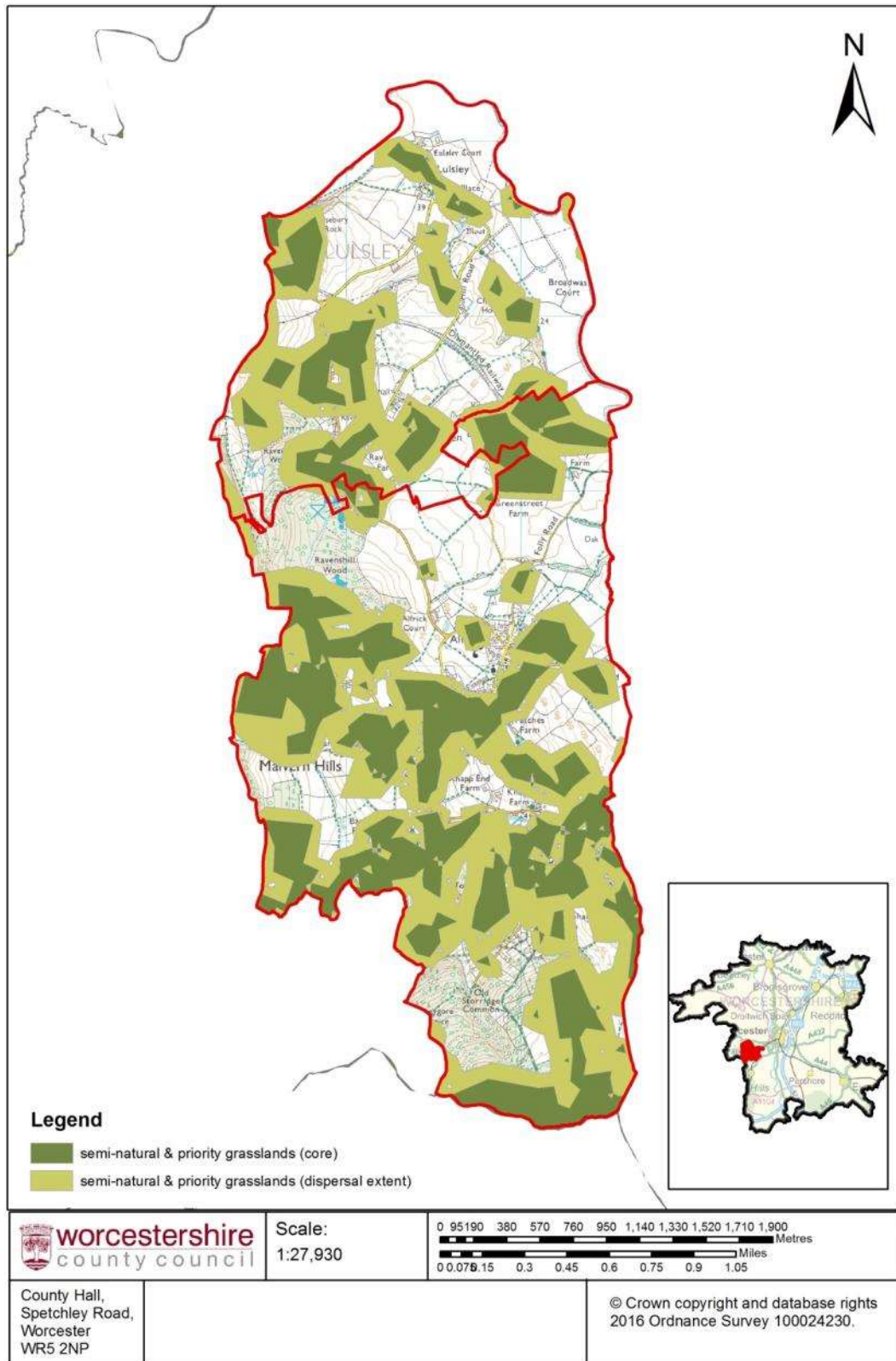
vi. Ponds & wetland



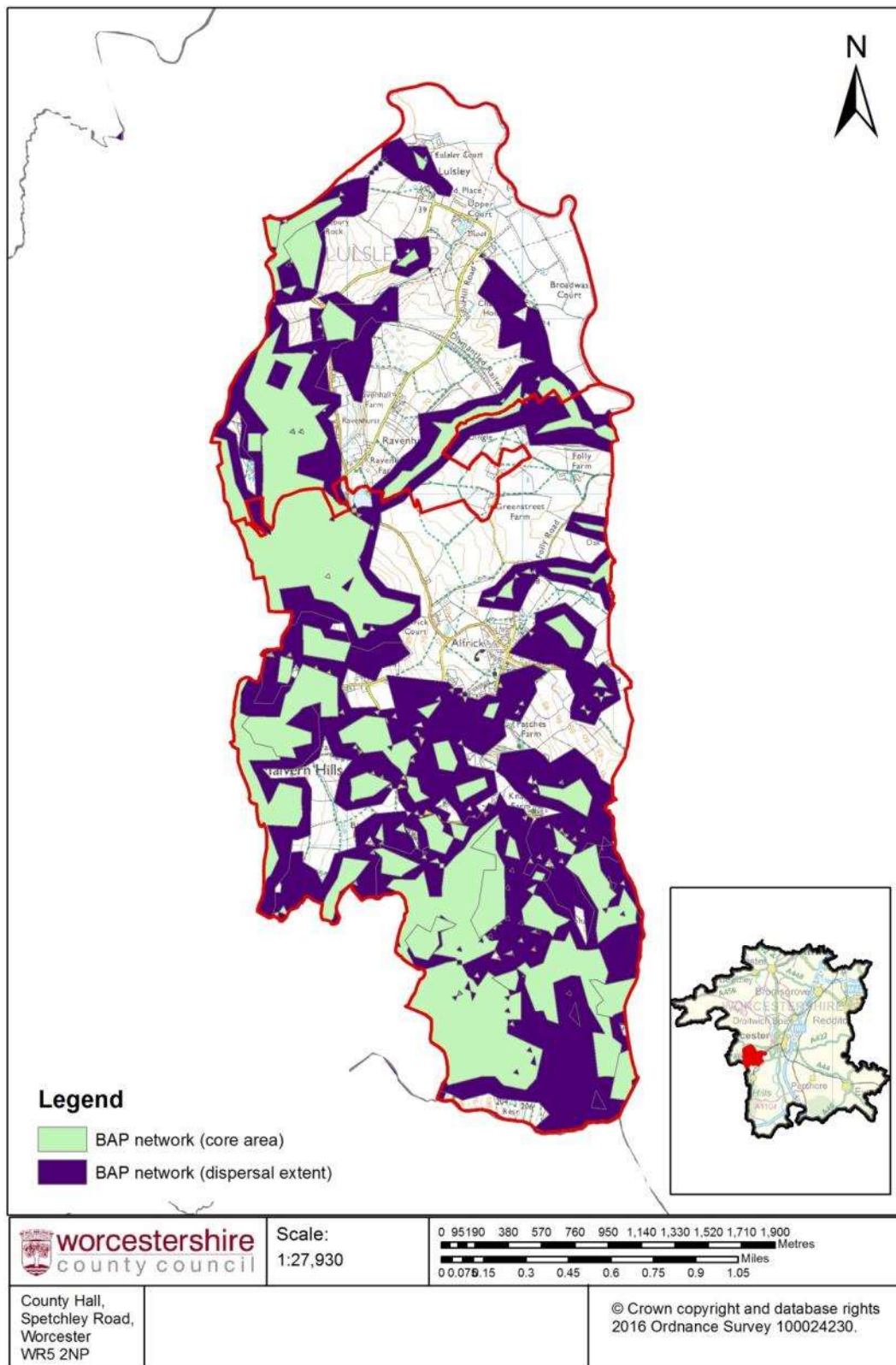
vii. Woodland Network



viii. Traditional orchard network



ix. Semi-natural and BAP grassland network



x. 'Merged' BAP habitat network

Summary

- *NHP area is broadly recognised through a number of different datasets and evaluations as holding outstanding natural environment resources*

For more information on the biodiversity value of individual habitats specified here, please refer to the WHI Habitat Information Sheets in the following chapter.

- ***The area holds a good network of 'ancient countryside',***

This is a typology defined by traits including: extent and frequency of records of ancient woodland indicators, extent and frequency of traditional field boundaries, coverage/age and range of hedgerow and watercourse tree cover, ancient field boundaries & species composition.

- ***Outstanding ancient woodland resources***

Ancient woodlands include a set of characteristic woody species and ground flora which indicate the woodland has been in situ or undisturbed for a period of 400 years or more. Most ancient woodlands of 2ha+ size are also recognised within the JNCC Inventory of Trees and Woodlands.

- ***Excellent network of broadleaved woodland***

The majority of the NHP area south of Stocks Road shows excellent woodland coverage and network cohesion, extending from Old Storridge Common through Papermill and Tor Coppices in the south-west and Brookbatch Farm in the south East. Although more fragmented, parcels of woodland within the centre of the NHP (south of Patches Farm, Elmhurst etc) provide an invaluable stepping stone which connect larger blocks of broadleaved woodland to the north of the NHP (e.g. Crews Hill, Ravenshill Woods and the pattern of small dingle woodlands which the landscape is typified by). The network of traditional orchards also serves as 'stepping-stones' allowing some landscape-porosity for movement of many woodland species. In addition, significant and linear features such as the wooded margins of Leigh Brook & Leigh Disused Railway provide valuable wildlife corridors which cross into neighbouring NHP areas.

- ***Good network of traditional orchards***

The habitats noted around Bewell House, Warren Farm, Clay Green Farm, Limebrook House, Cherry and Birchenhall Farm orchards (amongst others) contribute benefits for at a landscape-scale by connecting surrounding habitats. This is most notable in a 'band' that crosses the south and central NHP area crossing into the neighbouring NHP area through Sandlin House orchard.

- ***Fragmented but highly valuable flower-rich grasslands***

A 'band' of botanically rich or 'unimproved' grassland can be found crossing the NHP area roughly from the centre of its western border so its south-eastern border, encompassing meadows which are designated as Grassland Inventory sites such as Green Hill Bank, Flaxlands Meadows, Knapp Farm Orchard & Meadows, Brooklands Meadow & Orchard, Papermill Meadows and Old Storridge Orchards (amongst others).

It is likely that these grasslands are under-recorded and there may be significant resources of botanically rich grasslands capable of being restored following neglect or incompatible management regimes. Soil seed banks may retain botanical, fungal and invertebrate diversity for an extended period of time, and can recover quickly if sympathetically managed.

- **Poor pond network remaining**

The majority of standing water assets are located in the north of the NHP area and focused around the residential properties of Alfrick or the Ravenhills Green area at the head of Board Dingle. In contrast the majority of watercourses present cross at least one site designated for its nature conservation value and as such contribute to the diversity of habitats and opportunities for wildlife, also providing a 'corridor' feature (where managed sympathetically) to adjoining land and parishes.

- **Overall outstanding merged BAP habitat network strength, particularly along the western and southern NHP area**

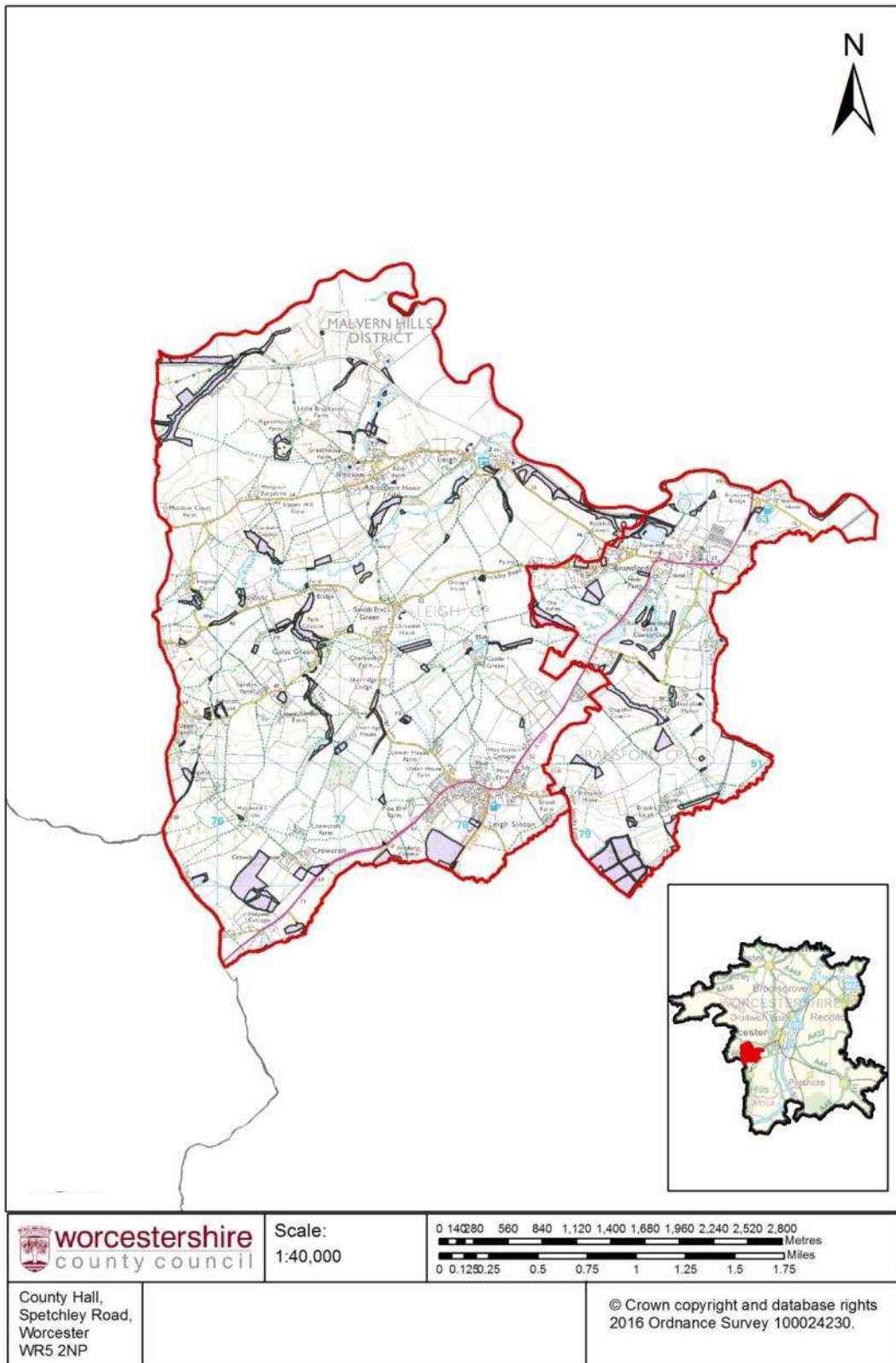
- **The list of protected species recorded within the NHP includes:**

Common Pipistrelle	<i>Hydraena rufipes</i>
<i>Anobium inexpectatum</i>	Kingfisher
Badger	Large-Leaved Lime
Bithynian Vetch	Noctule
Bluebell	Otter
Brown Hare	Pipistrelle
Brown Long-Eared Bat	Polecat
Common Club-tail	Reflexed Saltmarsh-Grass
Common Toad	Sea Lamprey
Corn Marigold	Slow-worm
Cuckoo	Small-Flowered Buttercup
<i>Dorytomus tremulae</i>	Soft Hornwort
Freshwater Crayfish	Song Thrush
Great Crested Newt	Soprano Pipistrelle
Green Figwort	Spreading Bellflower
Harvest Mouse	Spreading Hedge-Parsley
Hedgehog	Unidentified Bat
Henbane	Wild Clary
Hornbeam	Wild Marjoram
Hybrid Yellow Bedstraw	Yellow Star-Of-Bethlehem

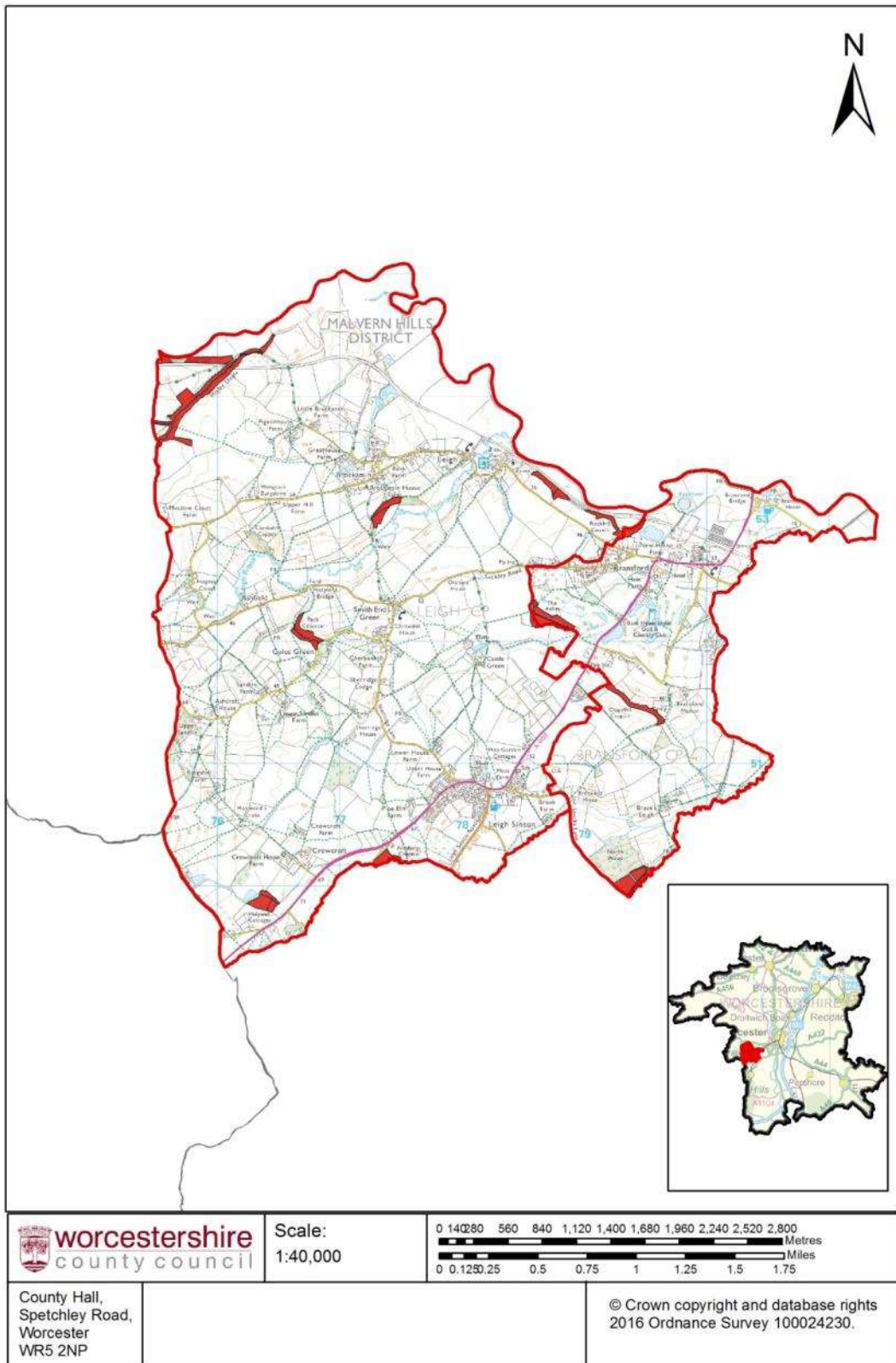
4b. Leigh & Bransford

List of figures:

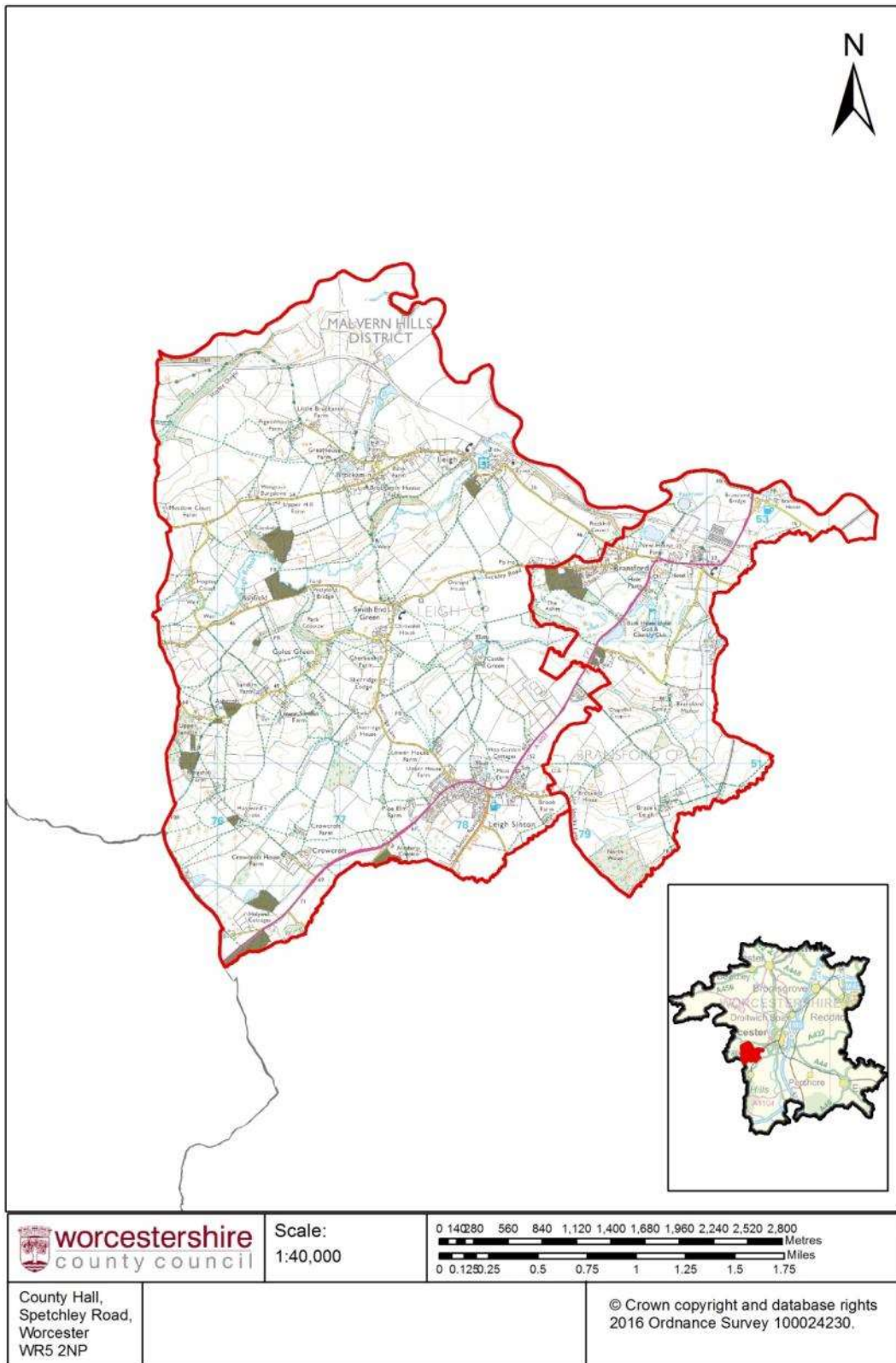
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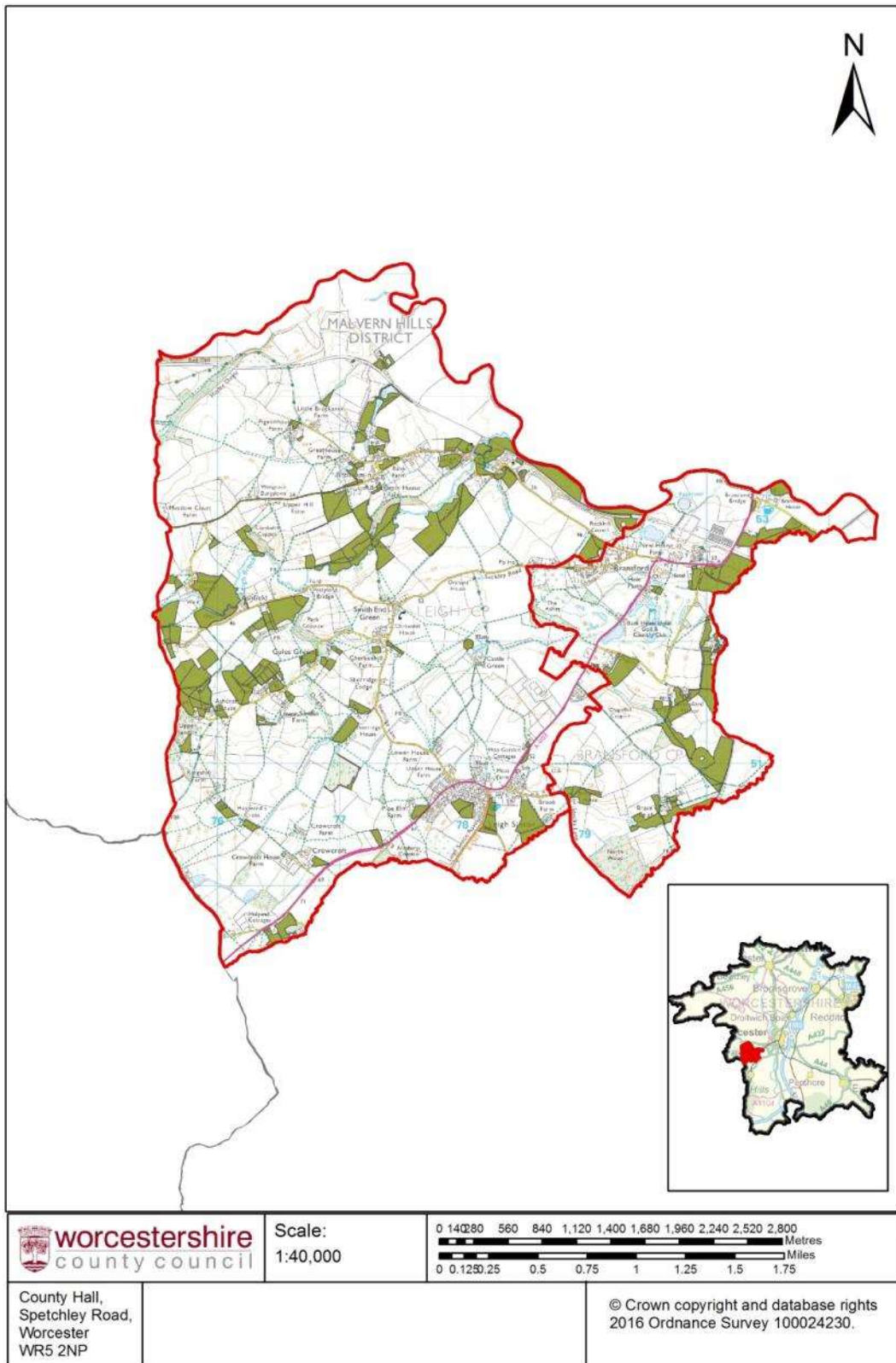
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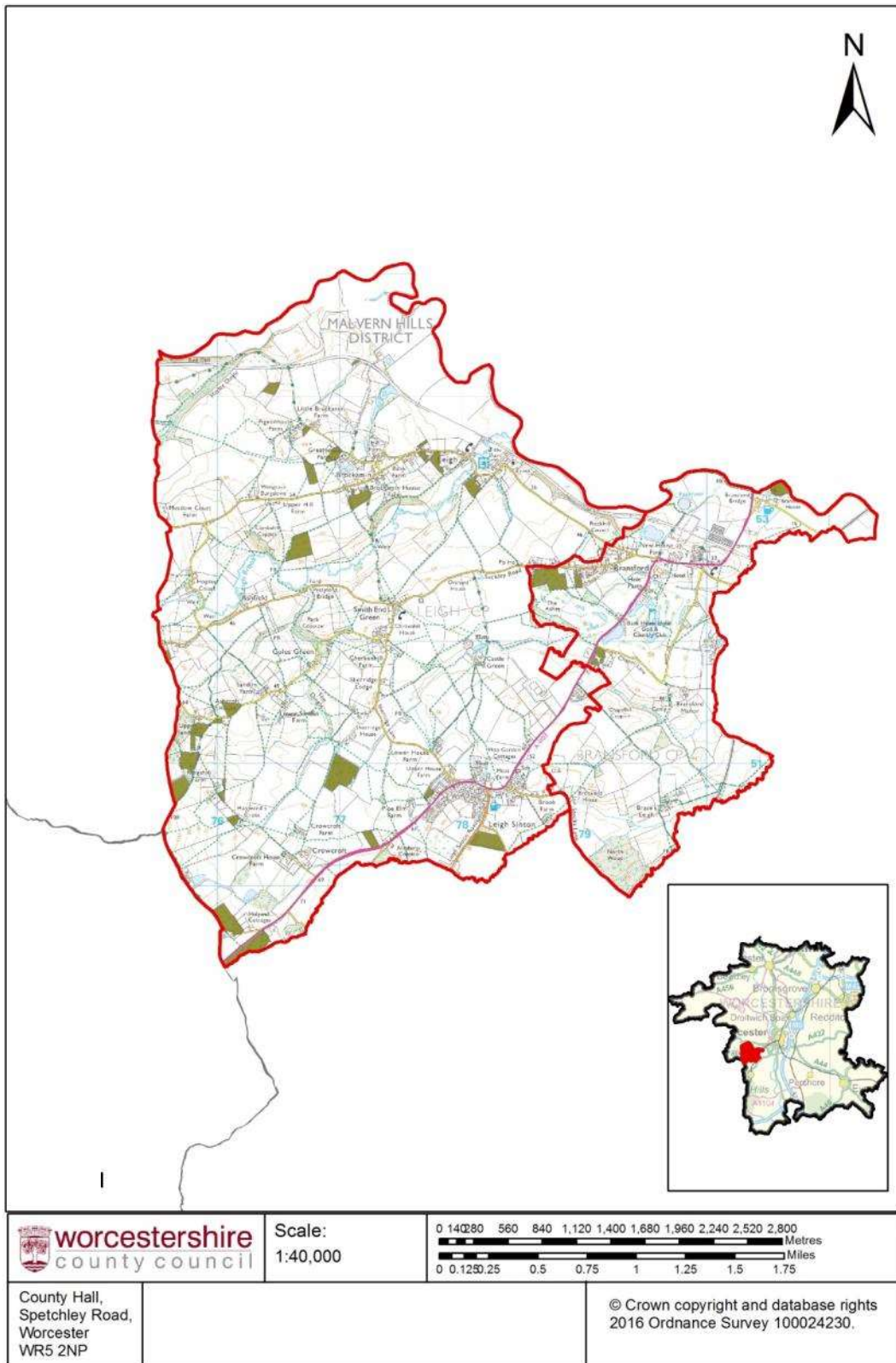
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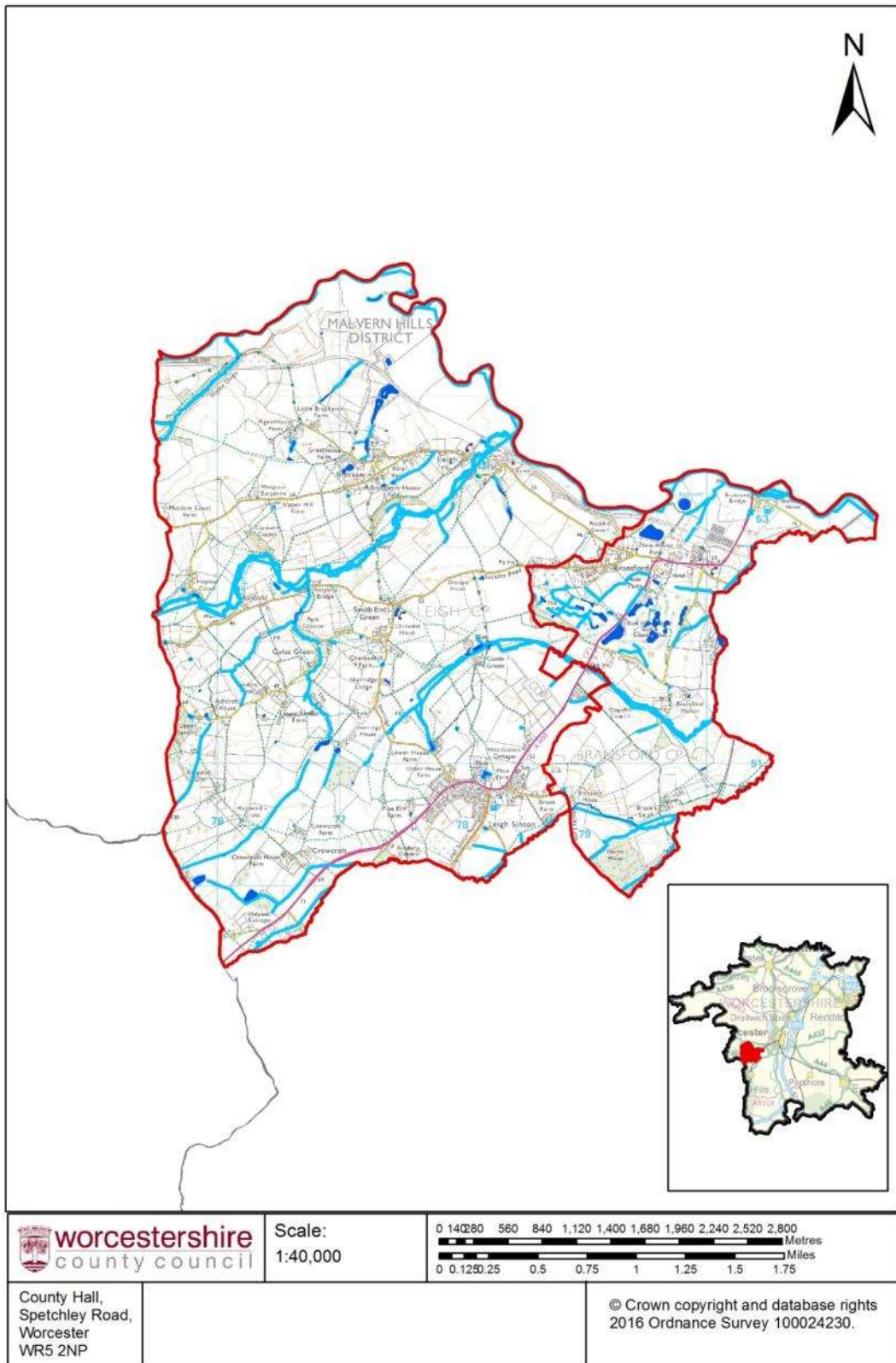
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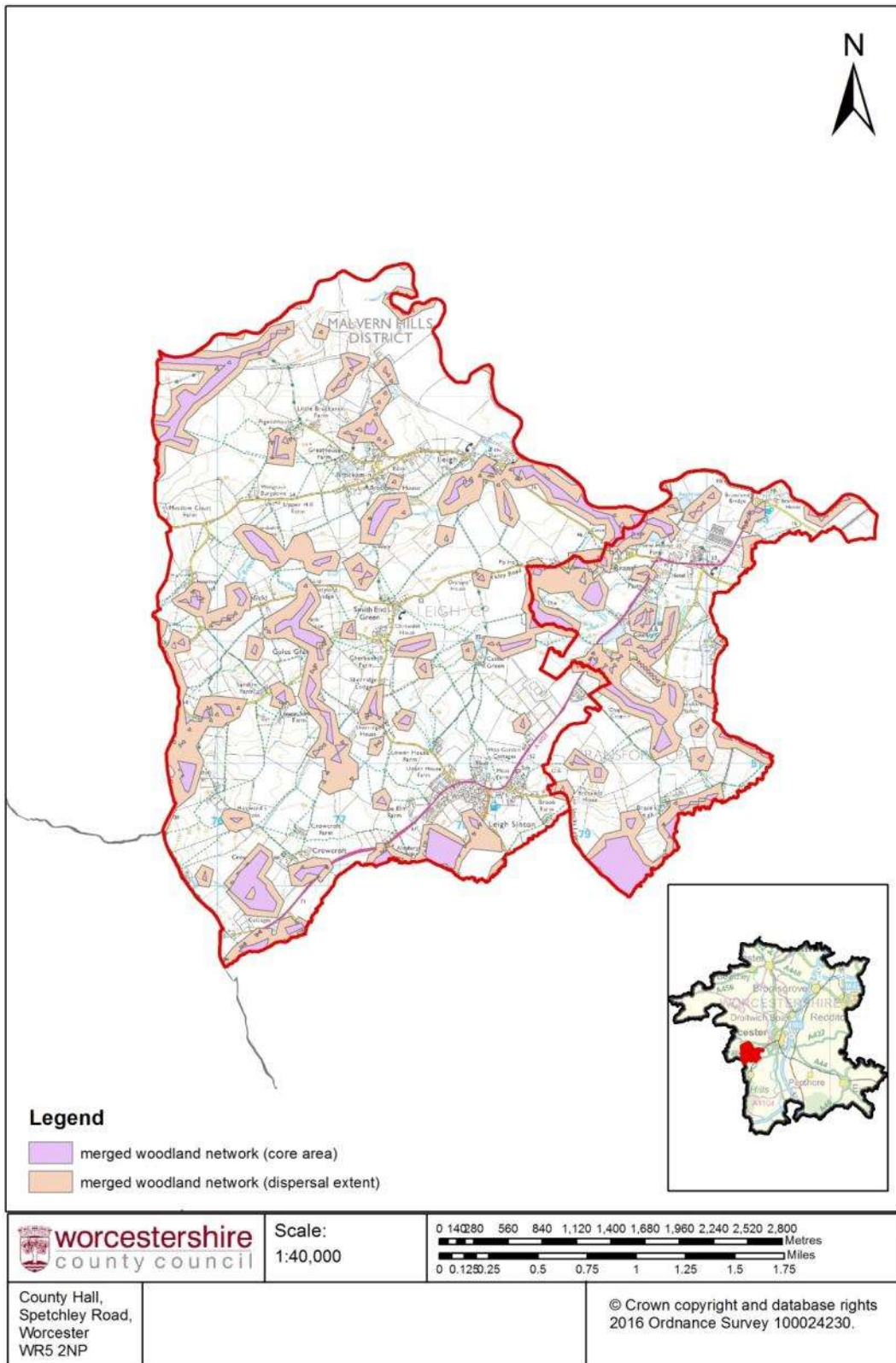
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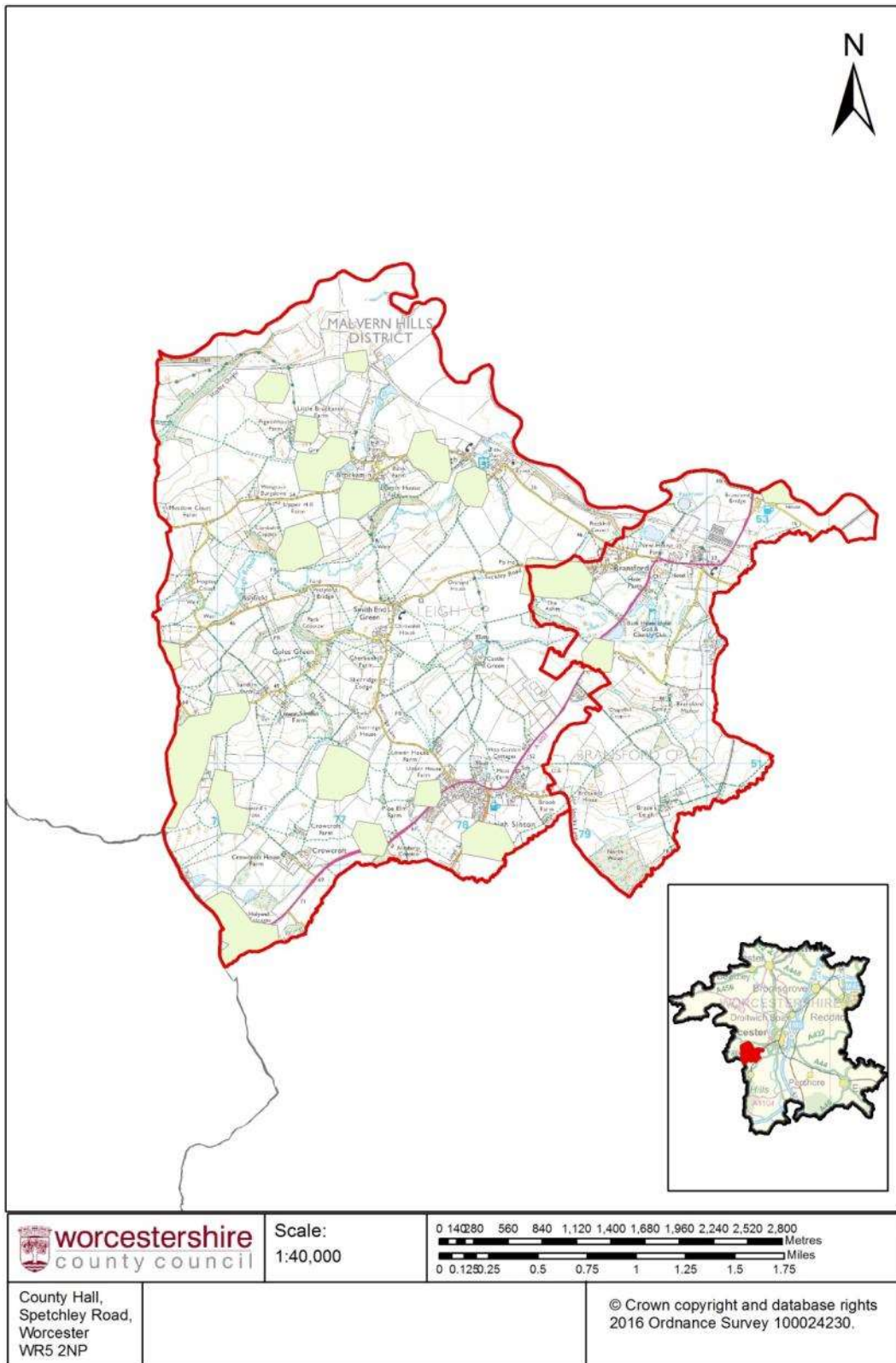
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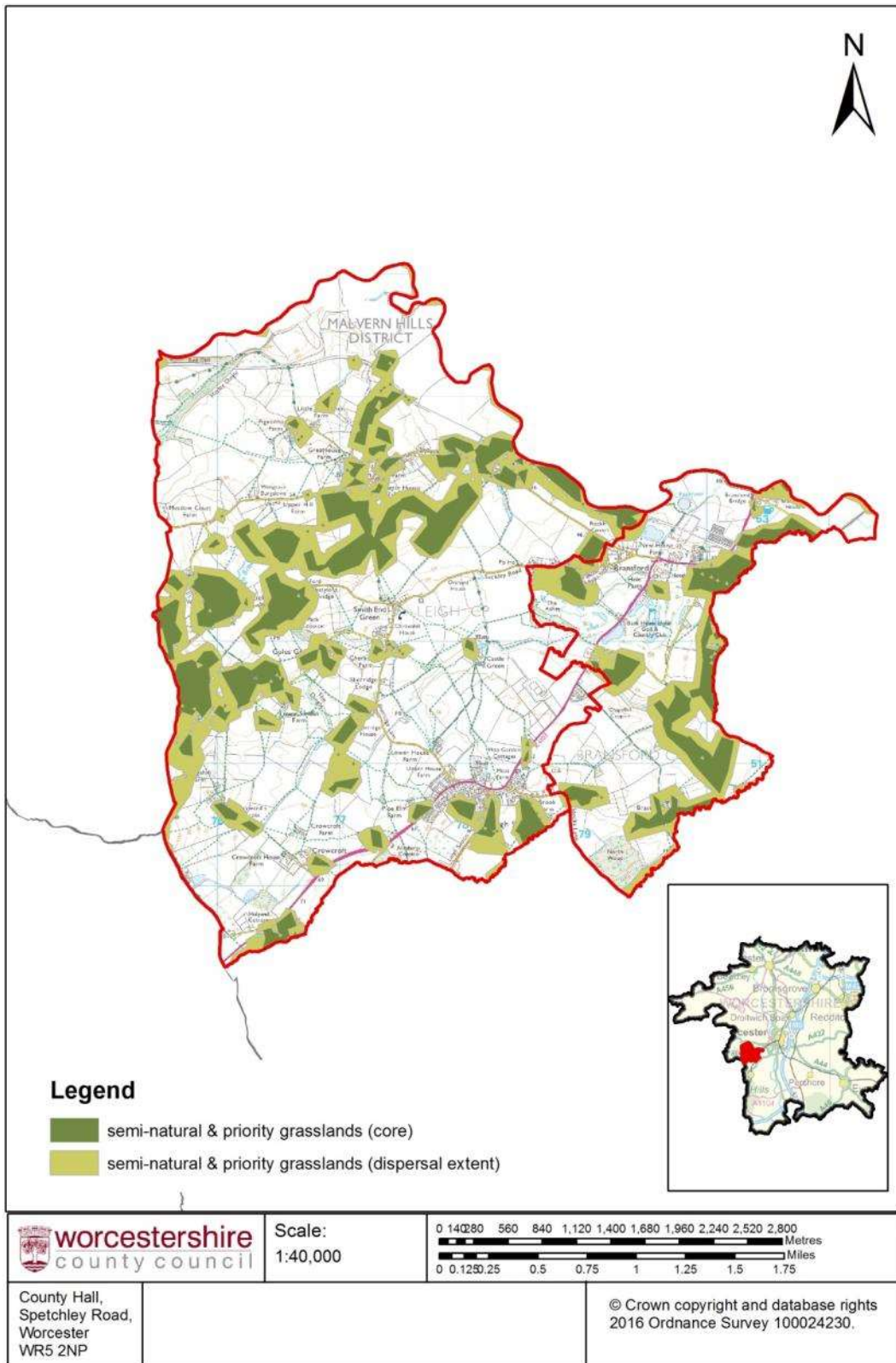
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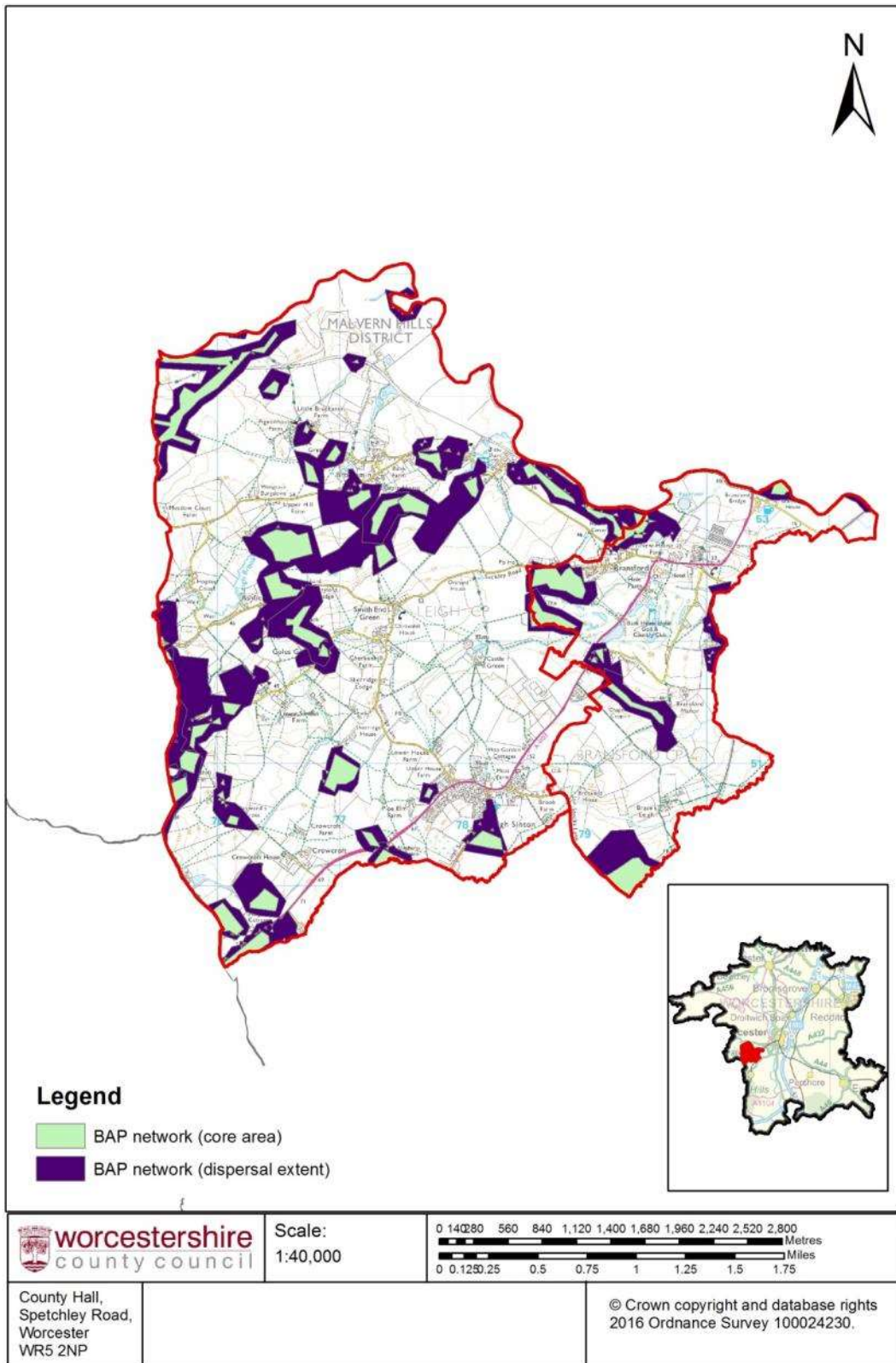
vii. Woodland Network



