

Part 2: Description of the Wyre Forest



View across