viii. Traditional orchard network



ix. Semi-natural and BAP grassland network



x. Merged' BAP network

Summary

- *NHP area is predominantly, an 'agriculturally improved' landscape,*

For more information on the biodiversity value of individual habitats specified here, please refer to the WHI Habitat Information Sheets in the following chapter.

- ***The NHP area becomes a more pastoral landscape traversing from west to east***

Although thought to be predominated by improved grassland, some botanically diverse grasslands can still be found scattered and fragmented through the landscape.

Unimproved grasslands and remnant features of biodiversity interest can still be found on steep slopes, within hedgerows and verges.

- ***Scattered pockets of woodland with some ancient woodland remaining***

Notable stands of ancient woodland can be found along Hayley Dingle, south of Brockamin House Farm, Park Coppice and 'The Ashes', Chapehill Coppice and, to the south of the NHP area, parcels of land within North Wood, Alleshurst Coppice and near Holywell Cotatges. The overall picture is one of a highly fragmented woodland network.

- ***Fragmented network of orchards***

The network of orchard is highly fragmented with no discernible pattern at a landscape scale, but remnants are likely to hold significant biodiversity value such as the veteran trees noted at Sandlin House Orchard.

- ***Fragmented pond network: strongest in north-east of NHP area***

The greatest cluster of ponds can be found around the residential properties in the village of Bransford (likely to be associated with the golf course, although the suitability of these features for wildlife is not known from desktop-assessments alone) and also between Brockamin and the dismantled railway to the north of the NHP area.

- ***Strongest merged BAP habitat network overlies existing natural corridors,***

The strongest corridor of biodiverse habitats runs roughly from the central-west border of the NHP area (extending eastwards from old Storridge Common) to the north-eastern corner of the NHP area. This follows the network scattered of woodland dingles around the Ashfield and Combehill Coppice area, to Winwoodhill Coppice and subsequently along the Leigh Brook to Rockhill Covert and from there along the disused railway at the periphery of the NHP boundary.

- ***The list of protected species recorded within the NHP includes:***

Common Pipistrelle Bat	<i>Hydraena rufipes</i>
<i>Anobium inexpectatum</i>	Kingfisher
Badger	Large-Leaved Lime
Bithynian Vetch	Noctule Bat
Bluebell	Otter

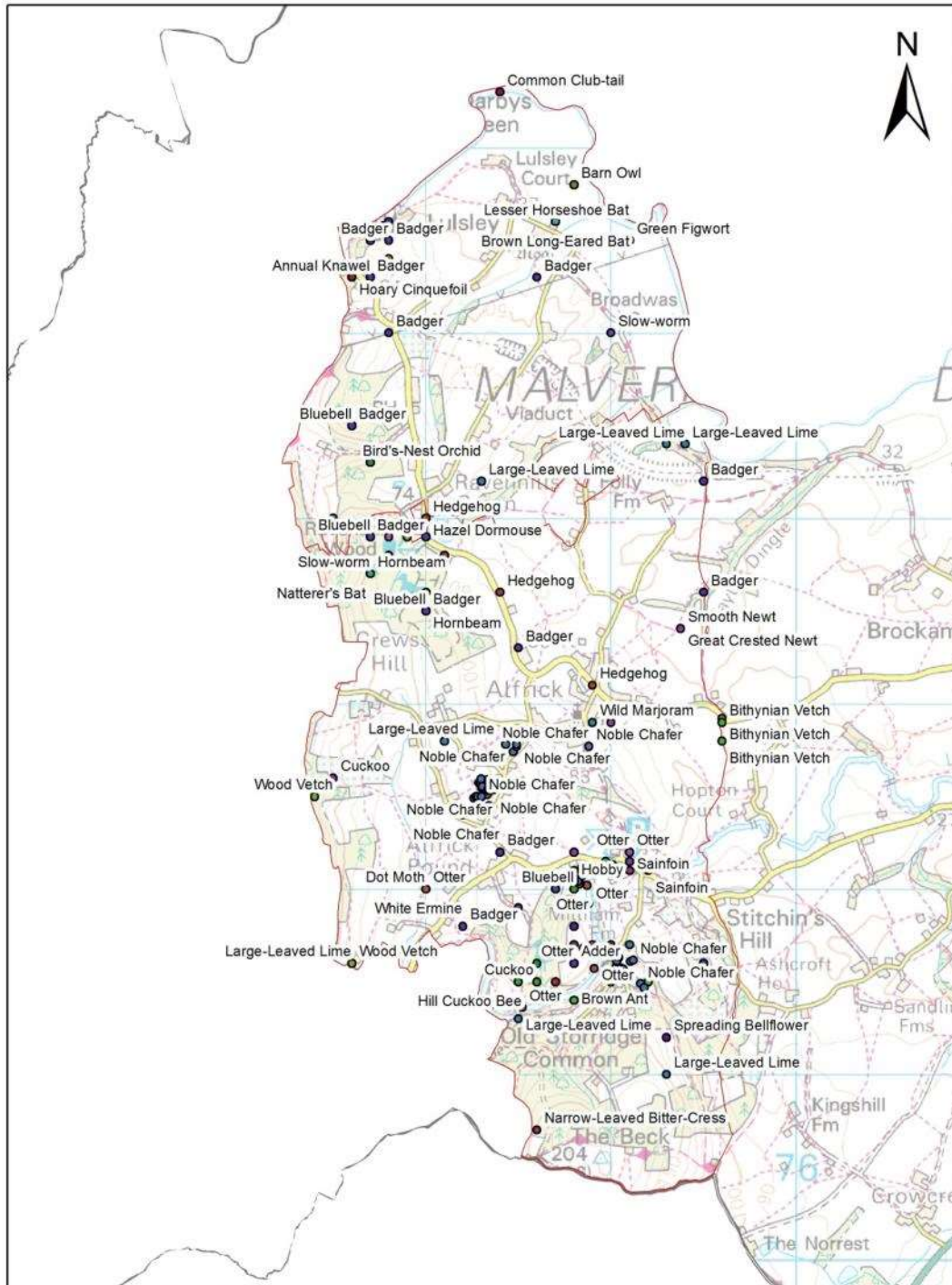
Brown Hare	Unidentified Pipistrelle Bat
Brown Long-Eared Bat	Polecat
Common Club-tail	Reflexed Saltmarsh-Grass
Common Toad	Sea Lamprey
Corn Marigold	Slow-worm
Cuckoo	Small-Flowered Buttercup
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Harvest Mouse	Spreading Hedge-Parsley
Hedgehog	Unidentified Bat
Henbane	Wild Clary
Hornbeam	Wild Marjoram
Hybrid Yellow Bedstraw	Yellow Star-Of-Bethlehem

5. Worcestershire Biological Record Centre NERC S.41 species data

The species listed here represent records submitted to WBRC and NBN via professional consultants and volunteer enthusiasts and must be used with caution. Although they may have been validated by experts within the WBRC they represent a snapshot of time and only highlight where wildlife has been identified rather than any indication of likely distribution or frequency of a given species. As with all biological data, protected species records should be updated within a period of no more than 2 years in order to ensure decisions can be based on 'up to date' information.

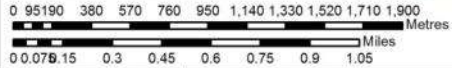
The list included here contains species given legal protection under the Conservation of Habitats and Species Regulations (2010, as amended) as well as species recorded within Schedule 41 of the Natural Environment and Rural Communities Act (2006). Public authorities are required to demonstrate due consideration for the conservation (recognised as both protection, restoration and enhancement) of biodiversity (set out within Section 40 of the NERC Act 'biodiversity duty'). This consideration extends to species listed within S.41 of the Act.

5a. *Alfrick & Lulsley*



 **worcestershire**
county council

Scale:
1:28,000



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Spetchley Road,
Worcester
WR5 2NP

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6. Designated Sites

Statutory sites are designated by Natural England under powers granted by the Wildlife and Countryside Act (1981, as amended).

Section 28G of the Wildlife and Countryside Act imposes a general duty on all Government and public bodies, including LPAs, to take reasonable steps to conserve and enhance the special interest features of SSSIs. Section 28I of the Wildlife & Countryside Act 1981 (as amended by the Countryside & Rights of Way Act 2000) provides a specific duty on LPAs to consult Natural England before allowing planning permission which might damage a SSSI and to allow 28 days for comment.

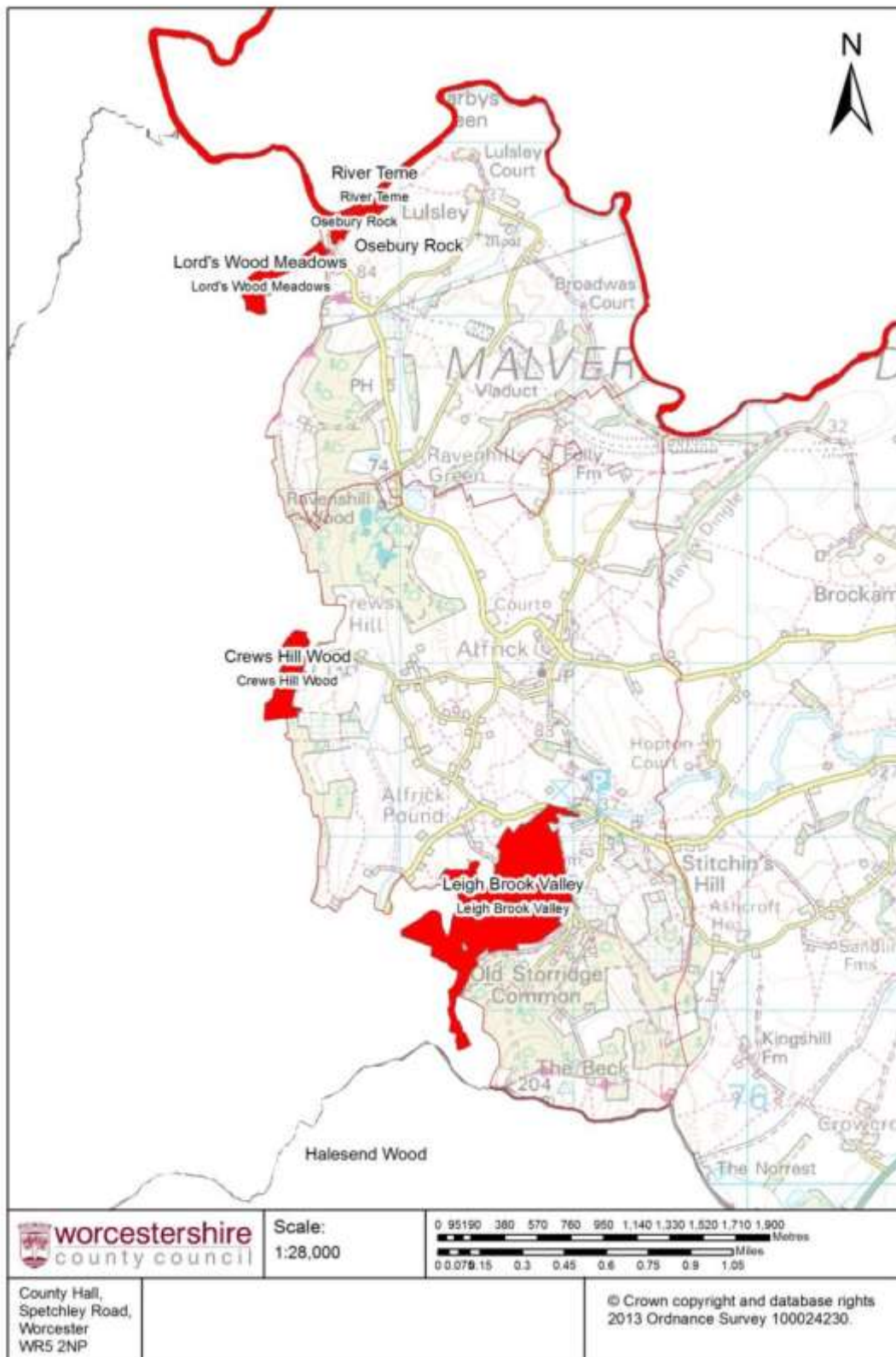
For guidance on when to consult on proposals that might impact on SSSIs see Natural England's Impact Risk Zone map: <https://www.gov.uk/topic/planning-development/protected-sites-species>

Non-statutory designated sites are identified through the Worcestershire Local Site Partnership. A number of designations occur within the two NHP areas, and can be identified for the flora or faunal interest:

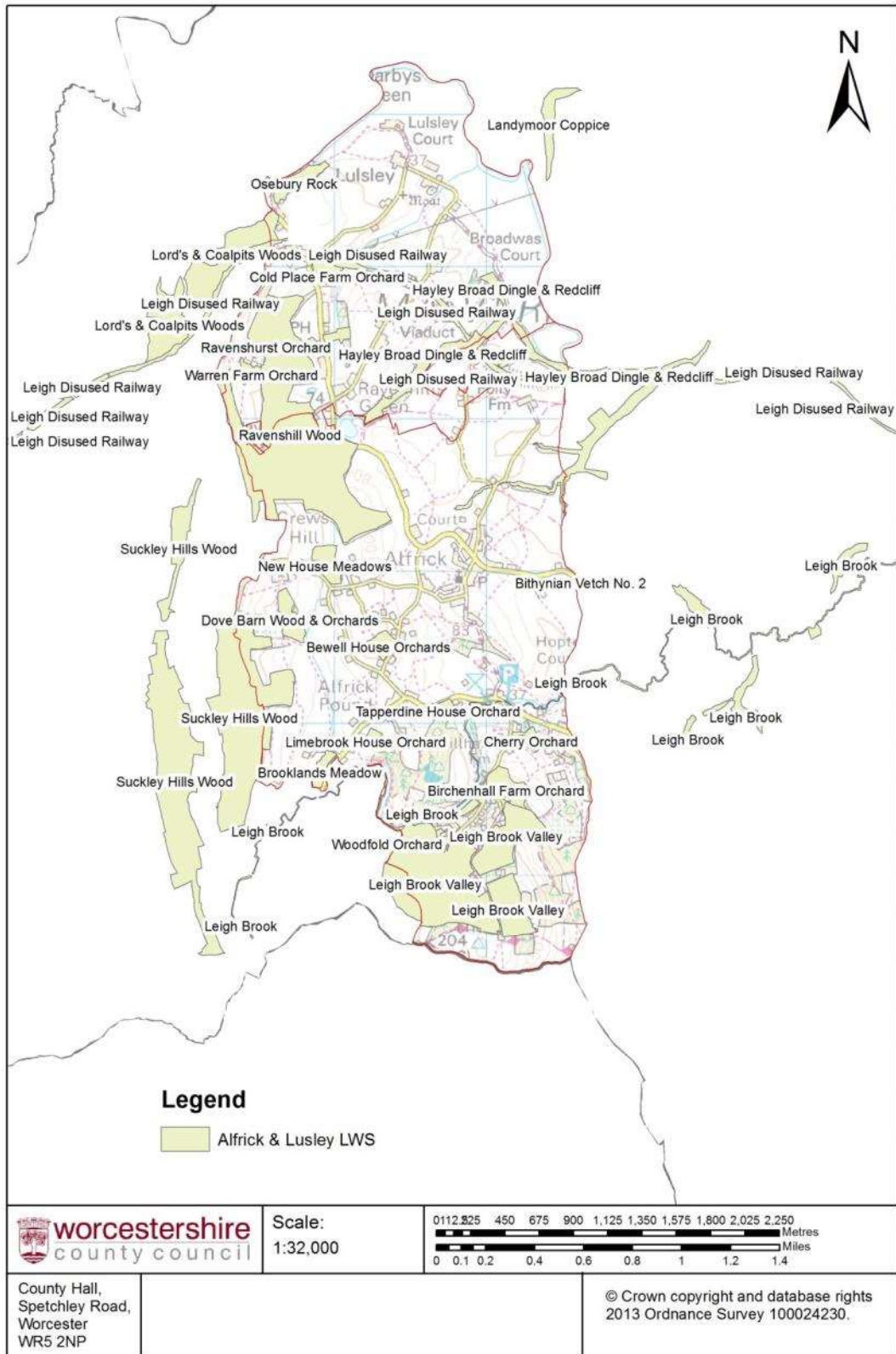
6a. *Alfrick & Lulsley*

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- ii. Local Wildlife Sites (LWS)
- iii. Grassland Inventory
- iv. Roadside Verge Nature Reserves (RVNR)



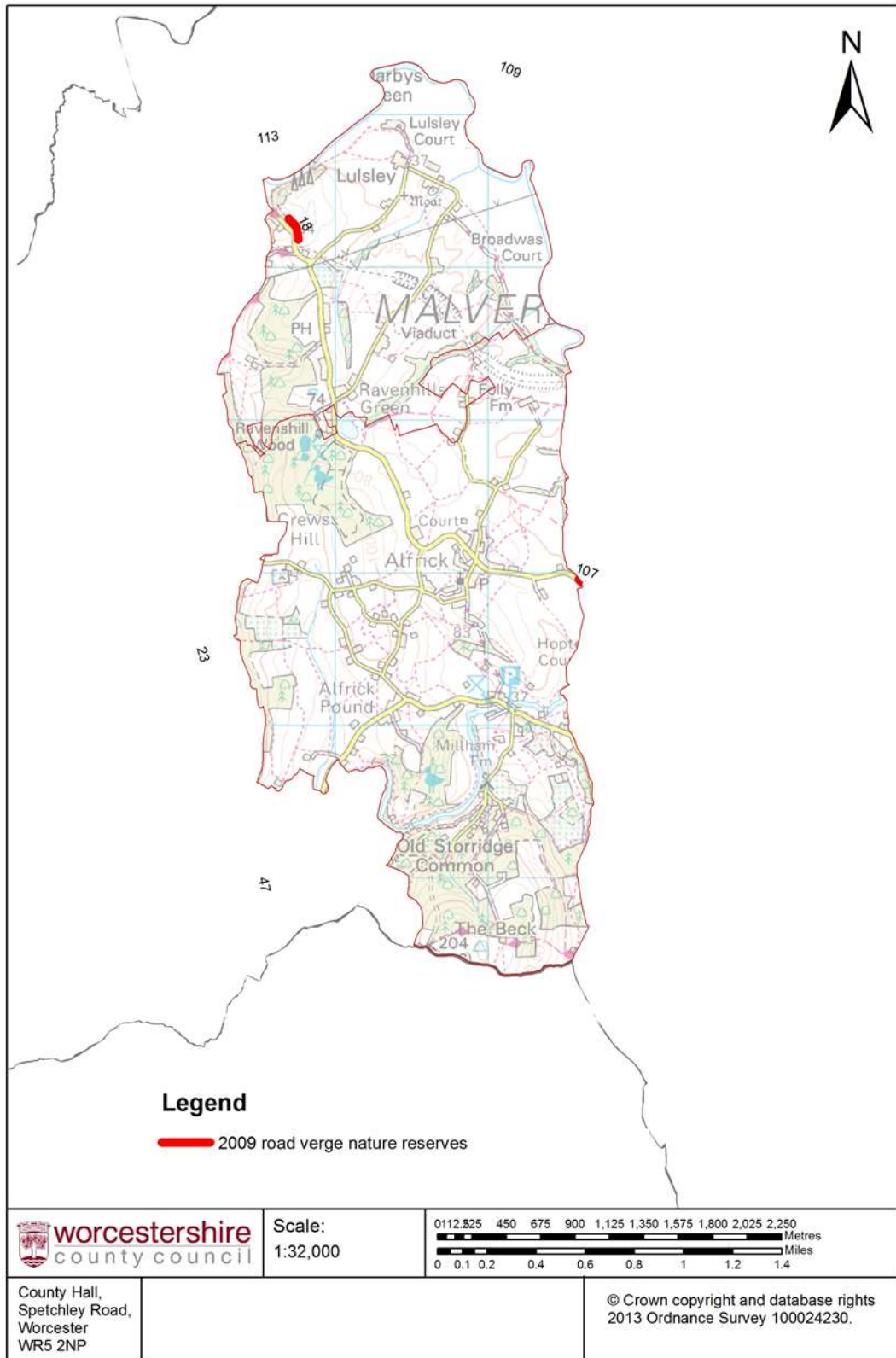
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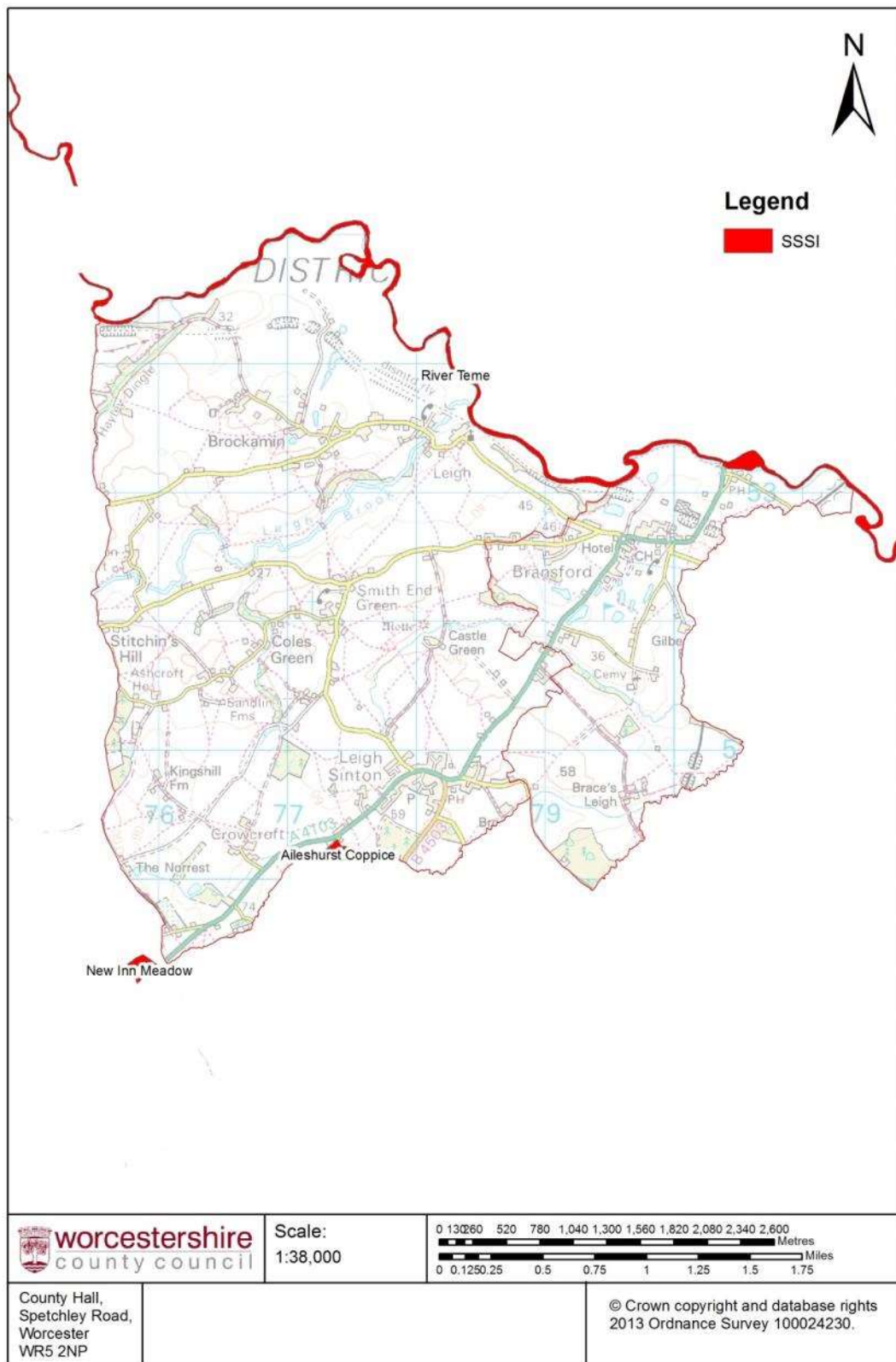


iv. Roadside Verge Nature Reserves (RVNR)

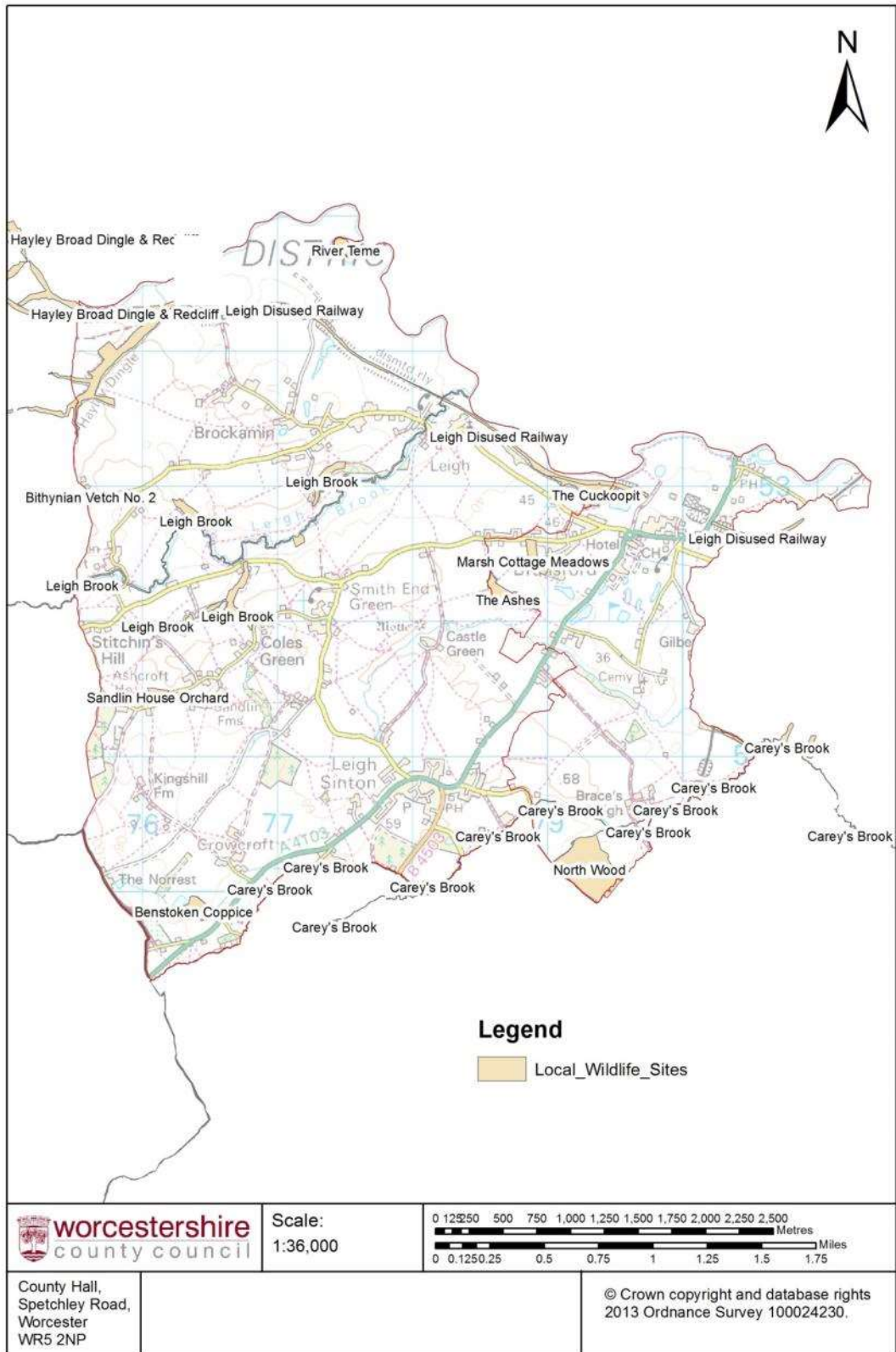
6b. Leigh & Bransford

List of figures

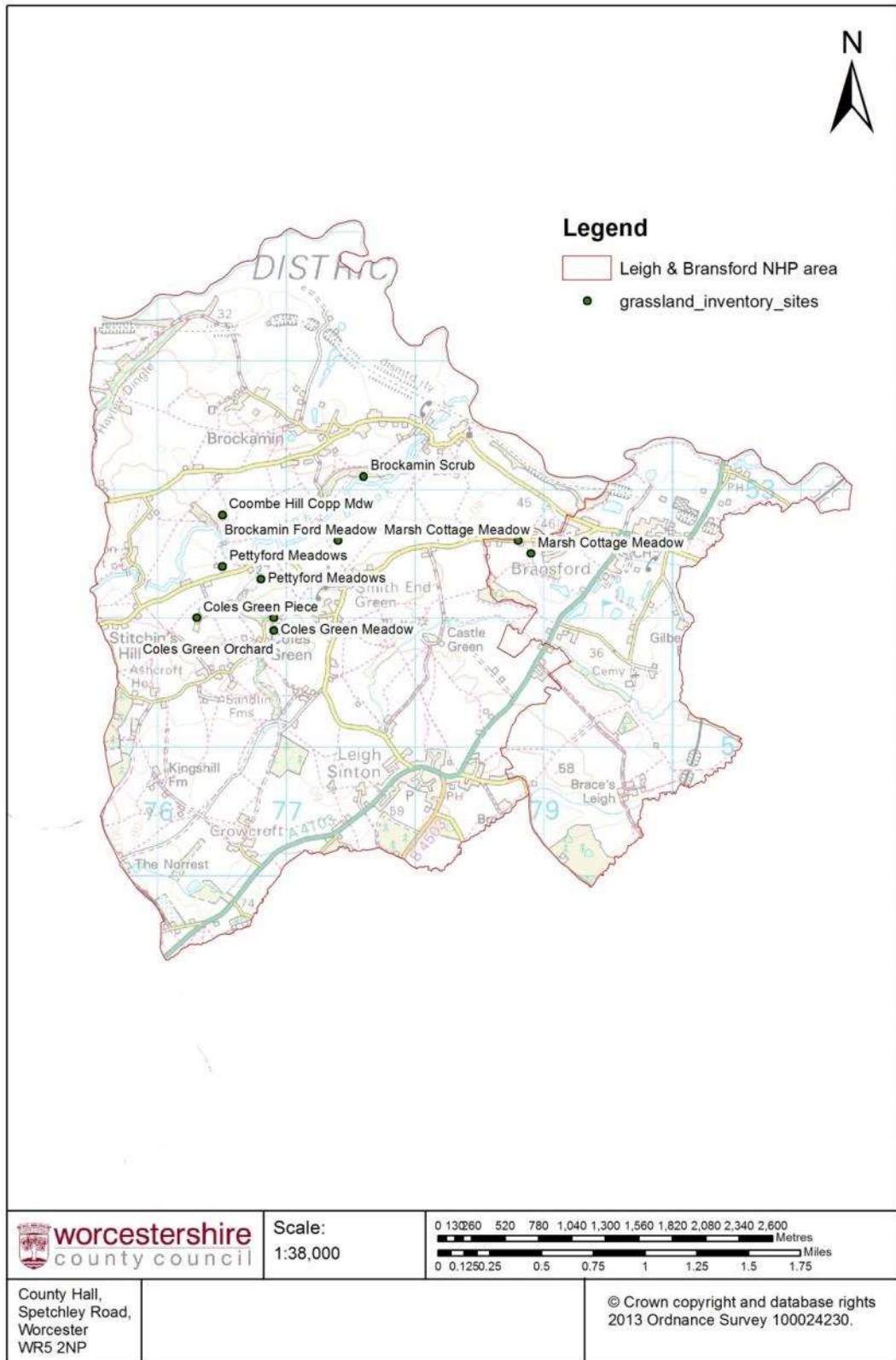
- i. Sites of Special Scientific Interest (SSSI)
- ii. Local Wildlife Sites (LWS)
- iii. Grassland Inventory
- iv. Roadside Verge Nature Reserves (RVNR)



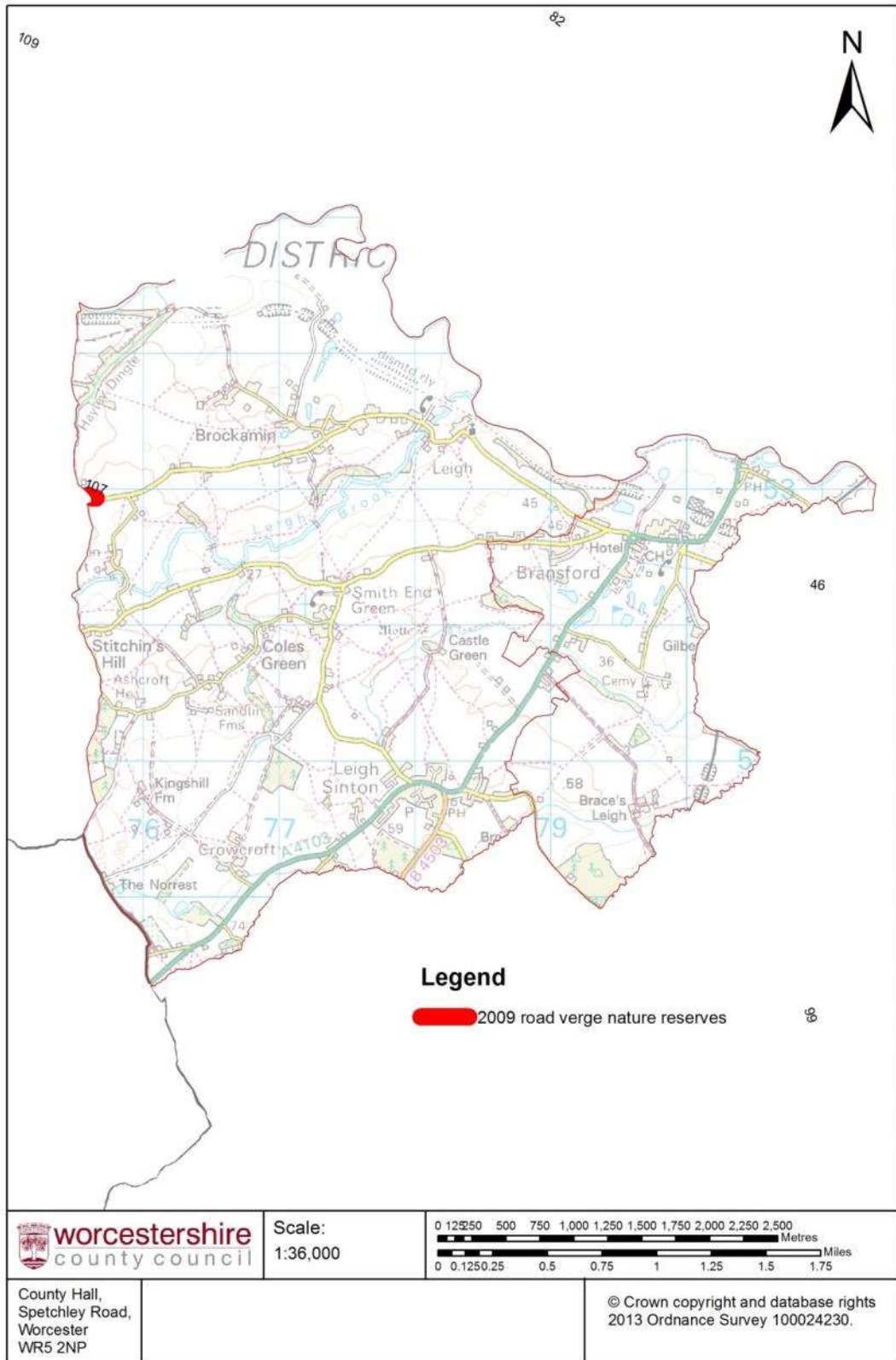
- i. Sites of Special Scientific Interest (SSSI)



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7. WHI Habitat Information Worksheets

Habitat Information Sheet

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Traditional orchard

Traditional orchards are a distinctive and valued feature of Worcestershire's landscape and our county is recognised nationally for its high remaining concentration of the habitat. Traditional orchards contain tall, standard trees often of locally distinctive varieties of apple, plum, pear and cherry that are allowed to mature and grow over a period of 50-80 years. The high biodiversity value of these sites is a result of historic, sustainable management practices including little or no use of chemicals and a tolerance for aged and decaying timber to remain in the orchard. The fruit trees are planted on permanent grassland, which itself may be a valuable flower-rich wildlife habitat.



Why is this habitat important?

Fruit trees are short lived relative to other tree species and so produce decaying wood more quickly than most native hardwoods. This provides important habitat for insects, including the rare noble chafer beetle, for which Worcestershire is a stronghold, and for hole-nesting and insect eating birds. Fruit trees are also valuable hosts for mistletoe and lichens and a good source of food for birds in the autumn and winter months.

England's main concentration of traditional orchards is within the three counties of Gloucestershire, Worcestershire and Herefordshire. The Traditional Orchard Inventory for England, completed in 2011, shows 2453 traditional orchards within Worcestershire covering over 2000 hectares. This represents 6.9% (by number) and 12% (by coverage) of the England total. Traditional orchard loss to other land uses continues and is sadly common however, with a national average of 63% lost per county since 1950. Local data suggests that in Worcestershire this figure may be closer to 85%.

Species associated with traditional orchard habitat

Noble chafer *Gnorimus nobilis*

This striking green beetle is a specialist of old orchards. Its larvae feed on the decaying timber of fruit trees, particularly plum, apple and cherry. The adults sometimes emerge on hot, still days in summer to feed on hogweed, meadowsweet and elder. The beetle is classed as Vulnerable in the UK and it is a national Biodiversity Action Plan species. Its distribution in England is centered on Worcestershire, Herefordshire and Gloucestershire. Any orchard in these counties containing dead and decaying timber and spared the use of chemicals has the potential to contain populations of this beetle.



Mistletoe *Viscum album*

This semi-parasitic plant grows on poplar, lime, willow and hawthorn but its preference is for cultivated apples. It is most obvious during the winter when bunches of white berries appear and although found across the UK, its heartland is within the English/Welsh border counties and Somerset. Mistletoe is pollinated by small insects and the seeds spread by birds such as mistle thrush and black cap, which feed on the fruit. Mistletoe provides habitat for the rare mistletoe marble moth, whose mines can be seen in the plant's leaves.



Birds including lesser spotted woodpecker, mistle thrush, song thrush, fieldfare and redwing (photo)

A great variety of birds take advantage of the feeding, nesting and roosting opportunities found in traditional orchards. Hollow branches or tree trunks are used by birds such as green, great spotted and the declining lesser spotted woodpecker. During the winter months fallen fruit supplements the diet of species such as fieldfare and redwing.



Where can I see this habitat in Worcestershire?

Hipton Hill Plum Orchard *Vale Landscape Heritage Trust*

On a hillside above Evesham, this orchard stretches to 28 hectares of traditional plum, damson and damascene trees. The orchard was originally planted in the 1920s and has had a small amount of replanting done over the last decade. The remaining trees are slowly being restored and rejuvenated and trials are underway to determine the best form of management for the grassland, which has fantastic numbers of orchids and other plants.

Melrose Farm Meadows and Orchard *Worcestershire Wildlife Trust*

This small, 2 hectare nature reserve consists of an old orchard and two meadows. The rich grassland flora includes species such as meadow saffron, green-winged orchid, adder's-tongue fern, dyer's greenweed, cowslip and saw-wort, whilst the orchard is being restored with new tree planting. There is a public footpath through the reserve.

Wyre Forest various ownerships

The area south of the Wyre Forest was once dominated by orchards of cherry, apple and pear trees supplying fruit to Birmingham and further afield: some of these remain on scattered farms and small holdings. Studies have been carried out here that demonstrate how much biodiversity traditional orchards can support: 1,868 species were recorded during 2004 by the Wyre Forest Study Group within 5.39 hectares of traditional orchard. Keep a look out for orchards within the landscape on your next walk.

How is this habitat managed?

Trees in a traditional orchard are planted at low density on vigorous or semi-vigorous rootstock, in contrast to the dwarf 'bush' trees typical of commercial orchards. Key to maintaining biodiversity value is the total absence of chemical application. The grassland floor is best managed by low-intensity grazing and hay cutting, with tree guards to ensure that livestock do not damage the trees.

**Is this habitat threatened?**

Post-war agricultural intensification, coupled with commercial competition from intensively managed orchards at home and abroad, has caused a sharp decline in the extent of traditional orchards within England. Many orchards have fallen derelict as trees die and are not replaced and orchards around the edges of settlements are frequently lost to housing development.

How is this habitat being protected?

A small number of orchards are designated as Sites of Special Scientific Interest or are included within SSSI's where the main designation is for other habitats, often unimproved pasture.

Traditional orchards in Worcestershire have recently begun to be surveyed and listed as Local Sites of importance for nature conservation; this gives no statutory protection but enables recognition of their value within local planning policies and provides a means of engagement with owners to give advice on management. Sites containing Biodiversity Action Plan quality habitat also have added protection through the local planning system.

The Environmental Stewardship schemes administered by Natural England contain options for the planting, restoration and management of traditional orchards.

Individual fruit trees can be protected by Tree Preservation Orders if they are no longer cultivated for fruit production. Worcester City Council is aiming to conserve all known intact orchards and to develop new community orchards within the city.

The public profile of traditional orchards is raised by events such as Apple Day and the Pershore Plum Festival and the promotion of Community Orchards.

Links and References

[Worcestershire Biodiversity Action Plan](#)

[UK Biodiversity Action Plan](#)

[Worcestershire Wildlife Trust nature reserves](#)

[Vale Landscape Heritage Trust](#)

[People's Trust for Endangered Species](#)

[Environmental Stewardship](#)

[Tree Preservation Orders](#)

[Worcestershire Orchards](#)

[Common Ground](#)

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Species-rich Hedgerows

A hedgerow is a boundary line of trees or shrubs dividing fields, land uses or land ownerships. A hedge is defined as a more-or-less continuous feature over 20m long and less than 5m wide at the base, with any gaps being less than 20m wide. A species-rich hedgerow is one which contains a certain diversity of woody plant species. In Worcestershire seven or more different shrub species within a 30m section would generally be considered very species-rich.



Common hedgerow shrubs in this county include hawthorn, blackthorn, field maple, ash, elder, English elm, holly, rose and hazel. Spindle, wild service, small-leaved lime, wild privet and dogwood will also be a natural hedgerow component in certain parts of Worcestershire. Non-native species such as sycamore are becoming more commonly seen as hedgerow shrubs.

Many ancient hedges are found along parish boundaries and old roads or may be remnants of the woodland that used to be present before clearance for farming activities. These hedges will often be naturally species rich, with the various shrubs being ancient woodland remnants or accumulating to the hedgerow over time, sometimes centuries. Newly planted hedges can also be species-rich, but will not contain the other features associated with age and wildlife value such as a biodiverse ground flora. The Parliamentary Enclosure Acts of the 18th and 19th

centuries resulted in the planting of many hundreds of kilometres of hedgerow throughout the countryside. These hedges tend to be comprised of only one or two species, usually hawthorn and / or blackthorn, but still provide good wildlife habitat if well managed.

Why is this habitat important?

Hedgerows can support a wide range of wildlife, combining the benefits of scrub, woodland and woodland edge habitat. Many ancient roadside hedges are associated with verges rich in wild flowers and together they provide wildlife corridors which link larger areas of habitat. A species-rich hedge will provide a good source of food, cover and nesting and hibernating opportunities for insects, birds and mammals. Trees present in the hedge add wildlife interest and ancient trees or shrubs, including pollarded, coppiced and laid timber, provide cavities and dead and decaying wood. Certain parts of Worcestershire have had a long tradition of planting fruit trees such as damsons, apples and pears into hedgerows.

Species associated with hedgerow habitat

Brown Hairstreak butterfly *Thecla betulae*

This butterfly lays its eggs on young, often suckering blackthorn. Colonies are normally centred on an ancient semi-natural woodland or close group of woodlands, with mating and egg laying taking place in the immediate surrounding countryside or along woodland rides and glades. The butterfly is rare and declining across the UK and its only West Midlands population is in Worcestershire. Long term monitoring and habitat management by Butterfly Conservation is ensuring that the population here remains fairly healthy. Brown hairstreak is a UK and Worcestershire Biodiversity Action Plan species.



Farmland birds such as tree sparrow *Passer montanus* and yellowhammer *Emberiza citrinella* (photo)

Many farmland bird species have undergone dramatic population declines in the last 40-50 years, due to a loss of habitat and food supply as the countryside becomes more intensively farmed. Hedges provide nesting and roosting habitat and food supplies for many small birds, including these two, and good hedgerow management to provide thick cover is crucial. Hedgerows also allow the safe movement of birds and other species around the farmed landscape.



Ancient woodland indicators such as wild service *Sorbus torminalis* (photo) and small-leaved lime *Tilia cordata*

In west Worcestershire many of the hedgerows are woodland remnants – survivors of woodland clearance for agriculture when strips of trees and shrubs were left in situ as field or property boundaries. These hedgerows often contain species more typically seen in ancient woodland such as wild service tree and small-leaved lime, along with a woodland rather than grassland ground flora.



Where can I see this habitat in Worcestershire?

The countryside of northwest Worcestershire is a good place for spotting ancient, species-rich hedgerows. Look out for these features: a high number of native woody species per 30m of hedge (5 species is good, 7 excellent, more than that outstanding); ground flora species such as bluebell, dog's-mercury, primrose, lords-and-ladies and herb robert; evidence that the hedge has been coppiced or laid in the past.

How is this habitat managed?

The traditional function of a hedge, to provide a stock-proof field boundary, would originally have been maintained by hand through a cycle of laying and trimming every few years. This was good for wildlife and maintained biodiversity value. Although hedge laying is now becoming more widely recognised as a skilled countryside craft, for the most part these traditional methods have been replaced by the use of mechanical flails. Management by annual flailing alone tends to result in hedges that become thin and 'leggy' (gaps at the base of the hedge, requiring the addition of a fence to enclose stock) as well as removing much of the young growth providing nectar and food for birds and insects.



Is this habitat threatened?

During post-war agricultural intensification many hedgerows were removed and the mechanisation of their management led to a deterioration in biodiversity value of many remaining hedges. The management of other hedgerows is neglected entirely and they may grow out into lines of trees or become gradually gapier, with their function having to be replaced by fencing. The damage that unrestricted livestock access can cause to a hedge through soil compaction, nutrient input and exacerbating existing gaps can also be significant.

Although Cross Compliance agricultural regulations now offer some protection to hedgerows in arable situations they are still vulnerable to damage from ploughing and to sprays used within the crop or on arable margins to control invasive weeds or pests.

How is this habitat being protected?

The Hedgerow Regulations 1997 prohibit the removal of most countryside hedgerows without permission being obtained from the Local Authority. 'Important' hedgerows can have an order placed on them for their retention – importance being determined by their species-richness and historical or wildlife value as defined by the Regulations.

Tree Preservation Orders can be applied to trees in hedgerows.

The Environmental Stewardship schemes administered by Natural England contain options for the planting, restoration and management of hedgerows.

Cross Compliance regulations include hedgerow protection and management standards.

Links and References

[Worcestershire Biodiversity Action Plan](#)

[UK Biodiversity Action Plan](#)

[Hedgelink Partnership](#)

[Hedgerow Regulations](#)

[Cross Compliance](#)

[Tree Preservation Orders](#)

[Environmental Stewardship](#)

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Road Verges

Road verges are strips of land between the road and the hedge (or other boundary) which separate the highway from the surrounding land. They vary in width from less than 1m to 15m or so and usually consist of grassland or scrub. They may also include a ditch which provides wetland interest and in some parts of the country may be associated with a bank or stone wall. If managed to promote biological interest verges can support an extensive range of flora and fauna.



Why is this habitat important?

It has been estimated that 80% of Worcestershire's botanical diversity is to be found on roadside verges. The road verge is generally as old as the road itself: many of our country lanes have been unchanged in size and course for centuries and even a number of the larger highways are simply re-engineered versions of a Roman or mediaeval road. In some parts of the county, roadside verges may therefore support the last remaining fragments of our natural vegetation, particularly unimproved, wildflower-rich grassland, being a haven for plants, fungi and insects that are becoming increasingly scarce in the wider countryside. Worcestershire has somewhere in excess of 2,250km of road verges with a total extent of around 700 hectares.

Species associated with road verge habitat

Deptford Pink *Dianthus armeria*

This very rare plant has declined considerably in number and distribution. It is now thought to occur on only 13-15 sites nationally, one of which is in Worcestershire. It is protected under Schedule 8 of the Wildlife and Countryside Act, is listed in Schedule 41 of the Natural Environment and Rural Communities Act and is a UK Biodiversity Action Plan species. The plant has a bright pink flower with delicate pale spots and ragged edges to the petals with a rosette of green leaves at its base. It requires bare, disturbed ground in which to germinate and is mainly found on roadsides, field margins and waste ground. It is threatened by the inappropriate management of these habitats and by the encroachment of scrub, which shades out seedlings.



Tower Mustard *Arabis glabra*

This is a tall, slim, grey-green plant with small creamy flowers that can grow up to 4 feet in height. The species has declined in recent decades and is now endangered in the UK. It is known from only 25 sites in England, concentrated in East Anglia and Worcestershire. It usually grows on nutrient-poor chalky or sandy soils in open situations and flowers from July to August. It is a UK Biodiversity Action Plan species. Like Deptford pink, it is threatened by the scrubbing up and shading of previously open habitats.



Where can I see this habitat in Worcestershire?

Road verges of all shapes and sizes can be seen throughout the county. Exemplar road verge sites supporting a high diversity of wild plants are designated under Worcestershire's Roadside Verge Nature Reserve scheme. A walk along country lanes in May and June to experience the delights of some of these verges is well worth doing in the following suggested locations: between Broadwas, Martley and Lower Broadheath; countryside southeast of Droitwich around Himbleton and Saleway; countryside southeast of Malvern between Clevelode and Welland.

How is this habitat managed?

Management of most road verges within the county is the responsibility of Worcestershire Highways, part of Worcestershire County Council, although ownership of the verge generally remains with the adjacent landowner. The cutting of road verge vegetation is contracted out to a number of different operators, with safety and visibility being the primary drivers for most verge cutting regimes.

Is this habitat threatened?

The management regime on much of our road verge network, particularly trunk and main roads, is not generally compatible with supporting or maintaining wildflower species-richness. The timing and high frequency of cutting, coupled with cut grass being left on the verge to enrich the soil, suppresses wildflowers in favour of coarse grasses and less desirable vigorous plants.

Verges also suffer due to the nature of their location next to the highway, including receiving run off and spray from road salt and vehicle oil, dumping of rubbish or temporary storage of road-building materials and car and lorry parking.

How is this habitat being protected?

Two sites that incorporate road verges have been notified as Sites of Special Scientific Interest: Crophorne New Inn on the A44 and Burcott Lane Cutting at Blackwell near Bromsgrove. Both were notified for their geological interest. At several other sites, including Castlemorton Common and the Malvern Hills SSSI, the road verge is incorporated where the designation covers land on both sides of the road.

Worcestershire maintains a Roadside Verge Nature Reserve (RVNR) scheme whereby verges with high botanical interest are identified and earmarked for specialist management. 44 sites currently qualify as RVNRs. These sites are managed to allow the wildflowers present to seed and germinate, with vegetation cut and removed at the appropriate time of year and monitoring taking place of species present on the verges. The verges are marked at each end by a red and white post to identify them to other contractors.

Links and References

[Worcestershire Biodiversity Action Plan](#)

[UK Biodiversity Action Plan](#)

[Worcestershire Roadside Verge Nature Reserves](#)



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Rivers and streams

Rivers and streams can be fast or slow flowing running water habitats, varying hugely in width and depth depending on the amount of water flowing through the catchment at any one time. They are continually altering their form by the erosion and deposition of materials within the channel and the course of a river can alter significantly over time. The presence of features such as gravel bars, islands, oxbows, pools and riffles indicate the naturalness of the watercourse and contribute to its biodiversity value. Rivers and streams provide water for wetland sites within their floodplain, supporting a diverse range of flora and fauna.



Why is this habitat important?

Rivers and streams provide vital wildlife corridor links between fragmented habitats in intensively farmed areas, allowing the movement of many species around the countryside. The natural flooding regime of rivers also sustains many important wetlands within the floodplain, supporting their own unique biodiversity. The rivers and streams of Worcestershire support a rich variety of plants, insects, birds, mammals and fish. In addition, our watercourses act as major transport corridors, venues for leisure and recreation and provide industry and agriculture with water for cooling and irrigation.

Species associated with rivers and streams

Otter *Lutra lutra*

One of the UK's top mammalian predators, the otter is making a comeback on the majority of Worcestershire's larger watercourses and streams. Population numbers are recovering nationwide after crashing during the 1950s, 60s and 70s due to hunting and the effects of certain agricultural chemicals (both now banned). An otter's main territory is largely defined by the length of river along which it hunts for food, but smaller watercourses, adjacent areas of wetland and wet woodland are all used as habitat for hunting, resting and raising young. They are protected under European law and are a Biodiversity Action Plan species.



White-clawed Crayfish *Austropotamobius pallipes*

The UK supports around a quarter of the world population of this crayfish, which is under threat due to competition from the introduced American signal crayfish and the 'crayfish plague' that the alien species carries. White-clawed crayfish tend to be found in watercourses containing rocky or woody debris within which they can hide. They are omnivorous, feeding on virtually anything including freshwater invertebrates, carrion and algae. They are protected under European law and are a Biodiversity Action Plan species.



Common Club-tail Dragonfly *Gomphus vulgatissimus*

This is a species of moderate to slow-flowing, meandering rivers. Worcestershire is an important stronghold for the common club-tail in the UK and it breeds on all of our major rivers. The distinctive club-shape to the end of its abdomen makes it easily distinguishable, although it is also one of the only dragonflies to have separated eyes. It is a black-bodied dragonfly with striking yellow markings, which in males gradually turn green as individuals mature.



Where can I see this habitat in Worcestershire?

Lowland rivers and streams can be found all over Worcestershire, including:

River Severn

The vast majority of other rivers and streams within the county drain into the Severn, which flows north-south through the heart of Worcestershire. The riverside can be accessed in numerous places, both in towns and cities, such as Worcester, Bewdley and Upton-upon-Severn, and by public footpaths in more rural areas.

River Teme

The entire length of the Teme is designated a Site of Special Scientific Interest for the flora and fauna it supports, including otter, white-clawed crayfish, freshwater pearl mussel, round leaved water crowfoot, intermediate water starwort and fish such as salmon and sea lamprey. Despite few physical modifications the river suffers from the impacts of agricultural diffuse pollution. The Teme can be accessed at Tenbury Wells and by public footpaths in more rural areas.

Bow Brook

The Bow arises south of Redditch and joins the River Avon just outside Pershore. Associated with the brook corridor are valuable wet woodlands, fen and marsh. The Bow catchment is

currently a focus for habitat restoration in a partnership between conservation bodies and local landowners. The brook can be accessed in numerous places by public footpaths and fords.

How is this habitat managed?

Historically, many physical modifications were made to our river channels to re-profile banks, straighten meanders and dredge material from the bottom to deepen and widen the watercourse for boat traffic. Control structures such as weirs were added to maximise and maintain, year round, the volume of water needed for abstraction by industry and agriculture. Latterly, modifications have been made to prevent or mitigate flooding and its effects both on urban areas and agricultural land.

The emphasis is now changing to promote and enable the re-naturalisation of our watercourses and the re-connection of rivers with their floodplains. There is a desire to see the natural processes and natural variation in flows within our rivers and streams reinstated by restoring wetlands and reversing channel modifications.

Is this habitat threatened?

The habitat quality and biodiversity value of rivers and streams can be reduced by over-abstraction and low flows for irrigation of farmland, drinking water supply or industrial use. Diffuse and point source pollution from industry, agricultural chemicals and sewage will damage or destroy biodiversity as will large inputs of sediment washed from fields. On main rivers disturbance from boat traffic can damage vegetation and destabilise banks. Urban and infrastructure development has historically been a motive for many physical modifications to our rivers and the separation of a watercourse from its floodplain and associated wetland habitats. Invasive non-native species such as Himalayan balsam and the American mink can have severe detrimental impacts on our native biodiversity in rivers and streams.

How is this habitat being protected?

Surface water bodies including rivers and streams fall under the Water Framework Directive legislation. Targets have been set for all inland and coastal waters within each defined river basin district to improve chemical and biological water quality against defined objectives.

The River Teme is designated as a Site of Special Scientific Interest in its own right and several smaller watercourses, including Dowles Brook and Ipsley Brook, are protected along parts of their length where they flow through a SSSI. Most other county rivers and larger streams have been listed as Local Sites of importance for nature conservation: this gives no statutory protection but enables recognition of their value within local planning policies and provides a means of engagement with owners to give advice on management. Sites containing Biodiversity Action Plan quality habitat also have added protection through the local planning system.

Cross compliance regulations, pertaining to all landowners who claim payments under the Common Agricultural Policy, such as the Single Payment Scheme or Environmental Stewardship, include measures for the protection of watercourses through the siting of buffer strips to reduce the impact of agricultural chemicals.

Links and References

[Worcestershire Biodiversity Action Plan](#)

[UK Biodiversity Action Plan](#)

[Water Framework Directive](#)

[River Restoration Centre](#)

[Worcestershire Wildlife Trust](#) (Bow Brook project)

[British Dragonfly Society](#)

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Ponds, Lakes and Canals

All of these habitats contain water that is still or slow flowing. Ponds may be permanent or seasonal and are defined as a water body up to 2 hectares in size, whereas lakes are over 2 hectares and large enough to be permanently wet. The water is normally fresh but can be brackish where sea water intrudes. There are few natural lakes in Worcestershire, with most created as landscape features, reservoirs or for recreation. Many ponds are also man-made, such as garden ponds, mill ponds, to water livestock or due to the flooding of hollows where clay, gravel or sand has been dug. Other ponds have arisen from more natural processes. If left untended many ponds would and do gradually silt up over time and dry out.



The first great period of canal building in the UK between the late 1750s and early 1770s served England's coal mines and mills in the north and midlands. There was initially no planned, interlinked network of waterways, with individual canals sponsored by private companies or individuals as a means of moving raw materials or goods from A to B. Many stretches of open water, whether linear or oblong, are surrounded by a fringe of natural vegetation comprising submerged, semi-aquatic and emergent species of plant.

Why is this habitat important?

Still, enclosed water bodies can support very high levels of biodiversity, possibly more species per cubic metre than any other terrestrial habitat. A huge variety of invertebrates, plants, amphibians and birds depend on still, enclosed water for part or all of their life cycle.

Canal tunnels and other structures can provide excellent roosting and breeding sites for bats and the walls and lock gates can support important assemblages of ferns and mosses. Stretches of canal with soft, naturalised banks can host colonies of water vole. Canals also provide green corridors through urban areas and therefore have huge recreational value.

Species associated with ponds, lakes and canals

Water vole *arvicola amphibious*

With small ears, a blunt nose and furry tail, the water vole is our largest vole species but also the UK's fastest declining mammal. It is a UK Biodiversity Action Plan species because of its vulnerability to extinction. Water voles construct burrows in the banks of rivers, canals, ditches and pools, marking their territories with latrines. Their decline is due to a combination of habitat loss and predation by the American mink. In Worcestershire, water voles are now only found in the streams and canals around Bromsgrove.



Great crested newt *Triturus cristatus*

Our largest native newt grows up to 17cm in length. During the breeding season males develop the distinctive crest which, combined with a mottled yellow-orange belly, make it unmistakable. Great crested newts can be found in ponds, lakes and canals throughout the UK, but Worcestershire is a hotspot. Water is essential only for breeding and the newts actually spend significant amounts of time on land, searching for food and hibernating during the winter months in underground crevices or rock piles. Great crested newts are protected by British and European Law.



Water beetles such as the Common Black Diving Beetle *Agabus bipustulatus*

Water beetles are one of the most numerous and diverse group of species found in freshwater. One frequently seen in ponds, lakes and canals is the common black diving beetle, which grows to about 1cm. Many water beetles are also strong fliers and quick colonisers of any new ponds created. The larvae are fiercely carnivorous, feeding on other small pond creatures that they catch.



Where can I see this habitat in Worcestershire?

Lyppard Grange Ponds *Worcester City Council*

This complex of ponds on the outskirts of Worcester supports an internationally important population of great crested newts, for which the site has been designated a Special Area of Conservation under European legislation. The ponds and surrounding land are managed as a nature reserve and can be visited at any time.

Bittell Reservoirs *Barnt Green Waters Ltd*

These two reservoirs form the largest expanse of open water in the county and are designated as a Site of Special Scientific Interest. As well as recreational use, being the base for a local

sailing club and fishing club, they are important for breeding and overwintering water birds. Nationally rare plants such as slender spike rush and mudwort are found on the silt shoreline. The reservoirs are private property but can be viewed from surrounding public footpaths.

Droitwich Canal *Droitwich Canal Trust*

The Droitwich Barge and Junction Canals re-opened in 2011 to complete a 22 mile loop between Droitwich, Worcester and the River Severn. The whole network can now be accessed by boat or along the towpaths.

How is this habitat managed?

Larger still water bodies may need very little day-to-day active management but the biodiversity interest is vulnerable to damaging external factors. The freshwater ecosystem depends on clean water containing low levels of nutrients. Pollutants entering the water can introduce chemicals toxic to wildlife or result in algal blooms, which starve plants and animals of oxygen.

Some water bodies may require periodic de-silting or for marginal plants and scrub to be thinned to slow the process of natural succession. The biodiversity value of water bodies can also be damaged by the accidental or intentional introduction of invasive non-native species such as Himalayan balsam or Australian swamp stonecrop and so control of these is essential.

Is this habitat threatened?

Habitat quality and biodiversity value can be threatened by pollutants entering the water with run-off from roads and farmland or invasion by non-native species. Smaller water bodies can quickly become silted up and disappear. Nutrient enrichment, through run-off from surrounding land or the presence of high numbers of water birds such as ducks and geese, can lead to algal blooms and the loss of submerged vegetation. Low river and stream flows due to abstraction can impact on water levels in ponds or lakes within the catchment system. Many farm ponds have been lost through neglect and silting up or deliberate in-filling to dispose of waste.

How is this habitat being protected?

A number of larger pools and pond complexes in the county have been designated as Sites of Special Scientific Interest and one, Lyppard Grange, as a Special Area of Conservation. Other sites, mostly in private ownership, have been listed as Local Sites of importance for nature conservation: this gives no statutory protection but enables recognition of their value within local planning policies and provides a means of engagement with owners to give advice on management. Sites containing Biodiversity Action Plan quality habitat also have added protection through the local planning system.

Surface water bodies including ponds, lakes and canals fall under the Water Framework Directive legislation. Targets have been set for all inland and coastal waters within each defined river basin district to improve chemical and biological water quality against defined objectives.

The Environmental Stewardship schemes administered by Natural England contain options for the creation, restoration and management of ponds.

The canal infrastructure in England and Wales now includes over 2,700 listed structures, 50 Scheduled Ancient Monuments and 5 UNESCO World Heritage Sites.

Links and References

[Worcestershire Biodiversity Action Plan](#)

[UK Biodiversity Action Plan](#)

[Worcester City Council](#)

[Canal and River Trust](#)

[Barnt Green Waters Ltd](#)

[Water Framework Directive](#)

[Environmental Stewardship schemes](#)

[Pond Conservation](#)

Habitat Information Sheet

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The WHI is intended as a tool to aid decision making by planners, land managers, conservation bodies and others, principally to inform the targeting of habitat restoration and creation projects.

How do we determine the quality of a habitat within the WHI?

Accuracy in interpretation of the aerial photographs was assessed in a targeted programme of ground truthing at an early stage in the project. This confirmed the ability to distinguish between notionally similar habitat types, e.g. acid grassland and neutral grassland, and also to distinguish habitat quality, e.g. unimproved and improved grassland, with a good level of accuracy. A programme of ground truthing is continuing with the support of volunteer surveyors.

Analysis of the WHI data allowed mapping of the strongest intact networks of semi-natural habitat with the highest potential wildlife value. Also identified were habitats of Biodiversity Action Plan quality. Biodiversity Action Plans have been written for habitats and species of the highest priority for nature conservation, at both UK and local level.

Neutral Grassland

Lowland neutral grasslands are the most frequently occurring grassland type in Worcestershire, found across the county on pH neutral soils. They are often described according to their traditional form of management as unimproved, lowland hay meadows or grazing pasture. The most valuable sites have not been altered in hundreds of years and remain untouched by the intensive agricultural activities that have led to the general decline in wildlife-rich grasslands, such as ploughing and reseeded or the use of high nutrient fertilisers and herbicides.



Unimproved grassland can be extremely species-rich, supporting wildflowers such as cowslip, knapweed, green-winged orchid and pyramidal orchid and fungi such as waxcaps. They provide habitat for populations of ground nesting birds including skylark and lapwing. Most of our remaining grasslands are small and often isolated from one another within the landscape.

Species associated with neutral grassland habitat

Devil's-bit scabious *Succisa pratensis*

This tall plant has rounded purple-blue flower heads that look like a pin cushion. It is related to the teasel and you will find it growing in the damper parts of lowland meadows. It is a popular food plant of bees, moths and butterflies. 'Scabious' derives from 'scabies' - one of the many ailments that the flowers were supposed to help cure. According to one legend, the Devil grew angry about these medicinal properties and tried to get rid of them by biting the roots off, hence the plant's short, stubby roots and the 'Devil's-bit' in the name.



Adder's-tongue fern *Ophioglossum vulgatum*

This plant is considered a good indicator species of ancient meadows although you will also find it growing along undisturbed woodland rides and on sand dunes. It usually appears between June and August, spending the rest of the year underground as a rhizome. The plant has a bright green, oval, upright frond with a single tall spike (occasionally a pair) bearing the spores.



Why is this habitat important?

Lowland meadows are one of the habitats for which Worcestershire is crucially important in a national context. Approximately 7,000 hectares of unimproved lowland hay meadows and neutral pastures are estimated to remain in England, thought to be just 3% of the amount that would have existed before the Second World War. Just over 1200 hectares of the habitat have been mapped in Worcestershire, meaning that our county contains in the region of 20% of the traditional wildflower meadows that still exist in England.

Where can I see this habitat in Worcestershire?

Foster's Green and Eades Meadows Worcestershire Wildlife Trust

This 12 hectare complex of traditional hay meadow has been designated a National Nature Reserve. The fields have not been ploughed for at least 100 years nor have they ever been treated with chemical fertilisers, herbicides or other agricultural chemicals. Ridge and furrow structure can still be seen beneath the carpet of wildflowers. Over 180 species of plants have been recorded, including green-winged orchids in spring and meadow saffron in autumn. The site is managed by grazing and hay cutting and can be accessed by a public footpath.

Hornhill Meadow Worcestershire County Council

This 10 hectare Local Nature Reserve is part of the Worcester Woods Country Park complex. The fields are grazed by traditional native breeds of cattle, including the English Longhorn, and support a rich diversity of plant and insect species. Some of the fields have a ridge and furrow pattern. The meadows are open year-round with a leaflet to the self-guided trail available from the Countryside Centre café.

How is this habitat managed?

The biodiversity value of all lowland grassland types depends on management by an appropriate grazing and/or hay-making regime sympathetic to the timing of wildflowers setting seed and germinating. Many of our old grasslands have been lost through ploughing and conversion to arable land or through the addition of nitrates and other chemicals to 'improve' the grassland for the intensive grazing of livestock. Outside of protected areas, the biodiversity value of much of the remaining lowland meadow resource is diminished.

Is this habitat threatened?

The habitat remains under threat from agricultural intensification, the fragmentation of sites into small, isolated blocks and over grazing. It can be hard to secure the correct regime of grazing and hay cutting on small, isolated sites due to the difficulties in finding appropriate livestock and machinery.

How is this habitat being protected?

The largest sites containing lowland meadow habitat that remain in Worcestershire are in nature conservation or local authority ownership. Around 430 hectares of lowland meadows in Worcestershire have been designated as Sites of Special Scientific Interest. Many more sites, mostly in private ownership, have been listed as Local Sites of importance for nature conservation: this gives no statutory protection but enables recognition of their value within local planning policies and provides a means of engagement with owners to give advice on management. Sites containing Biodiversity Action Plan quality habitat also have added protection through the local planning system.

Land management schemes such as Environmental Stewardship, administered by Natural England, may be available to assist with the restoration and management of priority habitats including lowland meadow.

Links and References

[Worcestershire Biodiversity Action Plan](#)

[UK Biodiversity Action Plan](#)

[Worcestershire Wildlife Trust nature reserves](#)

[Worcestershire County Council countryside sites](#)

[Environmental Stewardship](#)



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Analysis of the WHI data allowed mapping of the strongest intact networks of semi-natural habitat with the highest potential wildlife value. Also identified were habitats of Biodiversity Action Plan quality. Biodiversity Action Plans have been written for habitats and species of the highest priority for nature conservation, at both UK and local level.

Grassland

This broad habitat includes all types of grassland, from valuable species-rich semi-natural grassland, improved pasture used for grazing livestock, parks and playing fields to private gardens. The green patchwork of England's rural countryside includes just over 5 million hectares of grassland of one kind or another. Grassland covers approximately 47% of Worcestershire – over 80,000 hectares.



What does the habitat look like?

All grassland habitats are, as the name suggests, defined by the presence of plant species from within the grass family. Grassland is also predominantly an open habitat, with a lack of significant numbers of woody plant species such as trees. However, the number of plant species found within a particular grassland site will vary depending on the use and management of that site. Agricultural grasslands managed intensively for grazing livestock or for the production of silage will comprise perhaps only two or three very vigorous species, whose growth is promoted with the use of chemical fertilisers. Grasslands managed for amenity

purposes – parks, golf courses etc – are likewise generally very species poor. In contrast, the richest semi-natural grasslands, managed to promote nature conservation value, can contain 20-30 or even more plant species per square metre, including not just grasses but wildflowers, mosses and fungi.

How do we define Biodiversity Action Plan (BAP) quality habitat?

Habitat types can be identified and named according to the National Vegetation Classification (NVC) system, used within Britain as a common standard of habitat description. Both the UK and the Worcestershire Biodiversity Action Plan uses the NVC system in some cases to identify priority BAP habitat. This indicates that the habitat present contains the number and diversity of plant species, or very close to it, that we would expect to find in a natural system which had experienced little or no human intervention or 'improvement'. The means of defining other BAP priority habitat types is not so prescriptive.

Priority BAP grassland types occurring within Worcestershire are:

- Lowland Meadows* (NVC community MG5)
- Lowland Dry Acid Grassland* (NVC communities U1, U2, U4, U5, U6, U16 and U20)
- Lowland Calcareous Grassland* (NVC communities CG1, CG3, CG4, CG5 and CG7)
- Wet Grassland - included within 'Coastal and Floodplain Grazing Marsh' habitat in the UK BAP - (NVC communities MG4 and MG8)

* Same habitat description in UK BAP

What different types of grassland habitat are there?

Species-rich lowland meadows are found on soils with a neutral pH, typically 5-7. Worcestershire is thought to contain around 20% of the semi-natural lowland meadow habitat remaining in the UK, much of the resource having disappeared over the last 60 years as agricultural practices have intensified. For meadows that remain, a cycle of grazing and hay cutting with no addition of artificial chemicals will see species such as cowslip, knapweed, green-winged orchid, dyer's greenweed and adder's-tongue fern flourish.

Acidic grasslands occur on free draining and often sandy soils with a pH below 5 and are often found in combination with lowland heathland habitat. Typical plants include sheep's fescue, wavy-hair grass, heath bedstraw and bracken.

Grassland occurring on calcareous soils of pH 6.5-8.5 will support plant species such as upright brome, ploughman's spikenard, wild liquorice, twayblade, pyramidal orchid and wild thyme.

When grassland is artificially improved, with chemicals added to boost the growth of certain species and suppress certain others, the habitat will lose its biological diversity and become dominated by a small number of vigorous plant species, such as rye grasses, fescues and clovers, which will out-compete smaller plants such as wildflowers for space and nutrients.

How is this habitat managed?

Amenity grassland – our lawns, parks and sports pitches – is usually managed by mowing, perhaps combined with the application of fertiliser or herbicide. Agricultural grasslands can be used to graze livestock, as a short-term rotation to protect bare soil and replace depleted nutrients between crops or to produce silage for animal feed or biomass. Agriculturally improved grasslands will also have chemical inputs to maximise productivity.

Semi-natural grasslands, in contrast, have retained their biodiversity interest and value due to the lack of chemical application and the annual cycle of grazing and hay cutting that is sympathetic to the timing of flowering and seed-set of our native wild plants.

What influences the presence or extent of the habitat?

Development and population growth will influence the creation of grassland habitats, with increases in the number of private gardens, parks, playing fields and sports fields.

In an agricultural situation the presence and location of grassland will depend on individual choices regarding crop rotation and stocking numbers and also on global economic influences such as crop prices.

The survival of semi-natural grasslands, or at least the maintenance of biodiversity value, very often depends on the personal interest of owners. Other factors include the availability of suitable stock or machinery needed to manage the grassland and the economics of competing land use requirements.

How can this habitat be protected or enhanced?

The compulsory set-aside of a proportion of agricultural land to fallow each year was first introduced with the 1992 reform of the Common Agricultural Policy (CAP). The environmental benefits of set-aside soon became apparent; however, rising cereal prices and low global cereal stocks nevertheless prompted Government to abolish compulsory set-aside in 2007. A number of monitoring and research programmes are underway to determine the impacts of this decision and to inform the inclusion, or otherwise, of payments for set-aside or permanent grassland within the current reform of the CAP. Since 2007 a partnership of farming and environmental organisations has encouraged farmers to adopt a voluntary approach to set-aside as part of a wider programme of measures under the Campaign for the Farmed Environment project.

Land management schemes such as Environmental Stewardship, administered by Natural England, may be available to assist with the restoration and management of priority BAP grassland habitats.

Advice and guidance on restoring and managing semi-natural grassland for its biodiversity value can be obtained from organisations such as Flora Locale, Plantlife and The Wildlife Trusts.

Links and References

[Worcestershire Biodiversity Action Plan](#)

[UK Biodiversity Action Plan](#)

[Campaign for the Farmed Environment](#)

[Environmental Stewardship](#)

[Flora Locale](#)

[Plantlife](#)

[The Wildlife Trusts](#)



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Cropped land

This land use refers to farmland currently under cultivation to produce a crop, which may include fallow land (set aside) or temporary grass leys grown between crops. A wide variety of crops are produced in the UK, including cereals and grains such as wheat or barley, maize, root or other vegetables, legumes (peas and beans) and salad crops.



The arable field can contain a range of habitat features including those created by the crop itself (such as autumn and spring sown crops, post-harvest stubble, over-winter stubbles, cultivated fallow), set aside, bare uncropped areas (e.g. failed crops, around power line pylons, tramlines), grassy or cultivated field margins, conservation headlands, rough corners (that are stony, awkwardly shaped or wet), field tracks, hedges, walls, fences, hedgerow trees, in-field trees, copses, ponds and ditches.

The monoculture of a crop can be a relatively inhospitable place for wildlife and the margins of fields, if deliberately managed to create conditions that benefit key farmland species, can be vital reservoirs of biodiversity. Well managed hedgerows and ditches provide an important source of food, shelter and means of movement across the farmed landscape. Features such as arable field margins, buffer strips and conservation headlands can be created and managed to provide a nectar and seed source for insects and birds.

Why is this habitat important?

Arable land is a significant habitat for insects, with around 2000 species commonly found in cereal fields, providing a rich food supply for birds and small mammals. The populations of certain species of farmland bird, including grey partridge and skylark, are critically dependent on insect availability as their chicks eat nothing else for the first few weeks of life. Farmland birds are therefore severely affected by the use of chemical insecticides and herbicides, which remove both insects and the food plants of insects from the food chain.

The native, wild flora found within arable fields is the most critically threatened group of plants in Britain and is of conservation concern because of the enormous national declines in their distribution and abundance. Overall, some 300 species of plant can occur in arable fields. Worcestershire is an important county for rare arable flora such as cornflower, corn buttercup, shepherd's-needle and narrow-fruited cornsalad.

Species associated with cropped land

Brown hare - *Lepus Europaeus* (photo, right)

The brown hare was introduced into Britain around 2000 years ago and is now naturalised into our native fauna. It has declined in population dramatically over the last 100 years and is currently thought to number around 800,000 in Britain. It is a species predominantly, although not exclusively, of open farmland, with factors such as the intensification of grassland management and increase in livestock numbers contributing to their decline.



Skylark - *Alauda arvensis*

The skylark is best known and identified by its continuous, warbling flight song during the breeding season. It is on the UK Red List of birds of conservation concern due to a decline in population of 53% in the last four decades. The skylark requires open fields with low, undisturbed vegetation in which to breed and a steady year-round supply of weed leaves, seeds and insects. Their decline is due mainly to the move from spring to winter cereals and the intensification of grassland management.



Cornflower - *Centaurea cyanus*

The cornflower was once considered a weed and agricultural intensification has now all but wiped out cornflowers in the wild. The delicate, bright blue flowers are actually composite heads of many small flowers and most cornflowers you will find have been re-seeded as part of a wildflower-rich arable field margin or similar habitat. It flowers from June to August and can grow up to 1m in height.



Shepherd's-needle - *Scandix pectin-veneris* (photo, right)

Shepherd's-needle has small groups of white flowers and feathery leaves. It is now restricted to the south east of England, its distribution just creeping into the south east corner of Worcestershire. It prefers mainly heavy clay soils and favours disturbed ground as well as field margins of arable fields. It is critically endangered in the UK and is considered to be at high risk of extinction.



Where can I see this habitat in Worcestershire?

Kemerton Estate Kemerton Conservation Trust

The Estate has been in Countryside Stewardship and Higher Level Stewardship farming schemes for over a decade and has been experimenting with best practice management for conserving arable flora for even longer. Take a walk over the footpaths on the south west side of Bredon Hill during the summer and see if you can spot some of the rare flowers present within the arable field margins.

Naunton Court Worcestershire Wildlife Trust

The two arable fields here were purchased by the Wildlife Trust in 2006 after surveys revealed that the site is of international importance under the Plantlife criteria for Important Arable Plant Areas. Corn buttercup, shepherd's-needle and blue pimpernel are all found here. Access by permit can be arranged by contacting Worcestershire Wildlife Trust.

How is this habitat managed?

Arable land is managed to produce a crop, in a cycle of cultivation, sowing, fertilisation and weed control and then harvesting. Crops on a single landholding are often grown in a rotation, the purpose being to avoid a build-up within the soil of pests or diseases specific to a particular crop type. The rotation is likely to include a period of fallow when no food crop is planted on a particular area of land or a rotational grass ley to provide silage or grazing for dairy cattle and return organic matter to the soil. Arable farming today is very highly mechanised, with precision machinery used to undertake the various operations.

Is this habitat threatened?

The habitat is not threatened. However, the intensity and type of arable farming in a given area can have considerable detrimental impact on biodiversity or, equally, can be carried out in a way that is sympathetic to the needs of farmland wildlife.

Threats to wildlife on cropped farmland come mainly from the use of synthetic chemicals - fertilisers, pesticides and herbicides - and the timing of farming operations, which may prevent or disrupt breeding or result in the destruction of habitat or food supplies at critical times.

How is this habitat being protected?

Several sets of rules and regulations relate to standards of environmental management on to farmed land in England and compliance with these is essential if the landowner receives payments under the Single Payment Scheme, Environmental Stewardship or elements of the English Woodland Grant Scheme. Statutory Management Requirements are legal requirements based on EU and UK law and are applicable to all farmers. They address the environment, animal welfare and public, plant and animal health. Good Agricultural and Environmental Condition standards are legal requirements set in UK and English law. These relate to soil erosion, soil organic matter, soil structure and the protection and management of boundary features such as hedgerows and water courses.

Twelve arable flora species are protected under Schedule 8 of the Wildlife and Countryside Act.

Land management schemes such as Environmental Stewardship, administered by Natural England, may be available to assist with the creation and management of features on cropped land that will increase biodiversity and protect watercourses and trees.

Links and References

[Worcestershire Biodiversity Action Plan](#)

[UK Biodiversity Action Plan](#)

[Worcestershire Wildlife Trust nature reserves](#)

[Kemerton Conservation Trust](#)

[Cross Compliance](#)

[Environmental Stewardship](#)

[Plantlife](#)

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Broadleaved Woodland

Most of the native woodland in the UK is comprised of broadleaved species – trees with non-needle-like leaves and which (with a few exceptions) lose their canopy in the winter. Broadleaved woodland may be classified as *ancient* on sites that have been continuously wooded since at least 1600AD, it may comprise ancient woodland that has been significantly re-planted with more commercial timber species – a *Planted Ancient Woodland Site* – or it may be younger, more recent woodland. Native broadleaved species found in the UK include English oak, ash, birch, lime, field maple, hazel, English elm and holly.



Above: Nunnery Wood

Why is this habitat important?

Woodlands of all types provide shelter and food for many species of birds, mammals, reptiles and insects. Native broadleaved woodlands contain tree species that have arrived here naturally in the UK since the last ice age and which have developed complex inter-dependent relationships with our other native wildlife. In Worcestershire, rare woodland species include dormouse, Bechstein's bat and pearl-bordered fritillary butterfly.

Woodlands are also an important resource for public leisure and recreation activities. Many are managed to provide timber for various uses, including renewable energy in the form of wood fuel.

Species associated with broadleaved woodland

Woodland warblers such as blackcap (photo), chiffchaff, willow warbler and wood warbler

Woodland bird species require nesting habitat and a year-round source of food suitable for both adults and chicks. Structural diversity within a woodland is essential and should include a mature canopy with an understory of future canopy trees, a scrub layer, ground flora including flowers, ferns, grasses, mosses and lichens, clearings and glades within the wood and dead and decaying timber that can provide a source of insect food and cavities for nest sites.



Woodland butterflies such as wood white, pearl-bordered fritillary (photo) and brown hairstreak

Butterflies thrive in open, sunny habitats with a ground flora layer that provides nectar and food plants for caterpillars. One of the biggest causes of decline amongst woodland butterflies is the abandonment of active management, particularly coppicing, within many of our woodlands. This shades out the plants on the woodland floor and cools the temperature within the wood. Woodland management designed to promote butterfly numbers and diversity will include maintaining open rides and glades and managing areas of rotational coppice.



Where can I see this habitat in Worcestershire?

Wooded hills between Suckley and Abberley, west Worcestershire

The countryside stretching north from the Malvern Hills between Suckley and Abberley is a rolling landscape of wooded hills. It includes a number of nature reserves including Ravenshill Wood and the Knapp and Papermill, as well as numerous footpaths along which you can explore the ancient woodlands, veteran trees, orchards, meadows and farmland.

Grafton Wood Worcestershire Wildlife Trust, Butterfly Conservation

Jointly owned by these two conservation bodies, Grafton Wood Site of Special Scientific Interest is an ancient semi-natural broadleaved woodland with a canopy and shrub layer of ash, oak, field maple, hawthorn and hazel. The woodland is also the centre of the only midlands population of the brown hairstreak butterfly. There are public footpaths and permissive trails running through the wood.

How is this habitat managed?

Woodland can be managed for a variety of objectives - biodiversity, timber, shooting and recreation being just some. Conservation (or restoration) of the biodiversity value of broadleaved woodland will often focus on increasing the amount of light and space within the wood through selective felling, cyclical coppicing and the creation of glades and rides. This will promote the growth of woodland ground flora which in turn provides a food source for insects. Woodland bird species require a food supply including insects, seeds and berries, as well as nesting sites within scrub and in tree cavities.

Is this habitat threatened?

Many remaining woodlands are small and relatively isolated, with increasing fragmentation a threat to biodiversity value.

Deer and grey squirrels can cause large amounts of damage to woodland through bark stripping and the grazing of new vegetation growth. This can be a particular issue when parts of the woodland are managed by coppicing.

Woodlands can be invaded by undesirable non-native plant species such as rhododendron, sycamore, Himalayan balsam and Japanese knotweed.

Biodiversity interest can also be damaged by excessive recreational use or if game rearing or forestry operations are carried out too intensively.

How is this habitat being protected?

The largest woodlands remaining in Worcestershire are designated as National Nature Reserves or Sites of Special Scientific Interest, including Wyre Forest, Chaddesley Wood and Tiddesley Wood. Many smaller sites also have legal protection and there are currently just over 1,800 hectares of woodland designated as SSSI within the county.

Other sites, mostly in private ownership, have been listed as Local Sites of importance for nature conservation: this gives no statutory protection but enables recognition of their value within local planning policies and provides a means of engagement with owners to give advice on management. Sites containing Biodiversity Action Plan quality habitat also have added protection through the local planning system.

Many Planted Ancient Woodland Sites are now being restored to remove conifers and non-natives. Forestry Commission has published good practice guides and standards for undertaking PAWS restoration.

The requirements on a woodland owner for obtaining a felling licence prior to forestry operations are incorporated within the Forestry Act 1967.

Tree Preservation Orders can be applied by the Local Authority both to individual trees and to woodland.

The Forestry Commission are the statutory body with responsibility for the protection and expansion of woodlands in Great Britain. The English Woodland Grant Scheme administered by Forestry Commission provides support for creating, restoring and managing woodland.

Links and References

[Worcestershire Biodiversity Action Plan](#)

[UK Biodiversity Action Plan](#)

[Worcestershire Wildlife Trust nature reserves](#)

[Wyre Forest National Nature Reserve](#)

[Tree Preservation Orders](#)

[English Woodland Grant Scheme](#)

Habitat Information Sheet

Worcestershire Habitat Inventory

What is the Worcestershire Habitat Inventory?

The Worcestershire Habitat Inventory (WHI) is a digital mapping project involving field-by-field survey of the county. Aerial photograph interpretation was used to map habitats and land use, with the first map iteration completed in 2008 using an aerial photograph set flown in 2005. Other datasets, such as national habitat inventories published by Natural England, were also incorporated as appropriate.

The WHI is intended as a tool to aid decision making by planners, land managers, conservation bodies and others, principally to inform the targeting of habitat restoration and creation projects.

How do we determine the quality of a habitat within the WHI?

Accuracy in interpretation of the aerial photographs was assessed in a targeted programme of ground truthing at an early stage in the project. This confirmed the ability to distinguish between notionally similar habitat types, e.g. acid grassland and neutral grassland, and also to distinguish habitat quality, e.g. unimproved and improved grassland, with a good level of accuracy. A programme of ground truthing is continuing with the support of volunteer surveyors.

Analysis of the WHI data allowed mapping of the strongest intact networks of semi-natural habitat with the highest potential wildlife value. Also identified were habitats of Biodiversity Action Plan quality. Biodiversity Action Plans have been written for habitats and species of the highest priority for nature conservation, at both UK and local level.

Ancient Woodland

Ancient woodland sites are those that have been continuously wooded since at least 1600AD. They may be remnants of the original wildwood that once covered Britain or they may have been significantly re-planted with native or non-native species, usually for commercial timber production (the latter known as Planted Ancient Woodland Sites). Ancient Semi-Natural Woodland and Planted Ancient Woodland cover approximately 3-4% of Worcestershire. Because of the continuity of tree cover, ancient woodlands can support a high diversity and abundance of plants within the canopy, shrub and ground flora layers. Tree species typical of natural, native woodlands in Worcestershire include English oak, ash, field maple and birch.



Above: Nunnery Wood

Why is this habitat important?

Woodlands of all types provide shelter and food for many species of birds, mammals, reptiles and insects. Ancient woodlands can also contain a rich ground flora including bluebells, primroses, lichens, mosses and fungi. In Worcestershire, rare woodland species include the dormouse, Bechstein's bat, pearl-bordered fritillary butterfly and true service tree.

Woodlands are also an important resource for public leisure and recreation activities. Many are managed to provide timber for various uses, including renewable energy in the form of wood fuel.

Species associated with ancient woodland habitat

Dormouse - *Muscardius avellanarius*

The Wyre Forest and surrounding woodlands are a particular stronghold for dormice in Worcestershire. Loss and fragmentation of woodland and hedgerow habitat is contributing to this species decline: it is now classed as Vulnerable and is a UK Biodiversity Action Plan priority species. Dormice eat flowers and pollen during the spring, fruit in the summer and nuts, particularly hazel nuts, in the autumn. Insects also supplement their diet throughout the year. Dormice are known to hibernate for up to 7 months. One means of surveying for the presence of dormice within a wood is by identifying the teeth marks on rodent-nibbled nuts.



Common fan-foot moth - *Pechipogo strigilata* – and Drab looper moth (photo centre) - *Minoa murinata*

Both of these moths are priorities for conservation in Worcestershire and both are associated with woodland. Common fan-foot is found in open woodland and recently abandoned coppice - usually on heavy soils. It prefers leaf litter, humid conditions and cover from shrubs and low branches of scattered trees. The larvae are now known to feed on withered oak leaves. The drab looper prefers sunny rides and clearings within ancient woodland where the caterpillar food plant wood spurge can be found.



Broad-leaved helleborine - *Epipactis helleborine*

A member of the orchid family, this helleborine grows in woodland clearings and can reach 75cm in height. It has purple tinged, drooping flowers from July to September. The leaves are wider than those of other helleborines with ribbed veins, with the lower leaves being almost elliptical.



Where can I see this habitat in Worcestershire?

Wyre Forest *Forestry Commission, Natural England, private landowners*

Large parts of the Wyre Forest are designated as a National Nature Reserve or Site of Special Scientific Interest. The wood has long been managed for timber and charcoal production and the coppice system is being restored to further enhance biodiversity. Wyre is a popular visitor destination in Worcestershire, with a network of walking and cycling trails and a visitor centre.

Tiddesley Wood *Worcestershire Wildlife Trust*

One of the largest woodlands in the county, Tiddesley is managed using methods including coppicing to promote insect life and provide scrub for woodland birds. A small area of conifer plantation is being restored to native woodland. The site is open to the public year-round.

How is this habitat managed?

Woodland can be managed for a variety of objectives - biodiversity, timber, shooting and recreation being just some. Conservation (or restoration) of the biodiversity value of ancient woodland will often focus on increasing the amount of light and space within the wood through selective felling, cyclical coppicing and the creation of glades and rides. This will promote the

growth of woodland ground flora which in turn provides a food source for insects. Woodland bird species require a food supply including insects, seeds and berries, as well as nesting sites within scrub and in tree cavities.

Is this habitat threatened?

Many remaining ancient woodlands are small and relatively isolated, with increasing fragmentation a threat to biodiversity value.

Deer and grey squirrels can cause large amounts of damage to woodland through bark stripping and the grazing of new vegetation growth. This can be a particular issue when parts of the woodland are managed by coppicing.

Woodlands can be invaded by undesirable non-native plant species such as rhododendron, sycamore, Himalayan balsam and Japanese knotweed.

Biodiversity interest can also be damaged by excessive recreational use or if game rearing or forestry operations are carried out too intensively.

How is this habitat being protected?

The largest ancient semi-natural woodlands remaining in Worcestershire are designated as National Nature Reserves or Sites of Special Scientific Interest, including Wyre Forest, Chaddesley Wood and Tiddesley Wood. Many smaller sites also have legal protection and there are currently just over 1,800 hectares of woodland designated as SSSI within the county.

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[Worcestershire Wildlife Trust nature reserves](#)

[Wyre Forest National Nature Reserve](#)

[Tree Preservation Orders](#)

[English Woodland Grant Scheme](#)

8. Site Designation Reports

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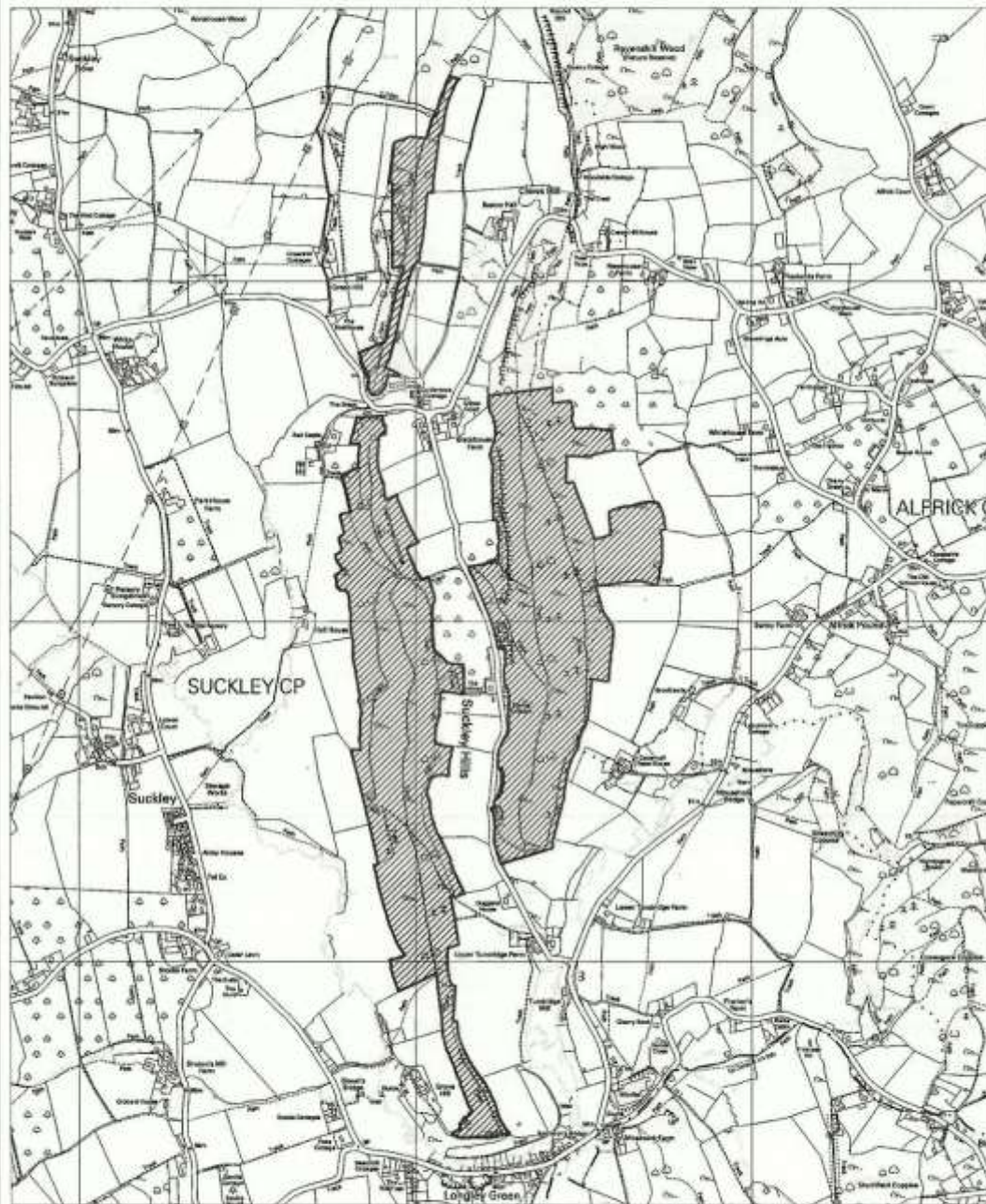
SITE No: SO75/20

SITE NAME	SUCKLEY HILLS WOODS
NATIONAL GRID REFERENCE	SO732520
LINEAR SITE LIMITS (if appropriate)	N/A
DATE OF LISTING	23.01.2007
DISTRICT COUNCIL (s)	Malvern Hills District Council
PARISH	Alfrick and Suckley
TOTAL AREA	83.21 ha
LENGTH IF LINEAR	N/A
SWS HABITAT	Broadleaved woodland
NATIONAL BAP HABITATS	Broadleaved, mixed and yew woodland
OTHER HABITATS OF IMPORTANCE	Species-rich semi-natural grassland
NATIONAL BAP SPECIES	No information
OTHER SPECIES OF IMPORTANCE	Large-leaved lime, gromwell, tutsan, wood vetch, greater butterfly orchid
GENERAL DESCRIPTION This site comprises two parallel wooded hills of Much Wenlock Limestone and Aymestry Limestone, separated by a narrow valley over shales (unwooded and not part of the SWS). The limestone influence of the geology is strongly reflected in the vegetation communities of the site – woodland, rideside and a small area of species-rich grassland.	
<p>The woodland communities have been highly altered by forestry management over many years, including large areas of conifer plantation (Douglas fir, Norway spruce, western red cedar, European larch) as well as areas of deciduous trees such as copper beech and sweet chestnut. Stands of neglected coppice with standards remain in the west of the two stretches of wood (at the north and south ends and east side), but overall there are few areas of woodland with a native canopy remaining. However, many notable species of woodland and grassland remain, particularly along or close to paths – the rideside communities are especially rich and diverse. Crews Hill SSSI lies at the north end of the east of the two hills. There are a number of small limestone quarries along the west edge of the eastern stretch of woodland. The woodland community here is W8 <i>Fraxinus excelsior-Acer campestre-Mercurialis perennis</i> woodland. Beneath the conifer plantations the field-layer is sparse or absent, or dominated by nettle indicating some form of disturbance. However, close to path edges and under deciduous canopies, various of the W8 sub-communities are present. These include W8c <i>Deschampsia cespitosa</i> sub-community along wet, compacted rides, W8b <i>Anemone nemorosa</i> and W8f <i>Allium ursinum</i> sub-communities on other damp soils and, the most frequent, W8a <i>Primula vulgaris-Glechoma hederacea</i> sub-community dominating on the more free-draining soils. Thus, the dominant plants of the field-layer are dog's mercury and bramble, with occasional large areas of ramsons and, less frequent, wood anemone. A variety of other woodland herbs are recorded less frequently, such as tutsan, woodruff and cuckoo pint. Where some native element to the canopy remains, this includes species typical of base-rich soils such as wild service and field maple. Such areas are largely restricted to the old quarries or to very steep banks such as the bank above the south side of the road that splits the west side of the SWS – although the canopy is rather dense here, where it thins a little the floristic diversity in the field-layer is good. Of particular note are the old large-leaved lime trees along the tracks that run along the high ridges of both stretches of wood.</p>	
<p>The shrub-layer is also poor beneath the conifers, but under the deciduous canopy a diversity of shrubs are present – most frequent is neglected hazel coppice (the most recent coppicing was estimated at about 20 years ago); other species include spindle, common hawthorn and crab apple.</p>	
<p>Demarcation of old boundaries can be seen within the wood such as a row of ancient small-leaved lime tall coppice along part of the east edge of the SWS and also occasional stretches of boundary bank. Towards the southern end of the west block are some areas of clearfell dominated by tall herb vegetation, particularly rosebay willowherb. Pheasant rearing pens were situated in the west stretch of the site, in a conifer plantation near the centre on the west side of the hill and on the east side of the north-west block. Maintained rides hold rich and diverse communities of herbs, also found in occasional open areas of woodland. Of particular note are wood vetch, greater-butterfly orchid, common gromwell, rock-rose and milkwort. The meadow and glade north of the road that splits the west side of the SWS are excellent areas of herb-rich grassland with a high diversity and abundance of calcicolous herbs and grasses such as upright brome, restharrow, yellow-wort, wild thyme and quaking grass – this shows strong affinities with the CG3 <i>Bromus erectus</i> grassland.</p>	

Suckley Hills Woods

Do not scale from map. For accurate plan refer to GIS.

Scale 1:15000



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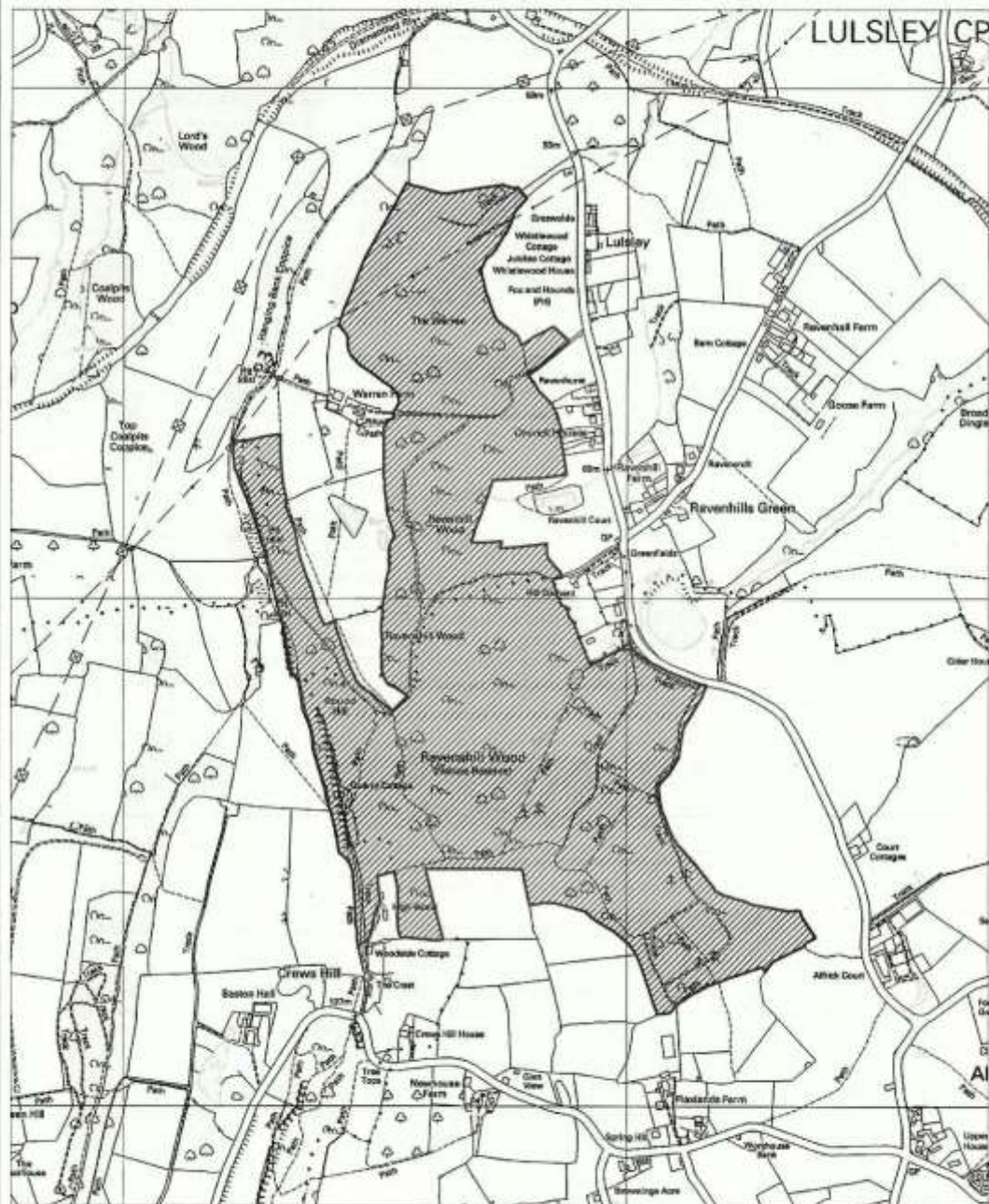
SITE No: SO75/23

SITE NAME	RAVENSHILL WOOD
NATIONAL GRID REFERENCE	SO737537
LINEAR SITE LIMITS (if appropriate)	N/A
DATE OF LISTING	25.01.2007
DISTRICT COUNCIL (s)	Mulvern Hills District Council
PARISH	Lulsley, Alfrick and Knightwick
TOTAL AREA	70.11 ha
LENGTH IF LINEAR	N/A
SWS HABITAT	Broadleaved woodland
NATIONAL BAP HABITATS	Broadleaved, mixed and yew woodland
OTHER HABITATS OF IMPORTANCE	Flowing water and standing water
NATIONAL BAP SPECIES	No information
OTHER SPECIES OF IMPORTANCE	Large-leaved lime, herb Paris, common twayblade, early purple orchid
GENERAL DESCRIPTION	
<p>The site includes four contiguous woods situated on a hill: The Warren, Round Hill, Ravenhill Wood and Ravenshill Wood, predominantly Ancient Semi-Natural Woodland with some replanted ancient woodland at the southern end and some recent woodland at the north end. A series of valleys within the woods give the site a sharply undulating topography. Issues arise within the wood, particularly in the south, and three ponds have been constructed by the damming of brooks. Some areas of grassland adjacent to the wood are included within the SWS boundary. The geology of the wood is varied with bands of Much Wenlock Limestone running down the east and west sides, with Coalbrookdale and Wyche Formations between.</p> <p>Habitat description: Despite the topographical and geological variation, the woodland vegetation is surprisingly uniform. W8 <i>Fraxinus excelsior-Acer campestre-Mercurialis perennis</i> woodland dominates, with various of the sub-communities present. There is a small area of a transition to W10 <i>Quercus robur-Pteridium aquilinum-Rubus fruticosus</i> woodland at the highest point on the path between Ravenhill and Ravenshill Woods. The issues and streams in the wood are flanked by W8 <i>Allium ursinum</i> sub-community rather than alder carr, with ramsons cloaking the banks, with a little pendulous sedge and dog's mercury. These are ash woods – in the main, ash plantation of varying ages; very large rotten stools of trees of the previous woodland can still be seen. The youngest plantations are in Ravenshill Wood; in these hazel has been coppiced within the last five years but hazel in the majority of the wood has not been coppiced for considerably longer than this. The young plantations are a dense tangle of privet, dog rose and bramble. The woodland floor is patchy but dog's mercury is abundant, together with occasional wood anemones, male fern, pendulous sedge, bugle, wood dock, wood speedwell, wild strawberry, dog-violets and wood avens.</p> <p>More mature woodland here has a good diversity of woodland herbs although sparser areas are frequent; areas of herb Paris and early purple orchids are found. Dog's mercury is dominant although large areas are carpeted in ramsons and bluebells are locally abundant. Other common plants are woodruff, enchanter's nightshade, yellow archangel, male fern, wood speedwell, nettle and bramble.</p> <p>An avenue of small and large-leaved limes occurs along part of the boundary between Ravenhill and Ravenshill Woods. Large-leaved lime are also found in Round Hill. The woody component of the site is predominantly native although snowberry and cherry laurel occur in The Warren and there are some areas of conifer in Ravenshill Wood.</p> <p>Rock exposures in old limestone quarries occur along the west side of the wood. These are heavily shaded and hold a sparse flora.</p> <p>Two rectangular ponds have been formed by damming of a brook bisecting Ravenhill Wood. These are either fairly recent in origin or have recently been dredged. The banks are of young woodland. Aquatic plants here include broad-leaved pondweed, ivy-leaved duckweed and water mint. A third pond lies along a brook bisecting Ravenshill Wood; this is kept open for visitors to view wildlife.</p> <p>Pheasant pens are located near the junction of Ravenshill and Ravenhill Woods, one in the north of Ravenhill Wood and two in the north of The Warren. The woodland towards the north end of The Warren is of lower floristic diversity. The glade in the centre of The Warren has recently been planted up with ash and oak.</p> <p>Other species previously recorded in the wood are greater butterfly orchid, meadow saffron, broad-leaved and violet helleborines.</p>	

Ravenshill Wood

Do not scale from map. For accurate plan refer to GIS.

Scale 1:10000



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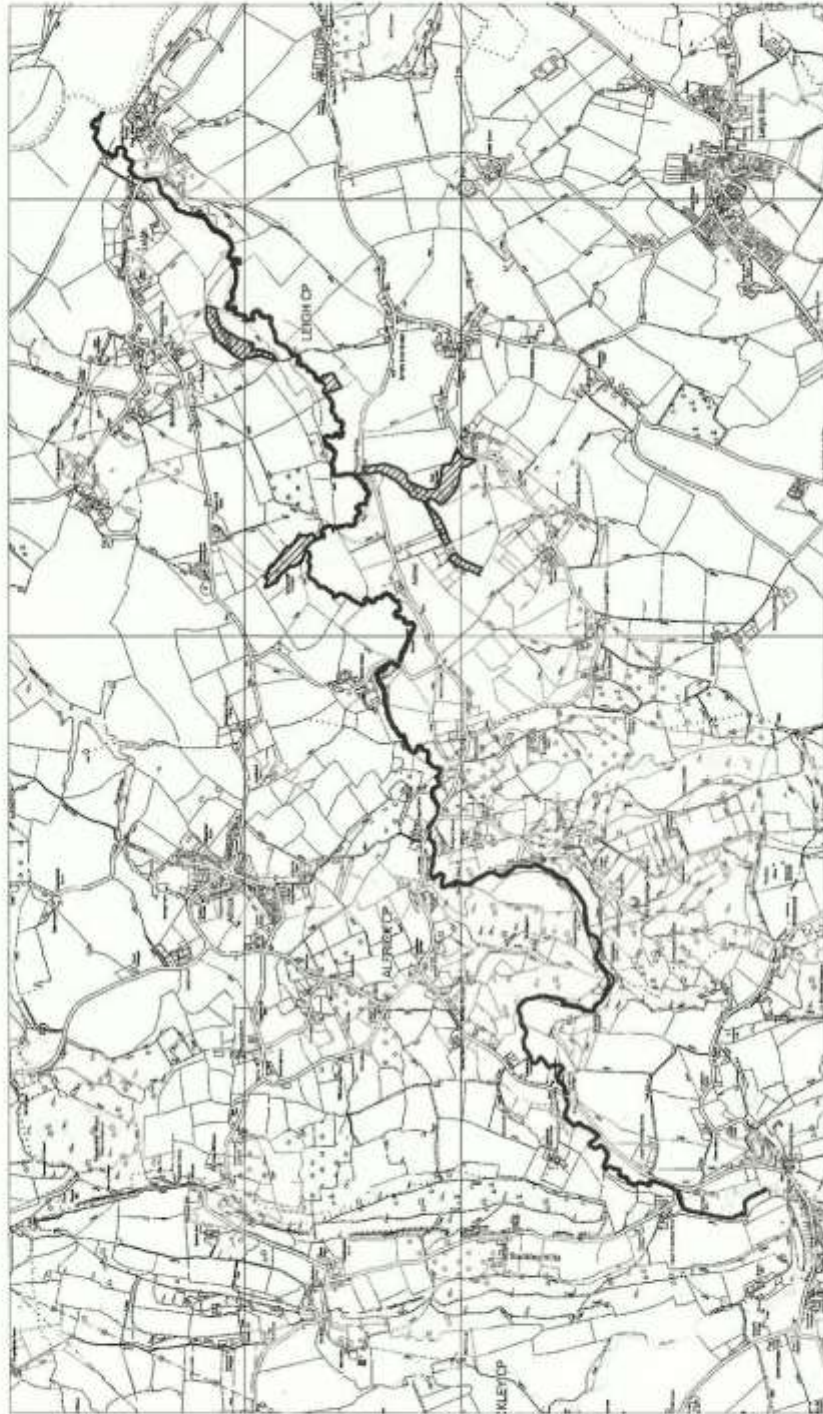
SITE No: SO75/29

SITE NAME	LEIGH BROOK
NATIONAL GRID REFERENCE	SO746 516
LINEAR SITE LIMITS (if appropriate)	West SO734 505 East SO784 536
DATE OF LISTING	28.09.1990
DISTRICT COUNCIL (s)	Malvern Hills
PARISH	Leigh
TOTAL AREA	N/A
LENGTH IF LINEAR	9.8km
SWS HABITAT	Open water – flowing
NATIONAL BAP HABITATS	Rivers and streams
OTHER HABITATS OF IMPORTANCE	N/A
NATIONAL BAP SPECIES	Otter
OTHER SPECIES OF IMPORTANCE	Dipper, grey wagtail, kingfisher
GENERAL DESCRIPTION	
<p>The Leigh brook is a significant tributary of the River Teme and drains a large area to the north west of the Malvern Hills. It flows west to east across the county cutting through the silurian limestone ridge north of Malvern before entering the Teme at Leigh. The brook shows a full range of natural features and does not appear to have been much modified for most of its length. There are however one or two impoundments behind small weirs especially in the lower reaches. Substrates vary from stony or gravelly deposits through to significant silt beds in slower sections.</p> <p>For the most part aquatic flora is rather limited although some stretches have significant water crowfoot beds. The brook is tree lined for much of its length and in places the bankside vegetation broadens out into quite wet woodland, adding to the value of the wildlife corridor.</p> <p>The good water quality helps to ensure a healthy population of aquatic invertebrates and there are past records of dipper and grey wagtail breeding along the brook. Otters are also known to use the site.</p>	

Leigh Brook

Do not scale from map. For accurate plan refer to GIS.

Scale 1:25000



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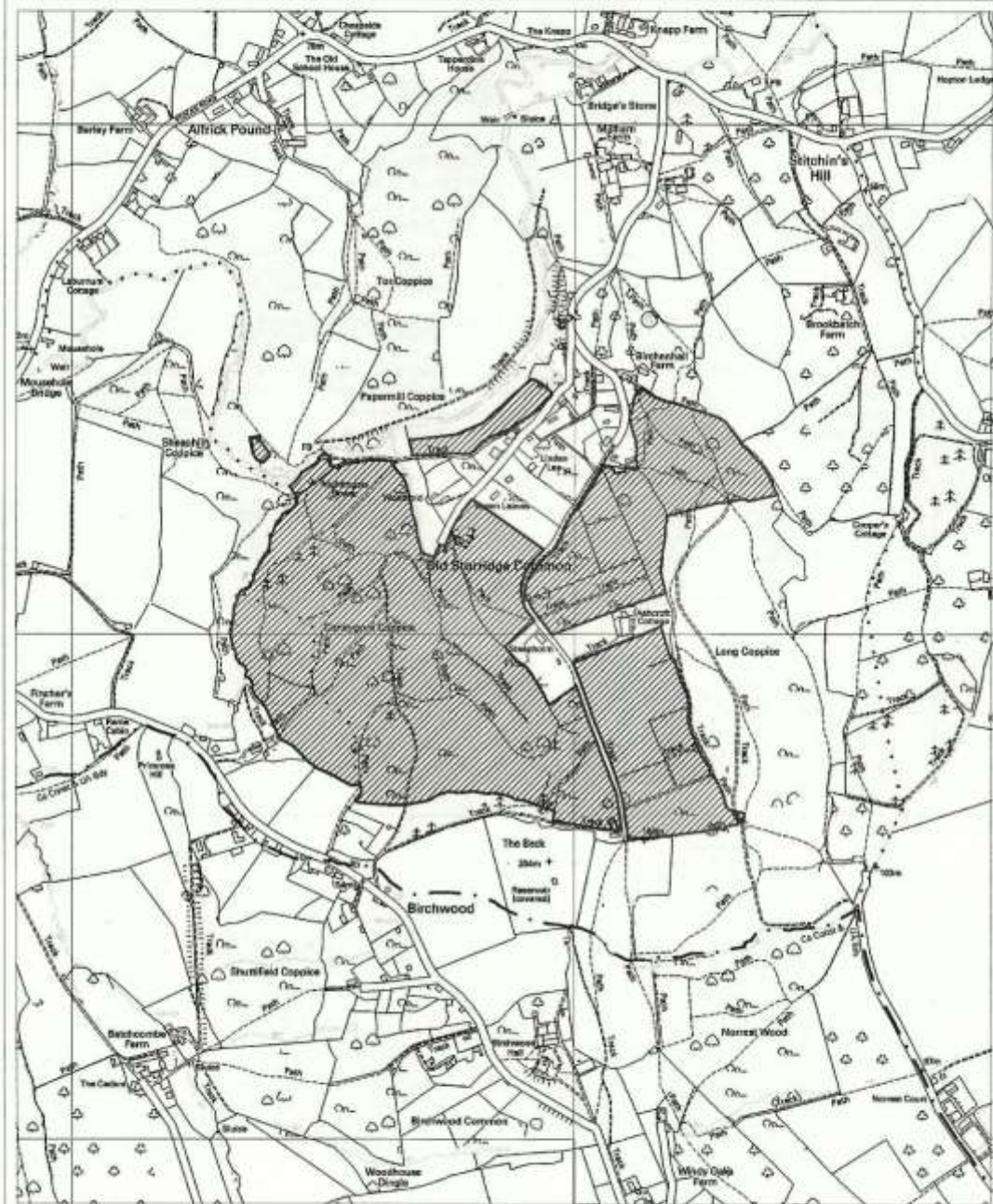
SITE No: SO75/33

SITE NAME	LEIGH BROOK VALLEY
NATIONAL GRID REFERENCE	SO748510
LINEAR SITE LIMITS (if appropriate)	N/A
DATE OF LISTING	28.03.07
DISTRICT COUNCIL (s)	Malvern Hills District Council
PARISH	Alfrick and Suckley
TOTAL AREA	54.16 ha
LENGTH IF LINEAR	N/A
SWS HABITAT	Broadleaved, mixed and yew woodland
NATIONAL BAP HABITATS	
OTHER HABITATS OF IMPORTANCE	Flowing water, scrub, grassland
NATIONAL BAP SPECIES	No information
OTHER SPECIES OF IMPORTANCE	land caddis, yellow sedge, cow-wheat, narrow-leaved bitter-cress, tutsan, wild daffodil
GENERAL DESCRIPTION	
<p>The Leigh Brook Valley SWS supports a range of habitats including broadleaf woodland, unimproved meadows and orchards. The woods contain some stand types which are restricted in national distribution. A high diversity of native plant species is found within the field, shrub and canopy layers including a number of locally notable species such as southern wood-rush and narrow-leaved bitter-cress. Sessile oak occurs in association with other species such as wych elm, small-leaved lime and beech. Much of the woodland is shown on the NCC's Inventory of Ancient Semi-Natural Woodland, though some has been replanted with various coniferous and deciduous species.</p> <p>The site is also important for invertebrates. Land caddis is recorded here and at a number of nearby woods; this species has a restricted distribution nationally with this area of Worcestershire an important area for the species. The site is also important for breeding birds such as kingfishers.</p> <p>The site is contiguous with a large SSSI mosaic of woodland and grassland and is also adjacent to the Leigh Brook SWS.</p>	

Leigh Brook Valley

Do not scale from map. For accurate plan refer to GIS.

Scale 1:10000



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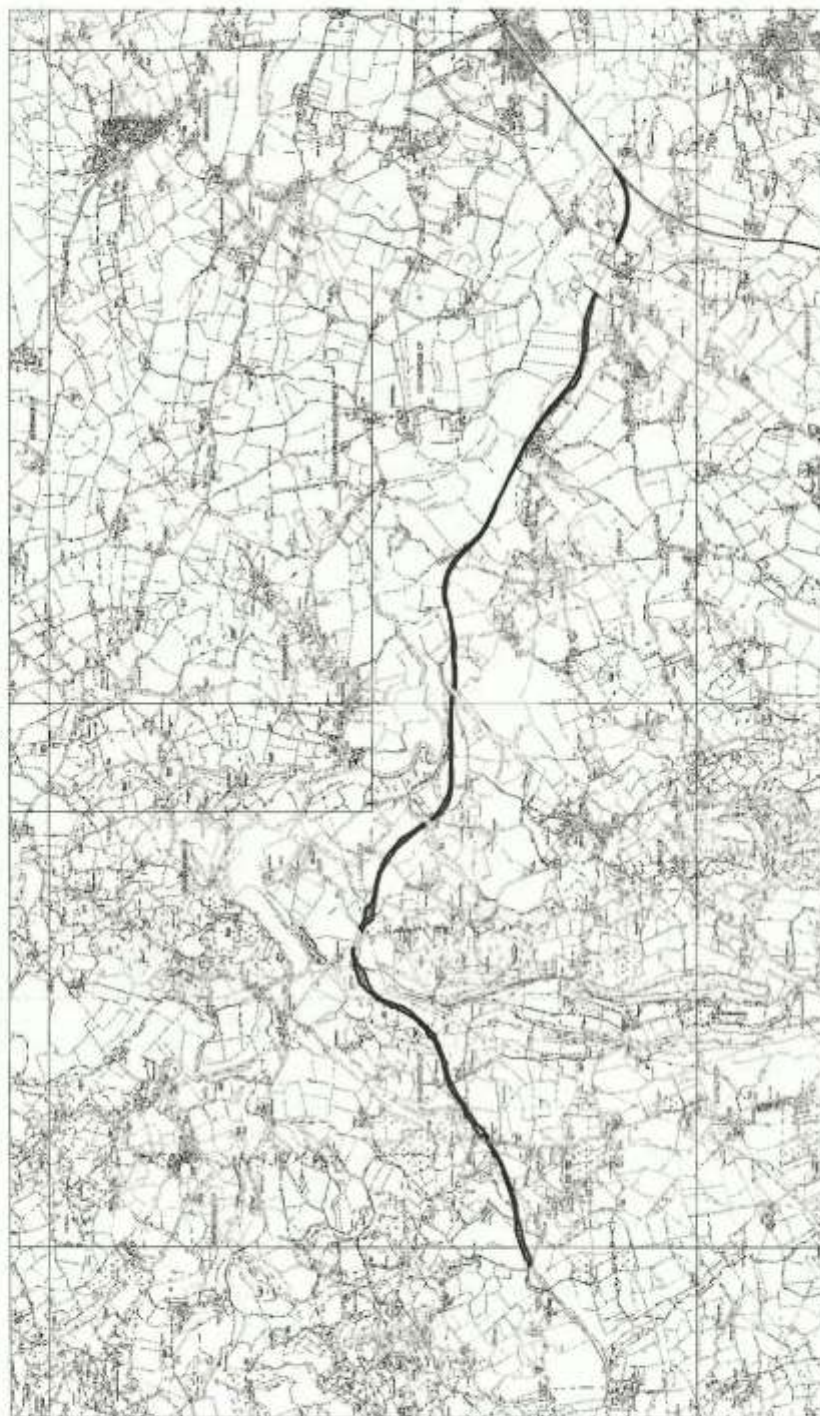
SITE No: SO75/34

SITE NAME	LEIGH DISUSED RAILWAY
NATIONAL GRID REFERENCE	SO751543
LINEAR SITE LIMITS (if appropriate)	West: SO714536; East: SO808527
DATE OF LISTING	28.09.1990 [Listing Renewal Date: 10.01.2007]
DISTRICT COUNCIL (s)	Malvern Hills District Council
PARISH	Suckley
TOTAL AREA	26.61 Ha
LENGTH IF LINEAR	9.88 Km
SWS HABITAT	Grassland; Broadleaved woodland
NATIONAL BAP HABITATS	Unimproved lowland neutral grassland (NVC: MG5b, MG5c and transitions)
OTHER HABITATS OF IMPORTANCE	Scrub; hedgerows; bare ground; arable-edge
NATIONAL BAP SPECIES	No information available
OTHER SPECIES OF IMPORTANCE	Vervain, common toadflax, common restharrow, small toadflax, upright hedge parsley, hawkweed oxtongue, hawkweed species, wild basil, aspen, goat willow, wild clematis, black spleenwort, rustyback fern, nettle-leaved bellflower
<p>GENERAL DESCRIPTION A nearly 10Km length of disused railway line running from Bransford in the east to Suckley and the Herefordshire border. The GWR Worcester to Bromyard branch line was closed in 1964. Since then, this linear site has undergone natural succession so that the site is now a combination of broadleaved woodland, scrub, open grassland and tall herb, or relict - e.g. under arable crop or running along hedge lines and boundaries of arable fields.</p> <p>HABITATS/VEGETATION DESCRIPTION: The most interesting and botanically significant parts of the line are open grassland/tall herb sections eg at Suckley Station and around the Lulsley to Brockamin stretches. The rank grassland contains an unusual assemblage of semi-natural sward calcicoles, hedge base species, ephemeral trackside and track ballast flora – such as vervain, common toadflax, wild basil, hawkweeds and wild clematis. One sheep and rabbit grazed section has a tight grass sward with mosses and anthill flora resembling a dry acidic, National Vegetation Classification (NVC) U1/MG5c type vegetation. Woodland and scrub sections are generally of less interest, canopy scrub being often of blackthorn and too dense for any ground flora to develop, though they are good breeding habitat for scrub birds and often shelter big badger sett complexes. The site crosses or adjoins areas of semi-natural ancient woodland – such as broad dingle, hayley dingle and extensive woodland at Knightwick where there is a rock cutting. Generally these sections tend to be deeply shaded and with a poor trackbed ground flora. However there are some embanked sections with coppiced hazel, ash, sycamore and even small-leaved lime. Privet, spindle and wild clematis are common on limestone sections (NVC W8 ash woodland type), and occasionally the shade tolerant nettle-leaved bell flower occurs. Other habitats and features of interest along the trackway are the railway infrastructure – viaducts, old bridges, platforms. These are sometimes built of limestone or have lime mortar and are colonised by a number of spleenwort ferns – rare elsewhere in Worcestershire. Finally, the trackbed borders arable fields and though partly obscured by ploughing, a scarce annual arable flora occurs. Examples of species are corn spurrey and the local small toadflax. Although apparently neglected and derelict (the site is not open to public access along the route), this wildlife corridor is very diverse, crossing as it does a range of soils, geology and landscape types and having a varied topography of cuttings, raised embankments and old station track-beds. It forms a valuable and distinctive linking habitat.</p> <p>FLORA/FAUNA: Worcestershire rare and notable species recorded: Vervain (<i>Verbena officinalis</i>), Wood vetch (<i>Vicia sylvatica</i>), Small toadflax (<i>Chaenorhinum minus</i>), black spleenwort (<i>Asplenium adiantum-nigrum</i>), Rustyback (<i>Ceterach officinarum</i>). There is a 1980 record of the nationally scarce narrow-leaved bitter-cress (<i>Cardamine Impatiens</i>) from limestones in the Knightwick Station area.</p> <p>Fauna is not well documented. Among birds sighted in 2006 were green woodpecker, common whitethroat, yellowhammer; and butterfly species included clouded yellow, painted lady, common blue, holly blue, gatekeeper and small skipper</p>	

Leigh Disused Railway

Do not scale from map. For accurate plan refer to GIS.

Scale 1:50000



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SITE No: SO75/38

SITE NAME	HAYLEY BROAD DINGLE & REDCLIFF
NATIONAL GRID REFERENCE	SO761543
LINEAR SITE LIMITS (if appropriate)	N/A
DATE OF LISTING	31.01.2007
DISTRICT COUNCIL (s)	Malvern Hills District Council
PARISH	Lulsley, Alfrick, Leigh
TOTAL AREA	26.77 ha
LENGTH IF LINEAR	N/A
SWS HABITAT	Broadleaved woodland
NATIONAL BAP HABITATS	Broadleaved, mixed and yew woodland
OTHER HABITATS OF IMPORTANCE	Flowing water, standing water
NATIONAL BAP SPECIES	No information
OTHER SPECIES OF IMPORTANCE	Black spleenwort, large-leaved lime, mistletoe

GENERAL DESCRIPTION A series of dingles close to the River Teme and including a mud cliff above the river. The site holds some beautiful examples of Teme Valley dingle woodland, with some spectacular old trees including wych elm, field maple, small-leaved lime and pedunculate oak. Most of the site is Ancient Semi-Natural Woodland. Adjacent land-use is arable or semi-improved grassland.

Habitat description: The site includes two main dingles (Hayley Dingle and Broad Dingle), tributaries of these and a high bank linking them. There are few non-native species but Himalayan balsam was recorded along the brooks.

Hayley Brook is generally not more than a metre in width and varies from an inch to a foot in depth. The topography of Hayley Dingle is of a valley itself incised with numerous valleys, with cliffs and slumps and flushes. The woodland community at the top of the dingle is the W8a *Glechoma hederacea-Primula vulgaris* sub-community of the W8 *Fraxinus excelsior-Acer campestre-Mercurialis perennis* woodland – dog's mercury and bluebells are frequent, with cuckoo pint and yellow archangel amongst many other species. On wetter soil downslope this gives way to the W8f *Allium ursinum* sub-community with carpets of ramsons. The shrub-layer here is of frequent spindle, with hawthorn, elder and dogwood; large, multi-stemmed hazel stools are also frequent. A sub-canopy holds tall (including veteran) field maple and holly. The most frequent high canopy components are ash, large-leaved lime and wych elm – the latter of these grows to a good size and shows no signs of disease. Also occasionally seen in the canopy are cherry and oak. The W8f community also occurs on flat or more gently sloping ground directly above the brook but here the vegetation community is closest to the W8e *Geranium robertianum* sub-community. The steep mud cliffs are carpeted with hart's tongue and soft shield-fern; herb-robert is also scattered. Fallen trees abound, dead or still growing, and often with dense, spongy mats of mosses and liverworts covering the trunks. Long trails of ivy plunge down from the high canopy, occasionally the tips re-rooting in the ground below. The canopy here is actually dominated by trees growing in the W8a and W8f communities above – most frequently large-leaved lime, wych elm and ash.

Gravelly flushes occur above the brook, both at the base of dry valleys and rising at the foot of mud cliffs. These hold the W7 *Fraxinus excelsior-Alnus glutinosa-Lysimachia nemorum* woodland with species such as creeping buttercup, bitter-cress, water figwort, opposite-leaved golden-saxifrage and pendulous sedge.

The arms of Hayley Dingle, including Floods Dingle, are less spectacular but still of high value and generally of similar woodland communities, although small-leaved lime replaces large-leaved lime, perhaps indicating a decline in the soil base-status. All arms become poorer in regard to their woodland communities at their extremities – more nettle and bramble and less woodland species. At the western end of the site, Hayley Brook veers north to the Teme and the SWS continues for a short distance along a steep bank eastwards between fields of semi-improved grassland. Broad Dingle is somewhat broader than Hayley Dingle but, in the main, equally steep and holding the same woodland communities. At the east end, partly in partly out of the SWS, is a large pheasant pen. Also at the east end is an open area including a pond, scrub and remnant grassland. The pond holds abundant reedmace and great hairy willowherb; the banks hold some wetland herbs such as meadowsweet and angelica but are mostly of bramble and nettle.

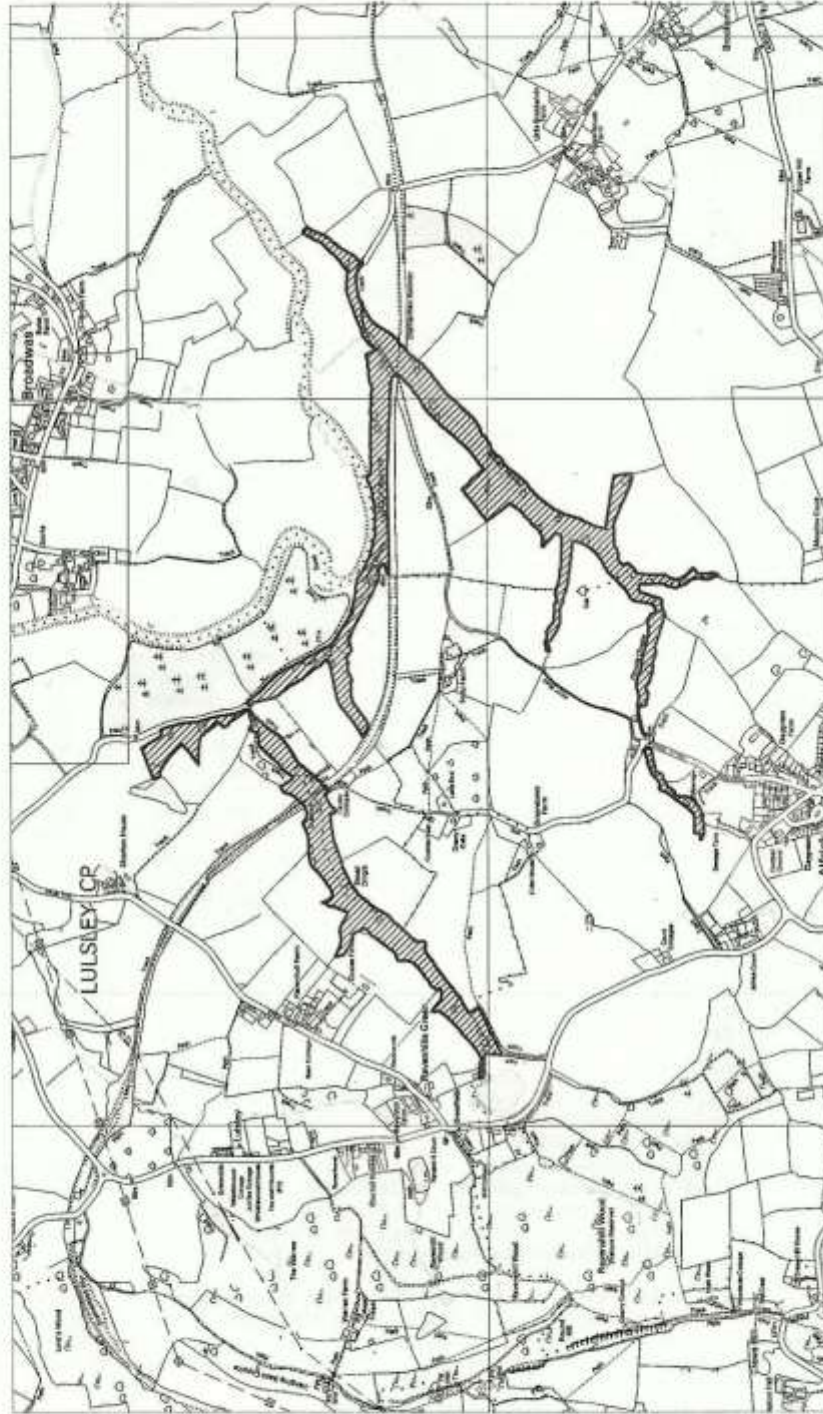
The long band of woodland linking Hayley Dingle to Broad Dingle includes the aptly named Red Cliff – a 25 metre high cliff of red mud dropping directly into the Teme. The unstable substrate supports little vegetation but some plants have managed to maintain a hold; this includes occasional hazel shrubs. Above this is a plateau of woodland comprising a mosaic of W8 woodland and W10 *Quercus robur-Pteridium aquilinum-Rubus fruticosus* woodland with species such as creeping soft-grass and a *Polytrichum* species of moss.

North of Broad Dingle the site includes a small poplar plantation.

Hayley Broad Dingles and Redcliff

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Scale 1:15000



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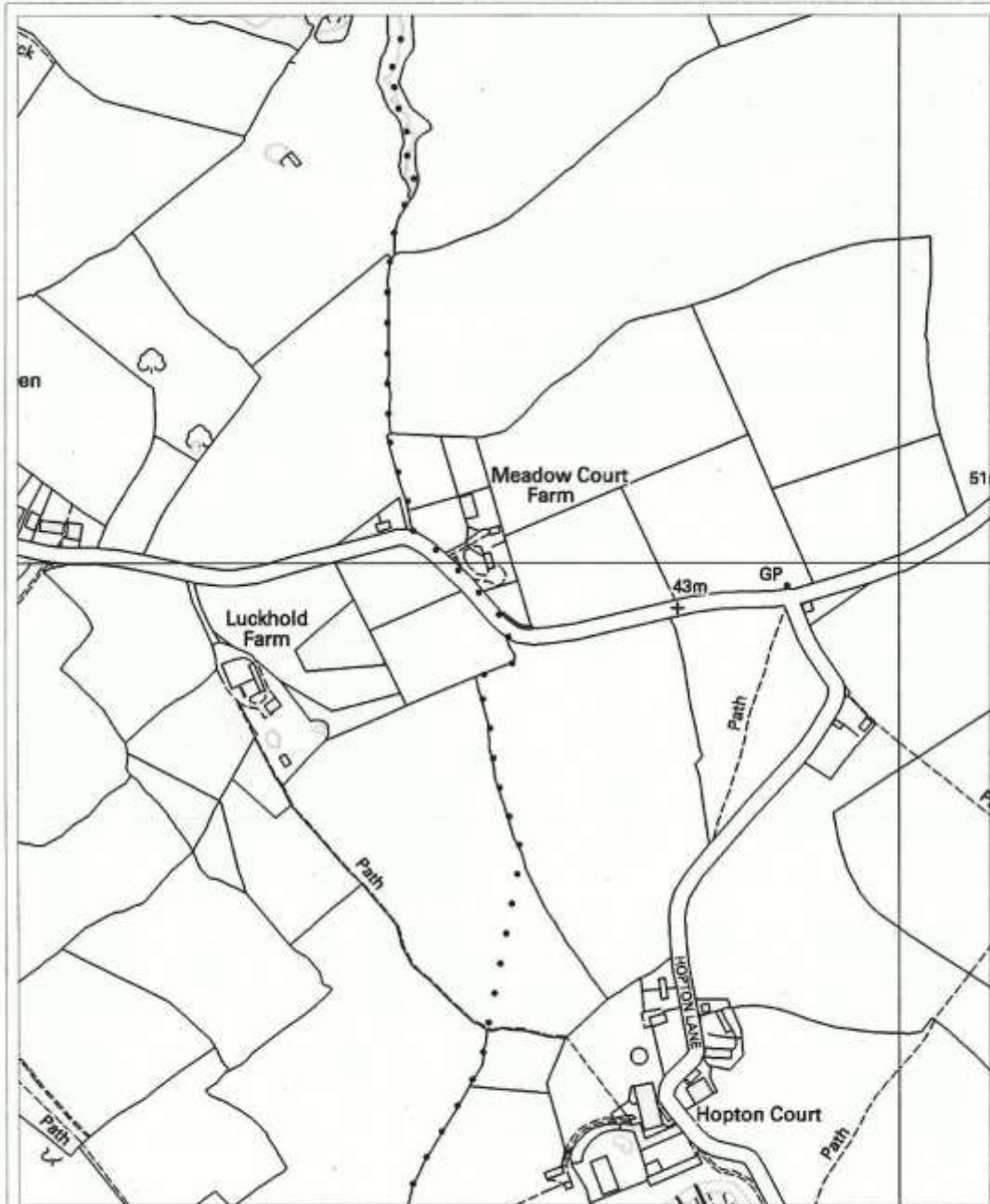
SITE No: SO75/52

SITE NAME	BITHYNIAN VETCH SITE No 2
NATIONAL GRID REFERENCE	SO726 529
LINEAR SITE LIMITS (if appropriate)	N/A
DATE OF LISTING	27.03.2007
DISTRICT COUNCIL (s)	Malvern Hills
PARISH	Alfrick
TOTAL AREA	0.01ha
LENGTH IF LINEAR	40m
SWS HABITAT	Selected for species interest
NATIONAL BAP HABITATS	N/A
OTHER HABITATS OF IMPORTANCE	N/A
NATIONAL BAP SPECIES	N/A
OTHER SPECIES OF IMPORTANCE	Bithynian Vetch, Common Lizard
GENERAL DESCRIPTION	
<p>A small, banked roadside verge site with around 20 plants of Bithynian Vetch, a plant that is rare in Worcestershire. The verge is on the north side of the minor road running between Alfrick and Leigh, near to Meadow Court Farm. The other flora on site is of limited interest and is dominated by coarse grasses and some bramble.</p> <p>Common lizard has been recorded from the site.</p>	

Bithynian Vetch Site No 2

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Scale 1:5000



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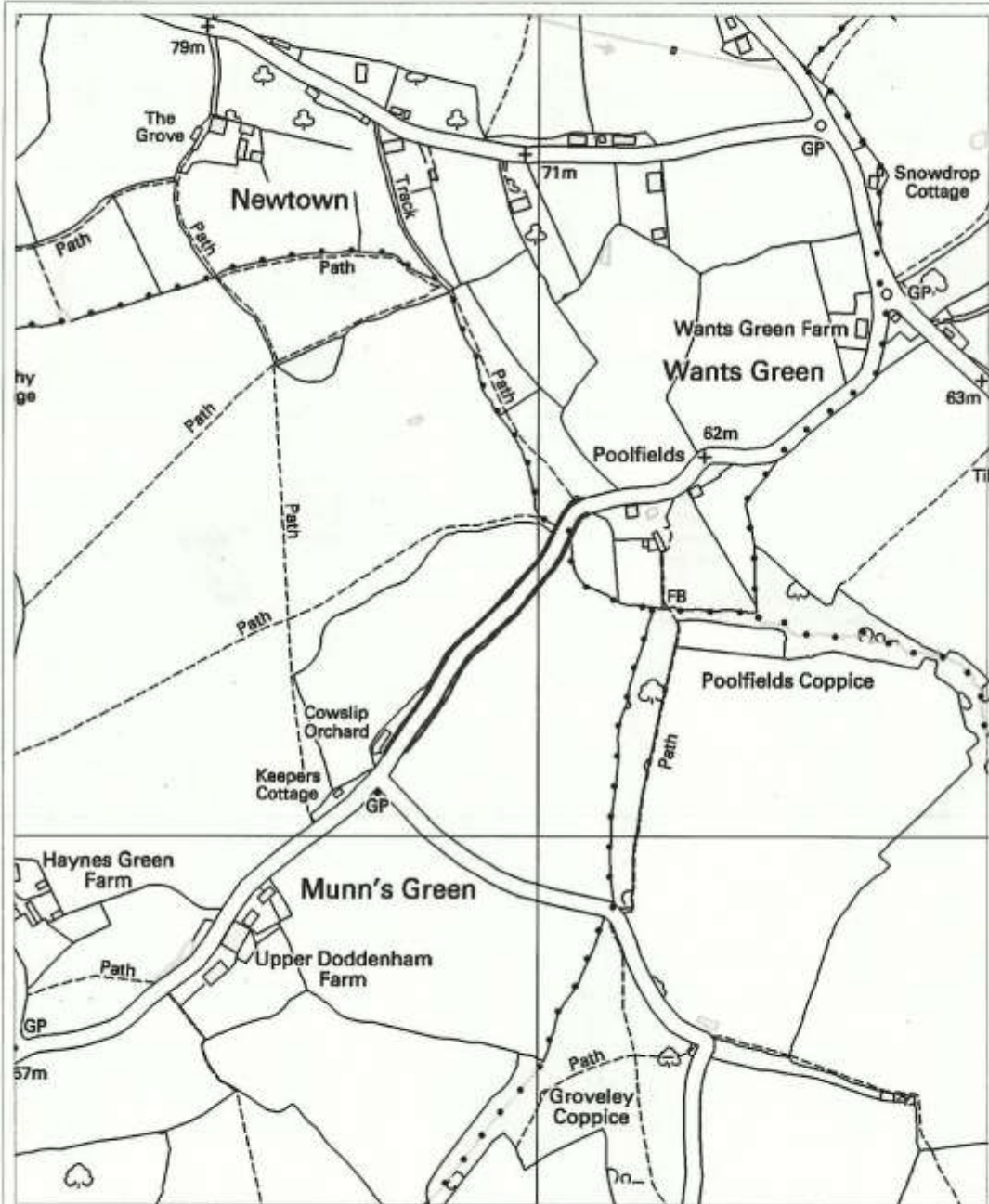
SITE No: SO75/59

SITE NAME	BITHYNIAN VETCH SITE
NATIONAL GRID REFERENCE	SO759 572
LINEAR SITE LIMITS (if appropriate)	N/A
DATE OF LISTING	17.3.2007
DISTRICT COUNCIL (s)	Malvern Hills District Council
PARISH	Broadwas
TOTAL AREA	0.5ha
LENGTH IF LINEAR	300m
SWS HABITAT	Selected for species
NATIONAL BAP HABITATS	Neutral grassland
OTHER HABITATS OF IMPORTANCE	Species rich hedgerow
NATIONAL BAP SPECIES	N/A
OTHER SPECIES OF IMPORTANCE	Dyer's greenweed, saw-wort, betony
GENERAL DESCRIPTION	
<p>An excellent roadside verge selected as a Special Wildlife Site for its colony of Bithynian Vetch.</p> <p>The site is considered to be one of the best Roadside Verge Nature Reserves in the county and runs for approximately 300m between the villages of Munn's Green and Wants Green. For the most part it is flat and dominated by open grassland but the southern end of the site is more steeply sloping and is shaded by a large ancient hedgerow.</p> <p>The verge holds a population of approximately 20 plants of bithynian vetch <i>Vicia bithynica</i>, a plant once believed to have become extinct within the County and listed in the Red Data Book as "Nationally Scarce". There is also a generally rich flora with several species of interest including common restharrow <i>Ononis repens</i>, dyer's greenweed <i>Genista tinctoria</i>, betony <i>Stachys officinalis</i> and saw-wort <i>Serratula tinctoria</i>. The adjacent hedge contains spurge laurel <i>Daphne laureola</i>, spindle <i>Euonymus europaeus</i> and guelder rose <i>Viburnum opulum</i>.</p> <p>Reference: ROADSIDE VERGE NATURE RESERVES IN WORCESTERSHIRE Report 2006/2007. Alan Shepherd Worcestershire Wildlife Consultancy</p>	

Bithynian Vetch Site

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Scale 1:5000



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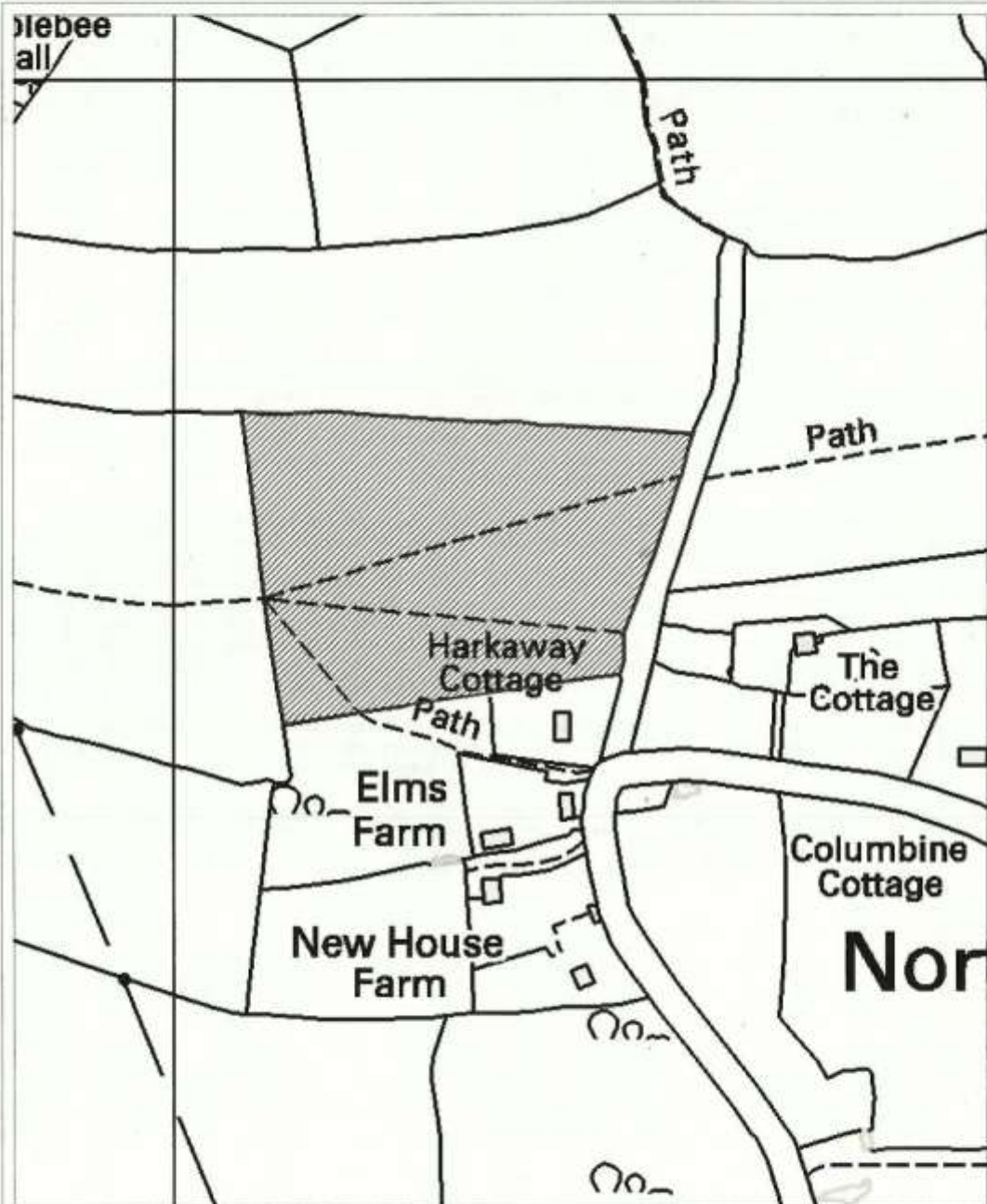
SITE No: SO95/33

SITE NAME	NEW HOUSE FARM MEADOW
NATIONAL GRID REFERENCE	SO961 547
LINEAR SITE LIMITS (if appropriate)	N/A
DATE OF LISTING	09.07.2002
DISTRICT COUNCIL (s)	Wychavon
PARISH	North Piddle
TOTAL AREA	2.7ha
LENGTH IF LINEAR	N/A
SWS HABITAT	Grassland
NATIONAL BAP HABITATS	Unimproved neutral grassland
OTHER HABITATS OF IMPORTANCE	Open water, hedgerow
NATIONAL BAP SPECIES	N/A
OTHER SPECIES OF IMPORTANCE	Fairy flax, burnet saxifrage, salad burnet, hay rattle, grey sedge, quaking grass
GENERAL DESCRIPTION	
<p>This site comprises a rectangular ridge/furrow meadow aligned east-west, hedged/fenced on three sides and with a small pond at its eastern end. The western end has a semi-open boundary opening out onto further semi-improved pastures.</p> <p>The meadow sits on calcareous pelosols of the Evesham series, overlying liassic clays. There is a very gentle slope from west to east and impeded drainage at the east gives rise to a marshy grassland. The surface flow trends from west to east into the pond and a drainage ditch, which follows the eastern field boundary.</p> <p>The field broadly consists of a neutral/calcareous grassland of crested dog's-tail/common knapweed (National Vegetation Classification: MG5b) type. Dominant grasses on ridge-tops are fescues, bents and upright brome, often forming a fine sward with high local abundance of ladies' bedstraw, bird's-foot trefoil and salad burnet, though furrows are damper and tend to be grass dominated, often by false-oat grass and Yorkshire fog. The exception is the east end, which is a damp rushy pasture with a high abundance of sedges including some less common species (showing affinities with National Vegetation Classification: MG10). Though nothing exceptionally scarce has been found, there is an interesting assemblage of lime-loving plants, notably fairy flax (fairly frequent), salad burnet, wild carrot, burnet saxifrage and ladies bedstraw in the drier western areas. This contrasts with the wetter section where glaucous sedge abounds, with occasional spiked sedge and common sedge. The less common (in Worcestershire) species, grey sedge also occurs.</p> <p>Faunal records are limited and no notable species are known to occur. However the site is likely to be important for butterflies and moths with large skipper, meadow brown and six-spot burnet recorded. Yellow meadow ants' nests attract green woodpecker whilst other bird species include little owl and red-legged partridge.</p> <p>The site adjoins a series of three other meadows. Though somewhat neglected, and with a grass-sward flora of lesser interest, they are of value for their large numbers of mature ant mounds, which in turn may support a varied micro-habitat of flora/fauna. Together with these meadows and adjoining orchards, the site forms a discreet 'wildlife corridor' linking through to the nearby Piddle Brook. The site also borders an historic green lane (with pendulous sedge/meadowsweet margins).</p>	

New House Farm Meadow

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Scale 1:2500



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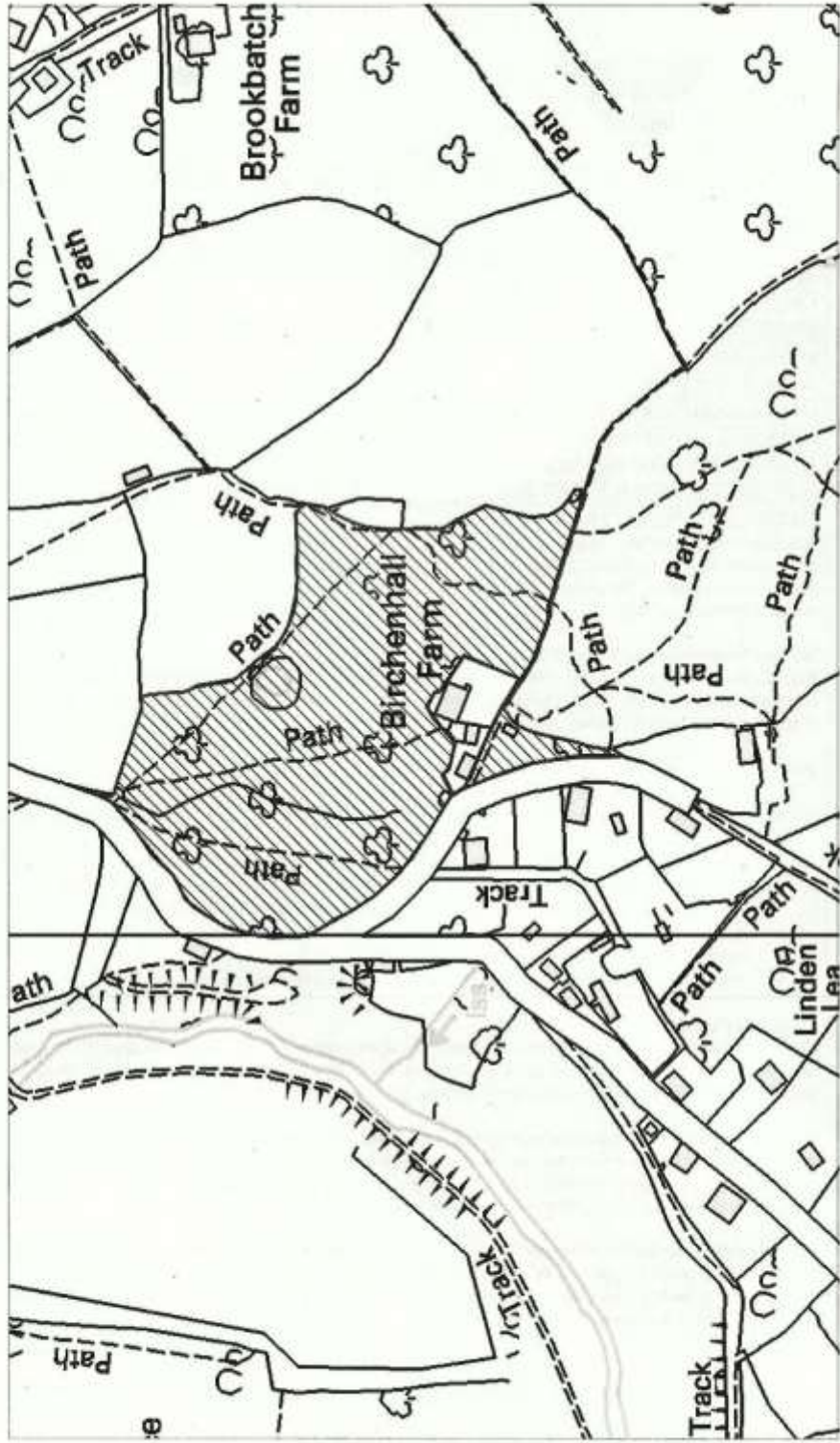
SITE No: SO75/75

SITE NAME	BIRCHENHALL FARM ORCHARD
NATIONAL GRID REFERENCE	SO751515
LINEAR SITE LIMITS (if appropriate)	N/A
DATE OF LISTING	09.02.2011
DISTRICT COUNCIL (s)	Malvern Hills
PARISH	Alfrick
TOTAL AREA	3.98Ha
LENGTH IF LINEAR	N/A
SWS HABITAT	Orchard.
NATIONAL BAP HABITATS	Traditional Orchard
OTHER HABITATS OF IMPORTANCE	Grassland (unimproved); boundary hedgerows; open water
NATIONAL BAP SPECIES	Noble chafer (<i>Gnorimus nobilis</i>). Red data book species.
OTHER SPECIES OF IMPORTANCE	Chicken of the woods fungus.
GENERAL DESCRIPTION	
<p>A medium- large orchard , mainly of specimen old and veteran cherry trees, set in grazed pasture. Approximately:170 cherry trees, 30 plum, 25 pear, 2 apple and 3 walnut – many trees are senescent with dead wood in canopy and a number of dead hulks. The understorey of the orchard is in several areas, an unimproved and species-rich grass sward which is grazed by cattle;</p>	
Habitat Vegetation and Feature Descriptions	
<p>This is a habitat-diverse orchard, and a very splendid example of a mature cherry orchard with a high nature conservation and wildlife value. The gently sloping north-facing site is striking for the numerous old and veteran cherries, many as standing dead trees.</p>	
<p>Site has high biodiversity importance for following reasons:-</p>	
<ul style="list-style-type: none"> • Old and senescing cherry-trees with many cavities, hollow trunks and rot holes. • Excellent species-rich bark lichens (10 species +) and bryophyte flora (10 species +); bracket fungi. Also other epiphytes – mistletoe cover at around 5% of canopy • Excellent adjoining habitat features – in particular semi-natural ancient woodland within Leigh Brook Valley Wildlife Site (adjoins to south) and the Leigh Brook Valley SSSI (immediate west of site) • Species-rich hedge boundaries and banks – notable old woodland boundary bank in the kitchen-garden orchard • Recent records for noble chafer and for other notable saproxylic beetles – frass found in cavity hole. • Patches of species-rich grassland and spring-fed rushy flushes • Semi-ornamental pond with swampy emergent fringes of sedge vegetation 	
Flora and Fauna	
<p>Some of the less common plant species occurring in the understorey swards include lousewort (<i>Pedicularis sylvatica</i>), wood anemone (<i>Anemone nemorosa</i>). A specimen of star-of-bethlehem (<i>Ornithogalum umbellatum</i>) found in kitchen-garden orchard, though this may have been introduced at some stage in the past</p>	
<p>Evidence of resident and breeding birds (2010):- blackcap, chiffchaff, great spotted woodpecker (2 nesting pairs) , green woodpecker, nuthatch, treecreeper, blackbird (nest) mistle thrush (fledged brood), swallow (nests in outbarn), stock dove, jay, tree pipit, marsh tit. 2 pairs of common redstart using the orchard – both probably bred. This last-mentioned species is <u>Amber Listed</u> on the BTO/RSPB list of birds of conservation concern</p>	
<p>Invertebrates:- besides the Noble Chafer - U.K. Red Data Book RDB2 (vulnerable) - which is mentioned above, 2010 records were: damselfly species – beautiful demoiselle (<i>Calopteryx splendens</i>), common blue damselfly (<i>Enallagma cyathigerum</i>); butterfly species – meadow brown (<i>Maniola jurtina</i>), small skipper (<i>Thymelicus sylvestris</i>), large skipper (<i>Ochlodes sylvanus</i>)</p>	

Birchenhall Farm Orchard

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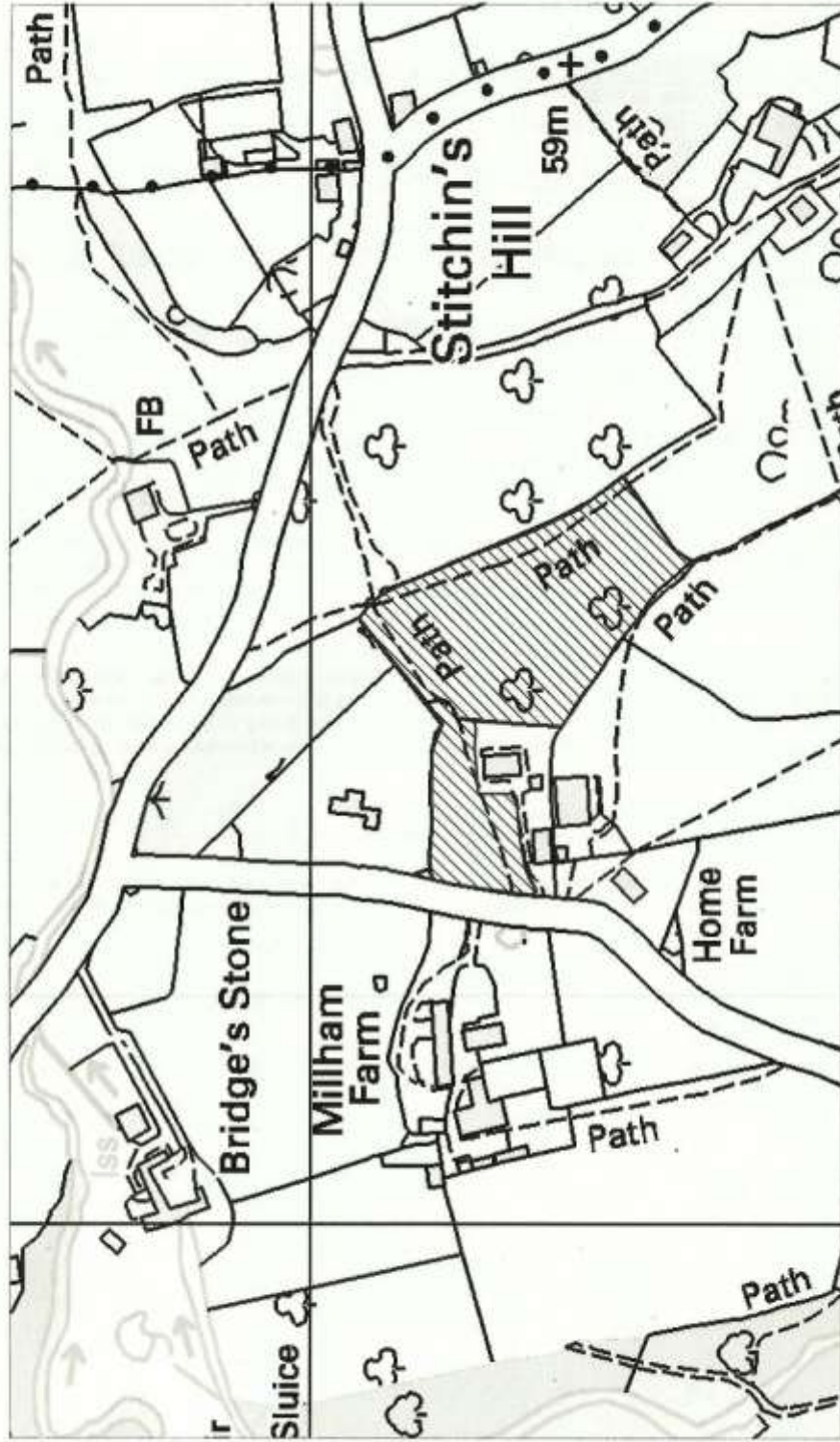
SITE No: SO75/72

SITE NAME	CHERRY ORCHARD (AT MILLHAM LANE)
NATIONAL GRID REFERENCE	SO752519
LINEAR SITE LIMITS (if appropriate)	N/A
DATE OF LISTING	03.02.2011
DISTRICT COUNCIL (s)	Malvern Hills
PARISH	Alfrick
TOTAL AREA	1.7 Ha
LENGTH IF LINEAR	N/A
SWS HABITAT	Orchard.
NATIONAL BAP HABITATS	Traditional Orchard
OTHER HABITATS OF IMPORTANCE	Grassland (semi-improved); boundary hedgerows;derelict orchard
NATIONAL BAP SPECIES	None known
OTHER SPECIES OF IMPORTANCE	Chicken of the woods fungus.
GENERAL DESCRIPTION	
<p>A medium-sized orchard , mainly of specimen old and veteran cherry trees, set in a lawned garden and grazed pasture. Approximately 70 trees, and 1 perry pear – a few are dead hulks and several are senescent with dead wood in canopy. The understorey of the rear orchard is a semi-improved grass sward which is grazed by sheep; Understorey of front (garden) orchard is mown</p>	
Habitat Vegetation and Feature Descriptions	
<p>The older veteran trees here are very impressive, with an average girth of 165 cm and large grafting bosses. They have flaking bark, crevices, hollow trunks and branches, sap runs and fungal fruiting bodies, and support a diverse and luxuriant epiphytic flora of lichens (circa 10 species) and mosses, at least 5 – positive species identification would need further investigation. The tree cavities provide actual and potential nest sites for a range of hole-nesting birds, such as woodpeckers.</p>	
<p>The orchard exhibits valuable additional features including:-</p> <ul style="list-style-type: none"> • One boundary hedge composed largely of old coppice-grown hazels. • Adjoining features: notable are the adjoining derelict orchards to S. and E., which in places are reverting to woodland. (Connectivity of this site to other orchards and woodlands is important for biodiversity , wildlife movement and genetic exchange) 	
Flora and Fauna	
<p>Evidence of breeding birds (2010):- chiffchaff, blackcap singing and jackdaw present. Previous reports of nesting green woodpecker</p>	
<p>Invertebrates (2010):- hoverfly species <i>Myathropa florea</i> seen drinking on sap runs Damsel fly species <i>Calopteryx splendens</i></p>	

Cherry Orchard (Millham Lane)

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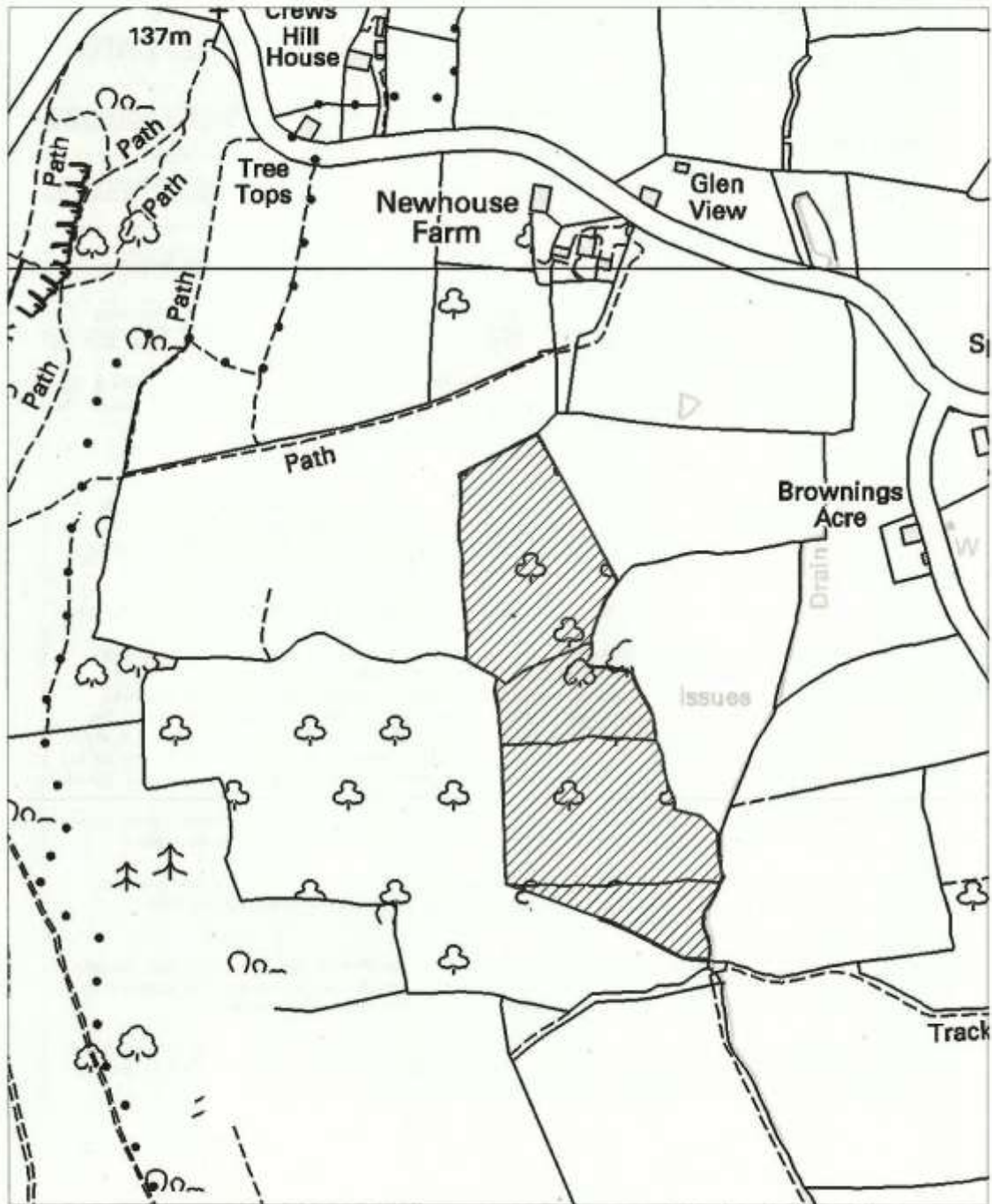
SITE No: SO75/73

SITE NAME	DOVE BARN WOOD & ORCHARDS
NATIONAL GRID REFERENCE	SO737527
LINEAR SITE LIMITS (if appropriate)	N/A
DATE OF LISTING	04.02.2011
DISTRICT COUNCIL (s)	Malvern Hills
PARISH	Alfrick
TOTAL AREA	3.44 Ha
LENGTH IF LINEAR	N/A
SWS HABITAT	Orchard.
NATIONAL BAP HABITATS	Traditional Orchard
OTHER HABITATS OF IMPORTANCE	Broadleaved woodland ;Grassland (semi-improved); hedgerow
NATIONAL BAP SPECIES	No confirmed records
OTHER SPECIES OF IMPORTANCE	Mistletoe (<i>Viscum album</i>) common redstart (<i>Phoenicurus phoenicurus</i>)
GENERAL DESCRIPTION	
<p>Two small cider-apple and perry pear/plum orchards of approx 200 trees, separated by a block of broadleaved ash/oak woodland (a fragment of semi-natural ancient woodland), and with a small stream flowing through part of the site. The orchards have an understorey of grazed, locally herb-rich, pasture on a shallow ridge/furrow terrain.</p>	
Habitat Vegetation and Feature Descriptions	
(The orchard description is for the two blocks amalgamated)	
<p>Many of the fruit trees are old or veteran and have flaking bark, crevices, hollow trunks and branches, sap runs and support a diverse epiphytic flora of lichens - over 10 species - mosses, at least 5, and fungal fruiting bodies - eg bracket fungi - also mistletoe, which occupies in total about 20% of the tree canopy. The tree cavities provide good potential nest sites for hole-nesting birds.</p>	
<p>The 'twin' orchards include and adjoin features which add to their ecological and nature conservation interest, such as :-</p>	
<ul style="list-style-type: none"> • The southern most orchard and adjacent pasture strip: patchily rich sward on ridge/furrow with birds-foot trefoils, lady's bedstraw, common centaury, fairy flax, pignut and cowslip. • The central grove of woodland - this has a structure and species- composition from canopy to field layer, suggesting longstanding ancient woodland origins (i.e. not cleared or disturbed for at least 400 years). The canopy contains mature ash, oak and small- leaved lime, together with stands of alder following stream; shrub layer includes coppiced hazels; field layer has wood anemone, primrose, dog's mercury - and damp woodland plants along stream such as ramsons, meadowsweet and remote sedge. Vegetation community is NVC W8 ash woodland, with locally W7 alder woodland • The northern orchard is of value for its fallen dead timber ,prolific lichen flora and cavity holes - however the grass swards are species-poor , rather hard grazed and evidently have a nettle/creeping thistle problem 	
<p>This site adjoins a larger , more recent (1960s) apple orchard over mostly improved grassland, and there is habitat connectivity via old hedgerows to nearby the ancient woodland SSSI and Local Wildlife Site at Crews Hill</p>	
Flora and Fauna	
<p>Birds - (2010) great spotted and green woodpeckers present, also blackcap. Probable nest site (hole in dead plum tree) of common redstart (<i>Phoenicurus phoenicurus</i>) - both male and female birds visiting, and male bird singing from the wood edge. This species is <u>Amber Listed</u> on the BTO/RSPB list of birds of conservation concern</p>	
<p>Mammals - dormice (<i>Muscardinus avellanarius</i>) have previously been recorded from hedges in the vicinity, going back to 1980s. This species is often very aerial and squirrel-like in its habitat preferences. It will use cavities in old orchard trees to cache its foodstores, such as nuts, and may even use such cavities for hibernation</p>	


Dove Barn Wood & Orchards


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RVNR 18	Location: Located on the north side of the road along a steep section of minor road that runs from Knightwick to Lulsley. (NGR SO737563)
Reason for notification: Supports a population of navelwort (<i>Umbilicus rupestris</i>), a rare species in Worcestershire.	Topography: The sandstone cutting is near vertical although somewhat variable in places on this relatively steep section of road. The vertical cliff face forms a boundary with the minor road and scattered trees and shrubs on top of the steep embankment cast heavy shade.
Habitat description: This site supports a population of navelwort, a rare plant in Worcestershire that grows in crevices on an almost vertical sandstone cutting beside the roadside. The plant is largely confined to approximately 90m length of verge amongst locally frequent ivy (<i>Hedera helix</i>) and the occasional bramble (<i>Rubus fruticosus</i>). Predominantly western in its distribution this plant in occurs towards the eastern limit of its range.	Length: 155m Height: 1 - 4m Size: 0.03 ha Safety considerations: Parking is restrictive along this section and for larger vehicles is probably only feasible some distance east towards Lulsley. Habitat condition: The population appears stable, although there is potentially some threat from overhanging ivy. Management prescription: This has always been a non-intervention verge and navelwort continues to prosper in the absence of management. This said, monitoring should ensure that ivy does not outcompete the navelwort. If so, some of the ivy should be cut back.
Interested organisations: Worcestershire Wildlife Trust.	Summary management: Vertical cliff face - Non-intervention but monitoring should identify excessive ivy growth and if necessary cut back.
	
Navelwort growing on the steep sandstone rock-face	

RVNR 107	Location: Located along a minor road between Alfrick and Leigh. (NGR SO756529).		
Reason for notification: Supports a colony of Bithynian vetch, a very rare plant in Worcestershire.	Topography: Consists of a steep hedgebank that follows a sharp bend in the road.		
Habitat description:			
<p>Along a short length of hedgebank in a bend in the road is a small colony of Bithynian vetch (<i>Vicia bithynica</i>), a plant identified as very rare in Worcestershire and Nationally Scarce (Occurring in 16-100 hectads in Great Britain). Significant declines and rarity have resulted in the plant attaining Vulnerable status and therefore considered to be facing a very high risk of extinction in the wild (IUCN, 2001).</p>	Length: 62m	Width: 0.5-1m	Size: <0.01ha
<p>On this narrow and steep verge it occurs within locally-frequent false brome (<i>Brachypodium sylvaticum</i>) and herbs including oxeye daisy (<i>Leucanthemum vulgare</i>), lady's bedstraw (<i>Galium verum</i>), perforate St. John's-wort (<i>Hypericum perforatum</i>), and wild basil (<i>Clinopodium vulgare</i>).</p>	Safety considerations: A gateway entrance on the opposite side of the road may be used for parking. This is a difficult site to manage because there is no verge to work from and vehicles cannot be seen coming from either direction. For this reason and the fact that annual hedge and bank trimming appears to be sufficient, means there has rarely been the need to manage this verge.		
<p>Largely coastal in distribution, it has been suggested that Bithynian vetch arrived as a contaminant of legume crops at some inland sites. However, it is encouraging that the plant was previously recorded from precisely this location in the Botany of Worcestershire (Amphlett & Rea, 1909), over 100 years ago. Day (2001) also considers that it is native at this location.</p>	Habitat condition: The verge continues to support a population of Bithynian vetch plants and a number of other plants of unimproved grassland.		
<p>This one of two Bithynian vetch RVNRs. The other is RVNR 100.</p>	Management prescription: Largely non-intervention but occasionally may require scrub to be trimmed along the bank. Monitor the number of Bithynian vetch plants, other notable plants and the frequency of shrubs along the bank.		
	Summary management: Largely non-intervention but occasionally may require scrub to be trimmed along the bank.		
	Interested organisations: Worcestershire Wildlife Trust. The verge forms part of Special Wildlife Site, Bithynian Vetch No. 2 (SO75/52). Plantlife.		
 <p data-bbox="392 1585 823 1599">Bithynian vetch and lady's bedstraw on the hedgebank</p>			

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SITE No: SO75/76

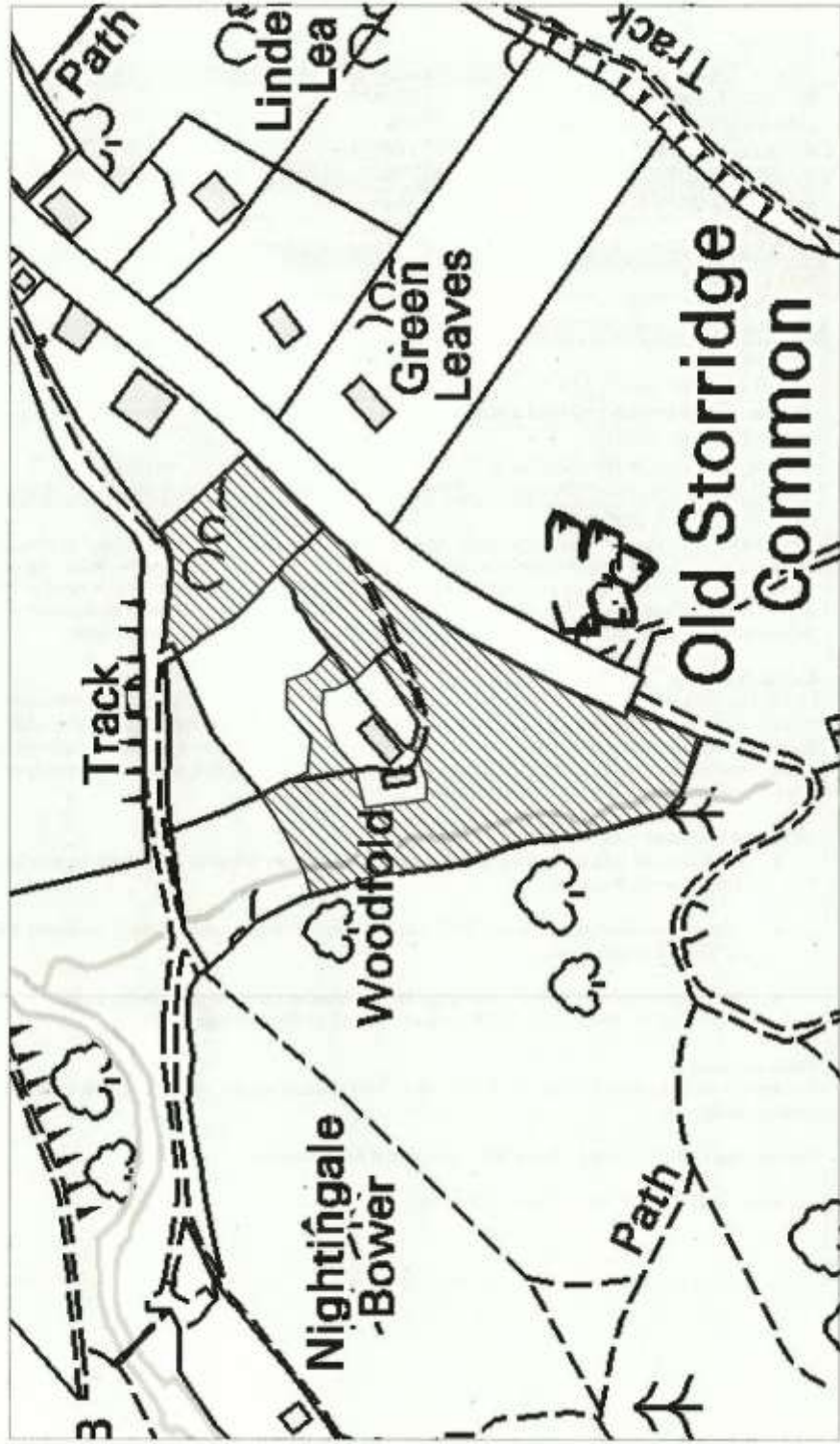
SITE NAME	WOODFOLD ORCHARD
NATIONAL GRID REFERENCE	SO747512
LINEAR SITE LIMITS (if appropriate)	N/A
DATE OF LISTING	14.02.2011
DISTRICT COUNCIL (s)	Malvern Hills
PARISH	Alfrick
TOTAL AREA	1.17 Ha
LENGTH IF LINEAR	N/A
SWS HABITAT	Orchard.
NATIONAL BAP HABITATS	Traditional Orchard
OTHER HABITATS OF IMPORTANCE	Grassland (semi-improved); scrub; broadleaved woodland
NATIONAL BAP SPECIES	[Possible slowworm records]
OTHER SPECIES OF IMPORTANCE	Chicken of the woods fungus. Mistletoe
GENERAL DESCRIPTION	
<p>A medium-sized orchard, including specimen old and veteran cherry trees. The site is divided up into a series of partitioned lawned gardens with apple, perry-pear and plum orchards of traditional fruit varieties. Approximately 60 trees in all. A few of the cherries are dead hulks and several are senescent, with dead wood in canopy. The understorey of parts of the orchard is semi-improved grass sward (periodically mown). The periphery on the south-western boundary merges into to bracken scrub and derelict orchard which slopes down to a wooded stream dingle</p>	
Habitat Vegetation and Feature Descriptions	
<p>One or two of the older veteran cherry trees here are impressive, with an average girth of 150-160 cm and large grafting bosses. They have flaking bark, crevices, hollow trunks and branches, sap runs and fungal fruiting bodies, and support a diverse and luxuriant epiphytic flora of lichens (circa 9 species including foliose types) and mosses, at least 5 – positive species identification would need further investigation. The tree cavities provide actual and potential nest sites for a range of hole-nesting birds, such as woodpeckers.</p>	
<p>Additional features of value include :-</p> <ul style="list-style-type: none"> • Small areas of rank unimproved grassland with local species richness – knapweed, hogweed, pignut, wild daffodil, tormentil, cowslip etc • Adjoining features: notable is the stand of bracken and derelict ivy-covered apple and cherry trees which border the wooded stream dingle. • The connectivity of this site via old hedge-lines of hazel and scrub to surrounding woodlands (LWS and SSSI) is important for biodiversity, wildlife movement and genetic exchange 	
Flora and Fauna	
<p>Evidence of breeding birds (2010):- stock dove, chiffchaff, blackcap singing. Previous reports of nesting green and great spotted woodpecker</p>	
<p>Invertebrates (2010):- hornets. Butterflies - Ringlet and meadow brown</p>	
<p>Herptiles:- 1990s records for slowworm in the area</p>	

Woodfold Orchard

Do not scale from map. For accurate plan refer to GIS

Scale 1:2000

*



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COUNTY: HEREFORD & WORCESTER

SITE NAME: CREWS HILL WOOD

DISTRICT: MALVERN HILLS

SITE REF: 15WPV

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981.

Local Planning Authority: HEREFORD & WORCESTER COUNTY COUNCIL, Malvern Hills District Council

National Grid Ref: SO 733529

Area: 7.4 (ha.) 18.3 (ac.)

Ordnance Survey Sheet 1:50,000: 150

1:10,000: SO 75 SW

Date Notified (Under 1949 Act): 1975

Date of Last Revision 1975

Date Notified (Under 1981 Act): 1986

Date of Last Revision: -

Other Information:

Description and Reasons for Notification:

Crews Hill Wood lies on a ridge of Wenlock Limestone which forms the northern tip of the Suckley Hills in Worcestershire.

The site has been selected because it contains a number of different types of woodland including a substantial area of hornbeam *Carpinus betulus*. Oak woodland with hornbeam is well represented in eastern Britain, but this is one of the few examples known from western Britain.

The woodland lies on calcareous soils derived from the underlying limestone. Throughout the wood the canopy is dominated by sessile oak *Quercus petraea* in association with a wide variety of other tree and shrub species. Of particular interest is the northern end of the site where sessile oak is associated with hornbeam and ash *Fraxinus excelsior*, together with an understorey of hawthorn *Crataegus monogyna*, hazel *Corylus avellana*, field maple *Acer campestre* and elder *Sambucus nigra*. The remainder of the site supports three other woodland types in which sessile oak and ash are in association with (i) beech *Fagus sylvatica*, silver birch *Betula pendula*, large-leaved lime *Tilia platyphyllos* and wild service-tree *Sorbus torminalis*, (ii) small-leaved lime *Tilia cordata*, field maple and birch, and (iii) wild service tree and yew *Taxus baccata*.

The ground flora is dominated by bramble *Rubus fruticosus* agg. and ivy *Hedera helix* with dog's mercury *Mercurialis perennis*, sanicle *Sanicula europaea* and wood melick *Melica uniflora*. Locally uncommon plants include spurge laurel *Daphne laureola*, stinking iris *Iris foetidissima* and toothwort *Lathraea squamaria*.

Notification Date: 2 February 1989

COUNTY: HEREFORD & WORCESTER SITE NAME: LEIGH BROOK VALLEY

DISTRICT: MALVERN HILLS SITE REF: 15 WRC

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981 as amended

Local Planning Authority: HEREFORD & WORCESTER COUNTY COUNCIL, Malvern Hills District Council

National Grid Reference: SO 746516 Area: 44.1 (ha.) 108.9 (ac.)

Ordnance Survey Sheet 1:50,000: 156 1:10,000: SO 75 SW, SE

Date Notified (Under 1949 Act): 1971 Date of Last Revision: 1975

Date Notified (Under 1981 Act): 1989 Date of Last Revision: -

Other Information:

Site boundary alteration (extension and deletion). The site is within the Malvern Hills AONB. Part managed as a nature reserve by the Worcestershire Nature Conservation Trust.

Description and Reasons for Notification:

The site occupies a section of the steep-sided valley of the Leigh Brook near the village of Alfrick. It overlies limestone and shales of the Silurian Period. Within the site there is a range of habitats including broadleaved woodland, unimproved meadows, old orchards and a section of the Leigh Brook itself. It has been selected for its woodland, grassland and invertebrates. The site features four nationally scarce types of woodland and the meadows include a nationally restricted type of grassland. In addition the rich invertebrate fauna includes several uncommon moths and a nationally rare hoverfly. A wide variety of breeding birds also occurs.

Within the woods are a number of types with a very restricted national distribution. Whereas sessile oak *Quercus petraea* is the characteristic dominant of oakwoods on acid soils in the north and west of Britain, there are only a few areas, such as the Wye Valley and the Silurian outcrops of the West Midlands, where it occurs on calcareous rocks. In Leigh Brook Valley sessile oak occurs in association with a number of other species such as wych elm *Ulmus glabra*, small-leaved lime *Tilia cordata* and beech *Fagus sylvatica*. These associations constitute different types of woodland which are all nationally restricted and this makes Leigh Brook Valley a particularly important site.

The woodland is dominated by sessile oak with ash *Fraxinus excelsior* and field maple *Acer campestre*. The distribution of other tree species is related to the topography of the site. Along the valley bottoms where the soils are flushed, sessile oak is associated with wych elm. Further up the slopes the soils are drier and wych elm is replaced by small-leaved lime. Wild service-tree *Sorbus torminalis* is also present here with a few trees of the nationally restricted large-leaved lime *Tilia platyphyllos*. On the valley slopes in Sheephill Coppice beech *Fagus sylvatica* is also present as old coppice stools. At the top of the slopes where leaching has taken place, sessile oak is associated with silver birch *Betula pendula* and small-leaved lime is largely absent.

The understorey is similar throughout the woodland and is dominated by hazel *Corylus avellana* with spurge-laurel *Daphne laureola*, spindle *Euonymus europaeus* and wild privet *Ligustrum vulgare*. Many typical woodland ground flora species occur such as bluebell *Hyacinthoides non-scripta*, dog's mercury *Mercurialis perennis*, ramsons *Allium ursinum* and yellow archangel *Lamium galeobdolon* as well as a number of species that are more

local in Worcestershire. These include violet helleborine *Epipactis purpurata*, small teasel *Dipsacus pilosus*, stinking iris *Iris foetidissima* and the nationally restricted monk's-hood *Aconitum napellus*.

Within the site are several herb-rich meadows which are characterised by crested dog's-tail *Cynosurus cristatus* and common knapweed *Centaurea nigra*. Other grasses include sweet vernal-grass *Anthoxanthum odoratum* and red fescue *Festuca rubra* whilst herbs include green-winged orchid *Orchis morio*, cowslip *Primula veris*, yellow rattle *Rhinanthus minor* and adder's-tongue *Ophioglossum vulgatum*. The nationally restricted greater broomrape *Orobanche rapum-genistae*, which is parasitic on broom *Sarothamnus scoparius*, is found in the meadows adjacent to Papermill Coppice and wild daffodil *Narcissus pseudonarcissus* occurs in one of the meadows as well as in part of the woodland.

The site is important for invertebrates, Lepidoptera (moths and butterflies) being particularly well represented. These include a number of nationally scarce moths including alder kitten *Furcula bicuspis*, maple pug *Eupithecia inturbata* and the rare micromoth *Stigmella pyri* which is associated with pear trees in the old orchards. The larvae of a nationally rare hoverfly *Chalcosyrphus eunotus* live in decaying wood in the Leigh Brook where the club-tailed dragonfly *Gomphus vulgatissimus* also occurs.

Birds breeding in the woods include wood warbler *Phylloscopus sibilatrix*, hawfinch *Coccothraustes coccothraustes* and tawny owl *Strix aluco*. In recent years a nest box scheme on the site has attracted pied flycatcher *Ficedula hypoleuca*. The number of breeding birds is further amplified by species that nest along the brook such as dipper *Cinclus cinclus* and kingfisher *Alcedo atthis*.

COUNTY: HEREFORD & WORCESTER SITE NAME: LORD'S WOOD MEADOWS

DISTRICT: MALVERN HILLS SITE REF:

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981 as amended

Local Planning Authority: HEREFORD AND WORCESTER COUNTY COUNCIL,
Malvern Hills District Council

National Grid Reference: SO 730552, SO 732551 Area: 6.72 (ha.) 16.6 (ac.)

Ordnance Survey Sheet 1:50,000: 149, 150 1:10,000: SO 75 NW

Date Notified (Under 1949 Act): – Date of Last Revision: –

Date Notified (Under 1981 Act): – Date of Last Revision: –

Other Information:
New site.

Description and Reasons for Notification:

Lord's Wood Meadows lie at the northern end of the Malvern Hills, south of the River Teme and three kilometres west of the Worcestershire village of Broadwas. The meadows lie on uneven ground comprised of steep knolls and valleys ranging in topography from level ground to steep slopes. The site overlies an area of complex geology, at a juncture between the Lower Old Red Sandstones of the Devonian period and Silurian Limestones.

The special interest of the site lies in the diversity of the semi-natural grassland sward. The site is currently managed by grazing, but hay cutting has also been part of the traditional management. The dominant vegetation is mesotrophic (neutral) grassland characterised by common knapweed *Centaurea nigra* and crested dog's-tail *Cynosurus cristatus*. The two fields are a mosaic of the heath-grass *Danthonia decumbens* and meadow vetchling *Lathyrus pratensis* sub-communities. One field is crossed by spring-line flushes supporting mire vegetation; these features are increasingly threatened by lowering water tables.

The western half of the larger field is steeply sloping, with areas of bracken and scrub at the top of the knoll. The flora is diverse, reflecting the variety of soil types. Frequent grasses include sweet vernal-grass *Anthoxanthum odoratum*, red fescue *Festuca rubra*, Yorkshire fog *Holcus lanatus* and rough meadow-grass *Poa trivialis*. Herbs present include common bird's-foot trefoil *Lotus corniculatus*, devil's-bit scabious *Succisa pratensis*, selfheal *Prunella vulgaris*, bugle *Ajuga reptans*, lady's bedstraw *Galium verum*, cowslip *Primula veris*, plus spring-sedge *Carex caryophyllea*. Large patches of dyer's greenweed *Genista tinctoria* occur. Other less frequent herbs are common spotted-orchid *Dactylorhiza fuchsii*, common milkwort *Polygala vulgaris*, bitter-vetch *Lathyrus montanus*, lousewort *Pedicularis sylvatica*, burnet-saxifrage *Pimpinella saxifraga*, changing forget-me-not *Myosotis discolor*, betony *Stachys officinalis* and musk mallow *Malva moschata*.

The eastern end of the larger field has frequent heath spotted-orchid *Dactylorhiza maculata*, tormentil *Potentilla erecta*, devil's-bit scabious, betony and meadowsweet *Filipendula ulmaria*. This vegetation grades into spring-line mire areas dominated by jointed rush *Juncus articulatus*, floating sweet-grass *Glyceria fluitans*, marsh horsetail *Equisetum palustre*, and water-pepper *Polygonum hydropiper*. Soft rush *Juncus effusus*, ragged robin *Lychnis flos-cuculi*, tufted forget-me-not *Myosotis laxa*, common marsh-bedstraw *Galium palustre*, common fleabane *Pulicaria dysenterica* and brooklime *Veronica beccabunga* also occur here.

The smaller field to the north is a steep bank with areas of hawthorn *Crataegus monogyna*, elder *Sambucus nigra* and bramble *Rubus fruticosus* scrub. Dyer's greenweed is abundant with frequent devil's-bit scabious, common knapweed and common bird's-foot-trefoil. Other herbs present include zigzag clover *Trifolium medium*, lesser trefoil *T. dubium*, common milkwort, common spotted-orchid, lady's bedstraw, perforate St. John's-wort *Hypericum perforatum*, tormentil and barren strawberry *Potentilla sterilis*.

The common blue butterfly *Polyommatus icarus* occurs on this site.

The site is bounded to the south by Lord's Wood, an Ancient Semi-natural Woodland. It also includes a line of stream-side alders *Alnus glutinosus* along another boundary.

Notification Date: 15 January 1990

COUNTY: HEREFORD & WORCESTER SITE NAME: OSEBURY ROCK

DISTRICT: MALVERN HILLS SITE REF: 15 WSE

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981 as amended

Local Planning Authority: HEREFORD & WORCESTER COUNTY COUNCIL, Malvern Hills District Council

National Grid Reference: SO 738555 Area: 2.9 (ha.) 7.2 (ac.)

Ordnance Survey Sheet 1:50,000: 150 1:10,000: SO 75 NW

Date Notified (Under 1949 Act): 1955 Date of Last Revision: 1975

Date Notified (Under 1981 Act): 1990 Date of Last Revision: -

Other Information:

Site boundary alteration (extension & reduction).

Description and Reasons for Notification:

The site consists of an area of ancient woodland covering a cliff on the south bank of the River Teme seven miles west of Worcester. The wood lies on the Haffield Breccia (Upper Carboniferous), a mixture of volcanic rock and limestone fragments set in a sandy matrix. It is an example of a western valley ash - wych elm wood. The rock exposures are an important geological feature.

Biology

The characteristic species in this type of woodland are ash *Fraxinus excelsior*, field maple *Acer campestre* and wych elm *Ulmus glabra*. Sessile oak *Quercus petraea* is present as standard trees throughout most of the wood. Sycamore *Acer pseudoplatanus* is present only locally on the lower slopes.

Of particular interest is the presence of the nationally restricted large-leaved lime *Tilia platyphyllos*, which is particularly abundant on the upper slopes and cliff ledges. Small-leaved lime *Tilia cordata* is also present. The local wild service-tree *Sorbus torminalis* is here abundant and associated with the stands of lime.

On the lower slopes the shrub layer is mainly dominated by hazel *Corylus avellana* and hawthorn *Crataegus monogyna*. Holly *Ilex aquifolium* and a few small trees of yew *Taxus baccata* occur on the cliffs.

The ground flora varies with the transition from dry acidic conditions on the rocks and upper slopes to a more base rich, flushed state lower down. The upper part of the site supports a dense growth of the greater wood-rush *Luzula sylvatica*, and wood sage *Teucrium scorodonia*. The shaded rocks and cliff faces support abundant polypody *Polypodium vulgare* and navelwort *Umbilicus rupestris*. On the lower slopes the flora is dominated by ramsons *Allium ursinum*, bluebell *Hyacinthoides non-scripta* and nettle *Urtica dioica*, with yellow archangel *Lamium galieabdon* unusually abundant. The narrow-leaved bitter-cress *Cardamine impatiens*, a nationally restricted plant and rare in Worcestershire, occurs in one small area.

The woodland along the river bank consists of a narrow strip of willow *Salix* spp. and alder *Alnus glutinosa*.

Geology

Osebury Rock provides significant exposures of Permian sediments along the western margin of the Permo-Triassic Worcester basin. The Haffield Breccia, comprising texturally-immature, ephemeral stream conglomerates, was the product of marginal alluvial fans developed along the fault-bounded margin of the Malverns. Overlying the Haffield Breccia is the Bridgnorth Sandstone, a lower Permian, aeolian dune sandstone.

COUNTY: HEREFORD AND WORCESTER/
SHROPSHIRE/POWYS

SITE NAME: RIVER TEME/AFON
TEFEIDIAD

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981 as amended

Local Planning Authorities: SOUTH SHROPSHIRE DISTRICT COUNCIL, Shropshire County Council, Hereford & Worcester County Council, Worcester City Council, Leominster District Council, Malvern Hills District Council, Powys County Council

National Grid References: SO 121848-SO 850525

Ordnance Survey Sheets:

1:50,000: 136, 137, 138, 150

1:10,000:	SO 18 SW, SE	SO 57 NW, SW	SO 85 SW
	SO 17 NE	SO 56 NW, NE	
	SO 27 NW, NE, SE	SO 66 NW, NE	
	SO 37 SW, SE	SO 75 NW, NE, SE	
	SO 47 SW, SE, NE	SO 76 NW, SW	

Length		Area		
R. Teme in England	109.6 (km.)	England	419.8 ha	
R. Teme in Wales	24.7 (km.)	Wales	44.2 ha	
Total of R. Teme	134.3 (km.)	Total	464 ha	
R. Clun	4.7 (km.)			
Total	139.1 (km.)			

Date of Notification: 19 July 1996

Other Information

This is a new site. The site supports the following species covered by Council Directive 92/43/EEC on the conservation of Natural Habitats and of Wild Flora and Fauna:

Twaite shad <i>Alosa fallax</i>	Annex IIa, Va;
Sea lamprey <i>Petromyzon marinus</i>	Annex IIa
Brook lamprey <i>Lampetra planeri</i>	Annex IIa
Salmon <i>Salmo salmo</i>	Annex IIa, Va;
Bullhead <i>Cottus gobio</i>	Annex IIa
Grayling <i>Thymallus thymallus</i>	Annex Va
Otter <i>Lutra lutra</i>	Annex IIa, IVa;
Atlantic stream crayfish <i>Austropotomobius pallipes</i>	Annex IIa, Va
Freshwater pearl mussel <i>Margaritifera margaritifera</i>	Annex IIa, Iva

Otter, Atlantic stream crayfish, and freshwater pearl mussel are also listed under Schedule 5 of the Wildlife and Countryside Act 1981, as amended.

The Welsh section of the river lies within the Radnor Environmentally Sensitive Area (ESA). The English section of the river runs through the Clun ESA and Shropshire Hills Area of Outstanding Natural Beauty.

The site incorporates part of Downton Gorge SSSI and National Nature Reserve, as well as Temeside and Temebank geological SSSI.

Description and Reasons for Notification:

The River Teme is the second largest tributary of the River Severn, draining a hilly, predominantly rural catchment of Silurian and Devonian rocks. The notified channel is of special interest as a representative, near-natural and biologically-rich river type associated

with sandstone and mudstones. This type has a mainly northern and western distribution in Britain but is especially characteristic of the Welsh Marches.

The Teme demonstrates a close relationship with the underlying geology. A short, rapid-flowing upland section, with nutrient-poor and relatively acidic waters, changes to a more basic and naturally nutrient-rich system for most of the river's length as it passes over Silurian shales and mudstones, and the Old Red Sandstone strata. At its lowest section, the Teme is a sluggish, lowland river on soft deposits.

These attributes and the high water quality, support significant river plant, fish and invertebrate communities and otter populations. A small section of the lower River Clun is included in the SSSI for a notable species.

The Teme rises at 460 m on Cilfaesty Hill, Powys and falls steeply to Knighton, descending 122 m over 1.6 kms of the English/Welsh border. It then flows through a more gentle landscape via Ludlow and Tenbury Wells to join the River Severn just below Worcester. The river is actively eroding and fast flowing, with many shingle bars, especially above Leintwardine. Where the river cuts through the sandstone, the bed is often formed of submerged rock platforms. The banks are well tree-lined with alder *Alnus glutinosa*, with some willow *Salix* spp. stands.

There are extensive areas of rough grassland and wet flushes dominated by mosses and sedges on Cilfaesty Hill Common, but thereafter the adjoining land use is mostly permanent pasture, arable fields, hop-yards and orchards. Parts of the river run through deciduous woodland, mainly of oak *Quercus* spp. and ash *Fraxinus excelsior*, some of which occurs in steep ravines. Wetter areas hold small alder carrs, on both shingle and alluvial soils. Little flood plain wetland has survived, though some of the early river engineering schemes have left cut-off meander loops which have developed marsh vegetation.

Geology and Topography

Near to the source the young river drains an upland area based on Silurian siltstones, the bedrock geology being the dominant influence on the river bed. Numerous peaty flushes and several small moorland tributary streams join the river here as it passes through a small, steep-sided rocky gorge. The Ring, an active land slip located on Cilfaesty Common, deposits silt and gravel into the channel which has a locally enriching effect on the nutrient status of the waters. After leaving Cilfaesty Hill the Teme flows through the narrow valley of Cwm Owyn to Felindre and from there on to a wider floodplain. Downstream from here the river shows a variety of fluvial geomorphological features such as back channels, storm flow channels and cut-off pools.

Down to Brampton Bryan the rocks are predominantly shales and mudstones of neutral base status but below this they change to more calcareous types and sandstones. Devonian Old Red Sandstone is the bedrock from Downton to Knightwick, with Triassic Mercian Mudstone from there to the confluence. From Felindre down to Leintwardine the river has a well developed pool and riffle system, with a cobble and pebble river bed. There are also extensive lateral gravel banks. After Downton Gorge and past Ludlow, submerged sandstone rock platforms become a feature. The lowest reaches near to Worcester traverse clays and silts to give a lowland and mature river.

Such variations in geology, flow and substrate give rise to diverse river plant and animal communities, ranging from species-poor upland spate types, to those more characteristic of slow flowing, alluvial rivers.

Flora

The highest section of the river has many small falls and pools with a good cover of the moss *Amblystegium tenax*, along with other bryophytes such as the liverwort *Marchantia polymorpha* and the moss *Fontinalis squamosa*. A small side pool supports the stonewort *Chara vulgaris* var. *vulgaris*. Characteristic higher plants in these upper stretches are round-

leaved water crowfoot *Ranunculus omiophyllus* and intermediate water starwort *Callitriche hamulata*, with the reed canary grass, *Phalaris arundinacea*, as a marginal species. There are also algal communities covering the pebble and small boulder-strewn river bed throughout its length, with various species of filamentous green algae and the distinctive red alga *Hildenbrandia rivularis*, the latter reflecting the high water quality.

With an increase in calcareous influence between Knighton and the Clun confluence, beds of the water crowfoots *Ranunculus fluitans* and *R. penicillatus* v *psuedofluitans* appear. The outcropping of the Lower Old Red Sandstone around Ludlow allows the river to cut deeply into the bedrock, with a subsequent change in the aquatic flora. There tends to be one major water plant community in these lower reaches, with the river water crowfoot *R. fluitans* dominating. The large algae *Enteromorpha* is found, together with pondweeds such as fennel pondweed *Potamogeton pectinatus* and perfoliate pondweed *P. perfoliatus*. Vigorous stands of the branched bur reed *Sparganium erectum* occur as a marginal species, along with water plantain *Alisma plantago-aquatica* and water figwort *Scrophularia auriculata*.

The river banks between Tenbury Wells and Knightwick are often dominated by dense stands of comfrey *Symphytum officinalis*, with some areas suffering invasion from the alien Himalayan balsam *Impatiens glandulifera*.

Mammals

The otter *Lutra lutra* has well established populations on the Teme, the stronghold being between Ludlow and Knighton, but they are found all along the river from Cwm Gwyn to Powick. Mink *Mustela vison* are also reported to be widespread in the catchment.

Invertebrates

The Teme has a good population of Atlantic stream crayfish *Austropotomobius pallipes*, a globally threatened and seriously declining species. The extensive shingle shoals hold a particularly interesting and rare riffle beetle community, with some 17 species being recorded. Of these, *Normandia nitens* is classed as Vulnerable, with *Macronychus quadrituberculatus* being nationally rare. The nationally scarce beetles *Riolus subviolaceus* and *R. cupreus* are found in the channel, with the nationally scarce carabid beetle *Bembidium semipunctatum* occurring on the banks. The SSSI also holds a population of the freshwater pearl mussel *Margaritifera margaritifera*, a rare and specially protected species.

Fish

The River Teme has long been recognised as a quality salmonid and coarse fishery. The fish communities strongly reflect the ecological changes in the river as it descends the catchment.

The lower and middle reaches have eels *Anguilla anguilla*, dace *Leuciscus leuciscus*, barbel *Barbus barbus*, bream *Abramis brama*, perch *Perca fluviatilis*, roach *Rutilus rutilus* and chubb *Leuciscus cephalus*. The latter species is typical of the slow and deep flows of the lower and middle river and is found upstream as far as Ludlow, whereas the brown trout is found most commonly above this point. Salmon *Salmo salmo* and grayling *Thymallus thymallus* are also present up to the weir at Buckton. Brook lamprey *Lampetra planeri*, stone loach *Noemacheilus barbatulus* and bullhead *Cottus gobio* can be found in the fast and rocky stretches, though bullhead and stone loach do occur low down the river at Knightwick. Bullheads occur even in the very shallow and fast flows on the open hill near the source. Sea lamprey *Petromyzon marinus* has been recorded on the lower reaches of the Teme.

Of particular conservation interest are the records of the very rare twaite shad *Alosa fallax fallax* in the very lowest reaches of the Teme. This may represent an extension of the spawning ground from the Severn, which is one of only four confirmed breeding sites in the UK.

Breeding Birds

The bird community is typical of that found along medium to fast flowing rivers. The dipper *Cinclus cinclus* is to be found in almost all the rocky sections together with the grey wagtail *Motacilla cinerea*, though the latter species is equally at home on the silt banks of the lower reaches. Both kingfishers *Alcedo atthis* and sand martins *Riparia riparia* readily utilise the eroding earth banks which the river produces as it meanders, and common sandpipers *Tringa hypoleucos* occur on the shingle bars above Ludlow. There are also records of goosander *Mergus merganser*.

SITE No: SO74/30

SITE NAME	BENSTOKEN COPPICE
NATIONAL GRID REFERENCE	SO764499
LINEAR SITE LIMITS (if appropriate)	N/A
DATE OF LISTING	17.01.2007
DISTRICT COUNCIL (s)	Malvern Hills District Council
PARISH	Leigh
TOTAL AREA	2.462 ha
LENGTH IF LINEAR	N/A
SWS HABITAT	Broadleaved woodland
NATIONAL BAP HABITATS	Broadleaved, mixed and yew woodland
OTHER HABITATS OF IMPORTANCE	Flowing water
NATIONAL BAP SPECIES	No information
OTHER SPECIES OF IMPORTANCE	Thin-spiked wood-sedge
GENERAL DESCRIPTION	
<p>A small wood beneath the Malvern Hills just north of Malvern. Historical management is of ash and alder coppice. Watercourses flow along the east and west boundaries and through the north of the wood. Electricity cables run above the wood and the canopy and shrub layers are kept clear beneath this.</p> <p>Habitat description: The wood shows characteristics of both W7 <i>Fraxinus excelsior-Alnus glutinosa-Lysimachia nemorum</i> woodland and W8 <i>Fraxinus excelsior-Acer campestre-Mercurialis perennis</i> woodland. The community appears to be in transition from the former to the latter, possibly due to a drop in the water-table.</p> <p>The canopy is of stored alder and ash coppice with few other species – though two veteran wych elm were recorded. The field-layer includes species of damp or dry W8 woodland but also species of wet W8 or W7 woodlands; these include broad buckler-fern, redcurrant, marsh bedstraw, thin-spiked wood-sedge and soft rush. Growth of bramble is particularly dense in the east of the wood. Fallen tree limbs are occasional, standing dead wood rare.</p> <p>The brook flowing through the wood is canalised with no meanders or shallow muddy margins.</p>	

Benstoken Coppice

Do not scale from map. For accurate plan refer to GIS.



Scale 1:5000



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SITE No: SO75/47

SITE NAME	THE ASHES
NATIONAL GRID REFERENCE	SO787522
LINEAR SITE LIMITS (if appropriate)	N/A
DATE OF LISTING	28.01.2007
DISTRICT COUNCIL (s)	Malvern Hills District Council
PARISH	Bransford, Leigh
TOTAL AREA	3.446 ha
LENGTH IF LINEAR	N/A
SWS HABITAT	Broadleaved woodland
NATIONAL BAP HABITATS	Broadleaved, mixed and yew woodland
OTHER HABITATS OF IMPORTANCE	
NATIONAL BAP SPECIES	No information
OTHER SPECIES OF IMPORTANCE	
GENERAL DESCRIPTION	
<p>A low-lying though dry Semi-Natural Ancient Woodland site – contrary to the indication of the name, dominated by oak. The Leigh/Bransford parish boundary runs through the site.</p> <p>Habitat description: The majority of the wood is heavily shaded by a dense oak canopy but in the north-east of the site this is replaced by a stand of tall coppice small-leaved lime – probably coppiced in the early 1980s; wild service and ash are also locally dominant. Some of the hazel, which dominates the shrub-layer, has also been coppiced quite recently and possibly at the same time as the small-leaved lime. More unusual species of the shrub-layer here are yew, crab apple and spindle; sycamore is also recorded. This is a W8 <i>Fraxinus excelsior-Acer campestre-Mercurialis perennis</i> woodland, with the W8d <i>Hedera helix</i> sub-community particularly frequent due to the dense shade. Where the canopy opens up a little, a good diversity of woodland herbs can be found, such as primrose, enchanter's nightshade and wood sedge. At the highest point of the wood there is a transition to W10 <i>Quercus robur-Pteridium aquilinum-Rubus fruticosus</i> woodland with species such as broad buckler-fern and red campion.</p> <p>Localised patches of nettle have developed around piles of decomposing vegetation.</p> <p>A dried up pond lies by the north boundary of the site; this does not support a significant wetland vegetation but grey willow and a veteran pedunculate oak stand adjacent.</p> <p>A public footpath runs lengthwise through the wood and a few small tracks link into this.</p>	

The Ashes

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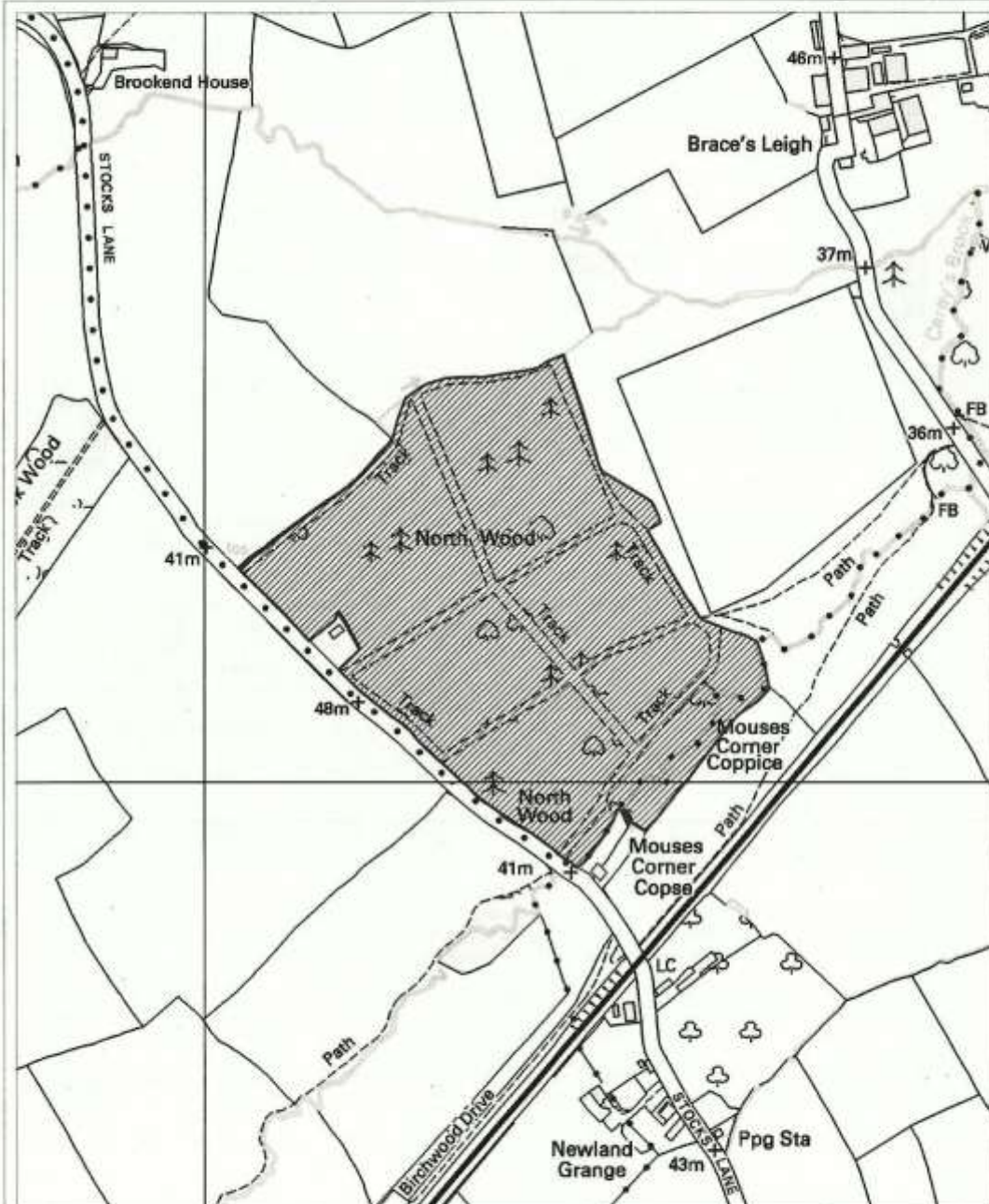
SITE No: SO75/49

SITE NAME	NORTH WOOD
NATIONAL GRID REFERENCE	SO793502
LINEAR SITE LIMITS (if)	N/A
DATE OF LISTING	14.11.2003
DISTRICT COUNCIL (s)	Malvern Hills District Council
PARISH	Bransford C.P.
TOTAL AREA	16.00Ha
LENGTH IF LINEAR	N/A
SWS HABITAT	Broadleaved Woodland
NATIONAL BAP HABITATS	Broadleaved and yew woodland – NVC: W8a/W8f
OTHER HABITATS OF IMPORTANCE	Damp rides – pendulous sedge; grass rides – MG5 grassland
NATIONAL BAP SPECIES	Black poplar
OTHER SPECIES OF IMPORTANCE	Wild service, spurge laurel, tutsan, goldilocks buttercup
GENERAL DESCRIPTION	
<p>A rectangular shaped block of mixed broadleaf and coniferous (mostly plantation) woodland on an ancient woodland site, located near to the village of Leigh Sinton. The site is aligned along a north west-south-east axis, with a minor road along its western boundary.</p> <p>At 48 m O.D., the middle of the wood is the highest point with a gentle slope down to a stream on the eastern margin. Soils are clay-loams and stagnogleys, over an underlying geology of Triassic Eldersfield mudstones with skerry formations</p> <p>HABITATS/VEGETATION DESCRIPTION:- The eastern edge of the wood, following the Carey's Brook corridor, is still a relatively undisturbed fragment of semi-natural, high forest canopy – a mix of oak with ash and some field maple, with a shrub layer and ground flora conforming to a National Vegetation Classification (NVC) type: W8a/W8f – dog's mercury, bluebell, wild ramsons. The remaining 80% of the wood is 20thC (late 1940s) plantation, with canopy dominated by even-aged sessile oak, but with coniferised compartments. The shrub layer is sparse throughout the planted section, with a fairly uniform ground flora, often dominated by bramble. However, the eastern side of the wood shows generally damper conditions with areas along ride edges and under canopy dominated invasively by pendulous sedge, with some ferns and mosses. Throughout the planted canopy section, ground flora distribution is difficult to assess – mostly similar to W8 ash wood flora, but on the highest part of the wood where bramble takes over, there are signs of transitions to W10 oak/bramble/bracken vegetation.</p> <p>Carey's brook itself is an interesting and natural watercourse displaying pool/riffle sequences, undercut banks and meanders, shingle deposits and woody debris dams which are valuable features for aquatic invertebrates and other riparian wildlife.</p> <p>FLORA/FAUNA:- The best ground flora is to be found along the stream corridor, where it is a mix of dog's mercury, bluebell, ramsons, wood anemone and yellow archangel. Here too, the shrub layer/canopy is most semi-natural – a hazel understorey and mature specimens of ash, sessile oak, field maple and wych elm in the canopy.</p> <p>Elsewhere, off the rides, botanical interest is very localised. Only around the wood's edges is there evidence of its ancient woodland origins – for example, a few individual specimens of wild service and black poplar along the boundary ditches; also local patches of goldilocks buttercup and isolated plants of wood spurge, spurge laurel and tutsan.</p> <p>Past surveys of North Wood have recorded large-leaved lime (<i>Tilia platyphlos</i>), a nationally scarce tree species, and southern woodrush (<i>Luzula forsteri</i>), scarce in Worcestershire</p> <p>There is no detailed survey information for fauna</p>	

North Wood

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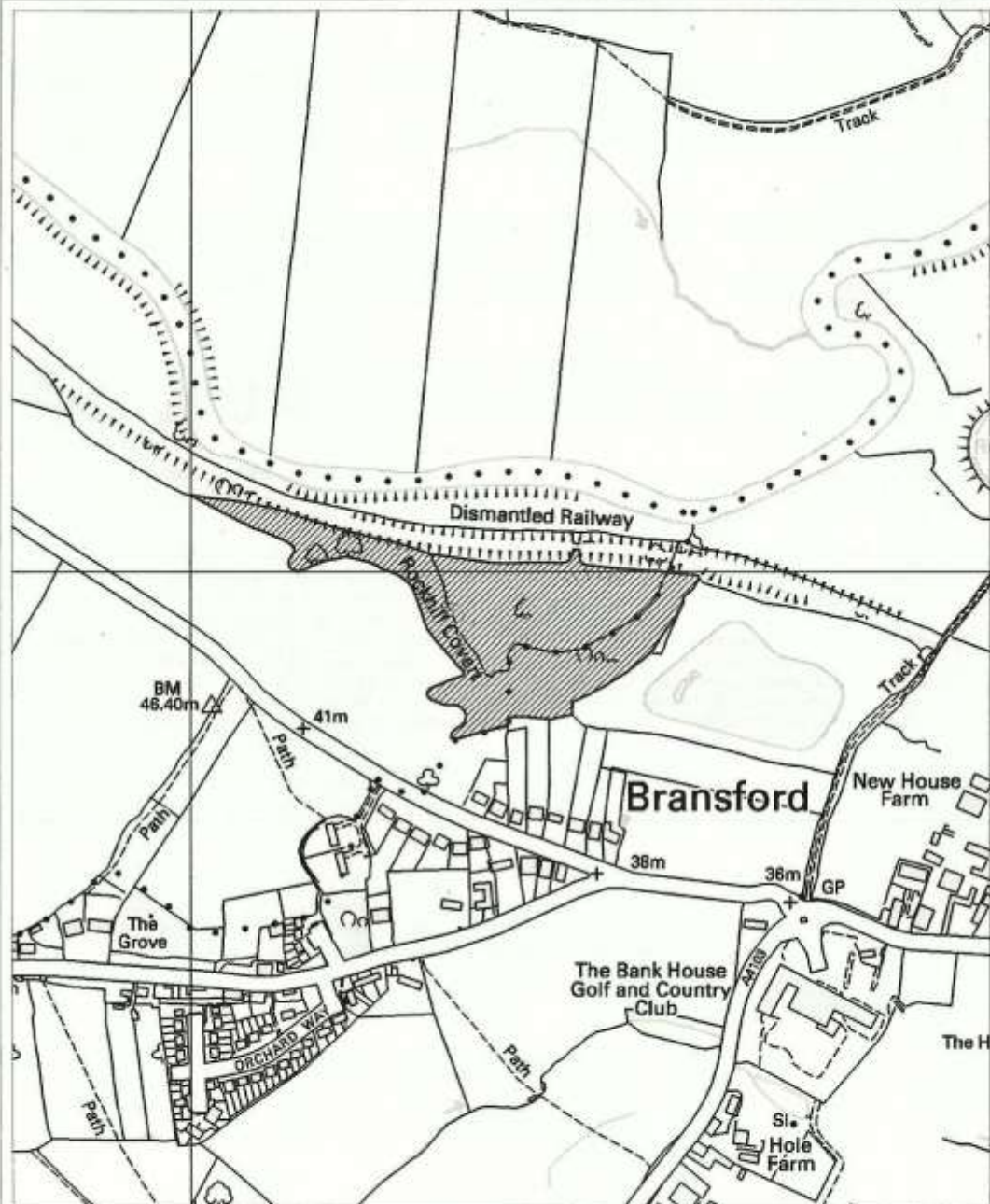
SITE No: SO75/50

SITE NAME	THE CUCKOO PIT SPECIAL WILDLIFE SITE	
NATIONAL GRID REFERENCE	SO794529	
LINEAR SITE LIMITS (if appropriate)	N/A	
DATE OF LISTING	28.09.1990	Listing Renewal Date: 05.10.2006
DISTRICT COUNCIL (s)	Malvern Hills District Council	
PARISH	Leigh	
TOTAL AREA	1.5 Ha	
LENGTH IF LINEAR	N/A	
SWS HABITAT	Marshland; Marshy grassland; Broadleaved woodland	
NATIONAL BAP HABITATS	Fen/floodplain grazing marsh (NVC types: MG10, W1, remnant W5(?))	
OTHER HABITATS OF IMPORTANCE	Broadleaved woodland. Stream dingle. Standing water pools	
NATIONAL BAP SPECIES	None known	
OTHER SPECIES OF IMPORTANCE	Wood club-rush, hemlock water-dropwort, ragged robin, marsh marigold, white-legged damselfly, club-tailed dragonfly, sedge warbler. [scarce micro-moths recorded]	
GENERAL DESCRIPTION		
<p>Located just north of Bransford village, this feature occupies a former incised meander arm of the River Teme. It is now isolated from the river's floodplain by the embanked Worcester to Bromyard disused railway track. (The track bed and embankments are in turn part of a linear Wildlife Site – Leigh Disused Railway (SO75/34))</p>		
<p>HABITATS/VEGETATION DESCRIPTION:- The site consists of a basin-shaped marshy hollow, bounded to the north by the scrubby tree-lined railway embankment, and to the south by steeply sloping ash-oak-sycamore woodlands. A small stream dingle descends through the woodland from the south, and feeds some of the marsh and marshy pools. Probably the most interesting vegetational feature is a stand of tall-herb fen with scattered sallow scrub, occupying approx. 0.2 Ha, and dominated by wood club-rush, with associated meadowsweet, hemlock water-dropwort, marsh marigold and marsh horsetail – an uncommon vegetation type in the county. The remainder is more of a marshy grassland with Yorkshire fog-grass, hard rush, silverweed and creeping buttercup. Vegetational interest in the woodland is mainly in the stream dingle and steeper topography – locally a damp ash-wood vegetation: hazel coppice/hawthorn understorey with dog's mercury, bluebell, wild ramsons and ferns. The canopy has become invaded by sycamore and parts of the wood are open to grazing stock</p>		
<p>FLORA/FAUNA:-</p>		
<p>Note-worthy plants in the marsh and fen include wood club-rush, ragged robin, hemlock water-dropwort and tufted forget-me-not</p>		
<p>Flora in the woodland dingle includes hard shield-fern.</p>		
<p>Invertebrate interest is still high. The site was comprehensively surveyed in 1990 when 72 species of micro-moth, 5 species of macro-moth, 69 species of diptera, 15 species of butterfly and 12 species of odonata (dragonflies and damselflies) were recorded. Club-tailed dragonfly and white-legged damselfly are both locally notable species. High numbers of small snails occur in the wood club-rush stands and there could be scope for further study of the mollusc fauna.</p>		

The Cuckoopit

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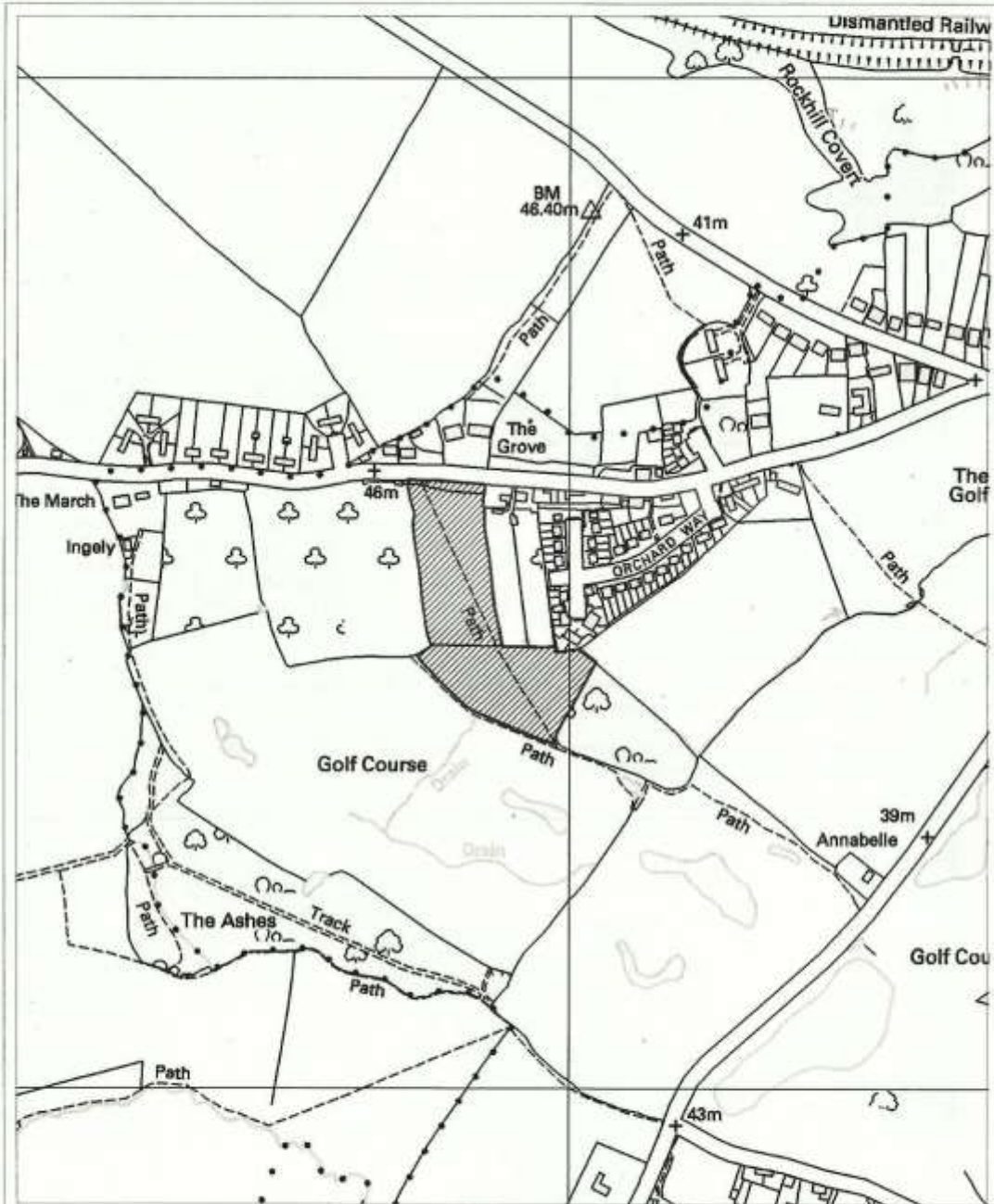
SITE No: SO75/58

SITE NAME	MARSH COTTAGE MEADOWS
NATIONAL GRID REFERENCE	SO789525
LINEAR SITE LIMITS (if appropriate)	N/A
DATE OF LISTING	01.05.2002
DISTRICT COUNCIL (s)	Malvern Hills District Council
PARISH	Bransford
TOTAL AREA	2.25Ha
LENGTH IF LINEAR	N/A
SWS HABITAT	Grassland
NATIONAL BAP HABITATS	Lowland Neutral Grassland: NVC - MG5b
OTHER HABITATS OF IMPORTANCE	Species-rich boundary hedges; open water – standing (pond); semi-improved grassland (MG6-7); damp grassland (MG5a/10)
NATIONAL BAP SPECIES	No information
OTHER SPECIES OF IMPORTANCE	Common spotted orchid, sneezewort, cowslip, adder's-tongue fern, yellow rattle, quaking grass, ox-eye daisy, lady's bedstraw, pepper saxifrage
GENERAL DESCRIPTION	
<p>The site comprises 2 grazed meadows in the Leigh Brook valley on the edge of Leigh village. The southernmost is on a gentle south facing slope and the northern half is on level ground. The soils are neutral to calcareous, mostly free draining (though with localised surface flushing) over a geology of lower liassic clays.</p>	
<p>HABITATS/VEGETATION DESCRIPTION:- Grassland: sward vegetation across most of the two fields conforms to a high quality species-rich National Vegetation Classification (NVC) community of MG5c type – common knapweed/crested dog's-tail with lady's bedstraw. However, there is some local variation in condition: towards the north there is evidence of a transition towards a semi-improved sward with a local abundance of perennial ryegrass and red fescue with fewer broadleaved herbs; at the southern end near adjoining woodland, the grassland switches to a damper flora with some sharp-flowered rush, meadowsweet and marsh thistle (Transition to a Yorkshire fog/soft rush type vegetation – MG5a-MG10); some woodland ground flora also occurs here – e.g goldilocks buttercup.</p>	
<p>Further features adding habitat diversity to the site are a small pond with water crowfoots and water starworts, some mature oaks in the boundaries (and one mid-field) and species-rich hedgerows</p>	
<p>FLORA/FAUNA:- Less common species occurring throughout include sneezewort, adder's-tongue fern and spring sedge, and fairly prolific colonies of common-spotted orchid are reported in some years.</p>	
<p>No detailed records for fauna, though the summer meadow is rich in butterflies, such as marbled white</p>	

Marsh Cottage Meadows

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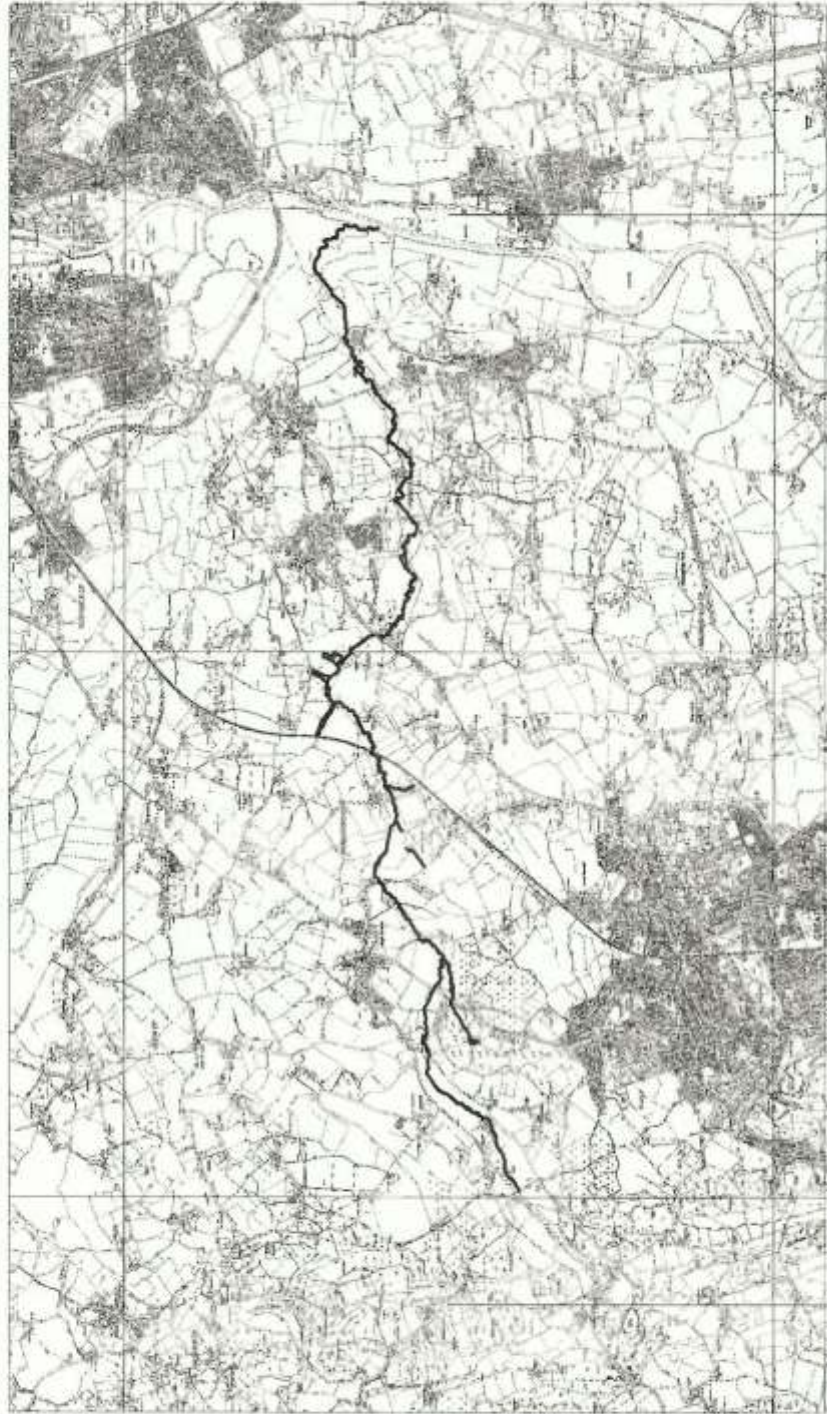
SITE No: SO85/11

SITE NAME	CAREY'S BROOK
NATIONAL GRID REFERENCE	SO831 505
LINEAR SITE LIMITS (if appropriate)	West SO761 493, East SO849 506
DATE OF LISTING	28.09.1990
DISTRICT COUNCIL (s)	Malvern Hills
PARISH	Powick
TOTAL AREA	N/A
LENGTH IF LINEAR	12.5km
SWS HABITAT	Open water – flowing
NATIONAL BAP HABITATS	Rivers and streams
OTHER HABITATS OF IMPORTANCE	N/A
NATIONAL BAP SPECIES	Otter
OTHER SPECIES OF IMPORTANCE	No information
GENERAL DESCRIPTION	
<p>The Carey's Brook is a small tributary of the River Severn draining part of the west Worcestershire plain between Worcester and Great Malvern. Narrow and shallow throughout its length the brook has a variable bed and bank structure and does not appear to have been much modified in the past. Aquatic vegetation tends to be limited, though some stretches of the brook are more diverse and much of corridor tends to be tree lined. In combination with small areas of contiguous semi-natural vegetation this brook forms a valuable wildlife corridor through the landscape.</p> <p>Information on associated species of interest is limited but otters are likely to be present.</p>	

Carey's Brook

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DRAFT

SITE No: SO75/71

SITE NAME	SANDLIN HOUSE ORCHARD
NATIONAL GRID REFERENCE	SO761514
LINEAR SITE LIMITS (if appropriate)	N/A
DATE OF LISTING	01.02.2011
DISTRICT COUNCIL (s)	Malvern Hills
PARISH	Leigh
TOTAL AREA	1.02 Ha
LENGTH IF LINEAR	N/A
SWS HABITAT	Orchard.
NATIONAL BAP HABITATS	Traditional Orchard
OTHER HABITATS OF IMPORTANCE	Grassland (semi-improved); boundary hedgerows; open water
NATIONAL BAP SPECIES	None known
OTHER SPECIES OF IMPORTANCE	Chicken of the woods fungus. Mistletoe
GENERAL DESCRIPTION	
<p>A small, predominantly cherry, orchard, but also some dessert apple trees, set in permanent pasture bounded by hedgerows, and a minor road along the southern edge. Approximately 40 trees, including a number of mature and veteran cherries – though several are dead, or senescent with dead wood in canopy. The understorey is a semi-improved grass sward (but unimproved along a strip nearest the road) which is grazed by sheep.</p>	
Habitat Vegetation and Feature Descriptions	
<p>The older veteran trees have flaking bark, crevices, hollow trunks and branches, sap runs and fungal fruiting bodies, and support a diverse epiphytic flora of lichens (over 5 species) and mosses, at least 8 – which may need further investigation; also mistletoe which occupies about 10% of the tree canopy. The tree cavities are providing actual and potential nest sites for hole-nesting birds such as woodpeckers.</p>	
<p>The relict strip of unimproved - or less improved – turf, immediately parallel to road supports, birdsfoot trefoil, lady's bedstraw, meadow buttercup, bush vetch, crested dogtail, burnet saxifrage and common vetch. There is a small spring in the far south-east corner of the site</p>	
Flora and Fauna	
<p>Lichens: only species which could be positively identified was <i>Ramalina fastigiata</i></p>	
<p>Evidence of breeding birds (2010):- blackbird nesting in cavity. Cuckoo present and calling</p>	
<p>Invertebrates (2010):- a colony of the jet ant – <i>Lasius fuliginosus</i>, has established itself in the rotting heartwood of one of the veteran cherry trees</p>	
<p>Mammals (2010):- red fox seen; mole hill activity</p>	

Sandlin House Orchard

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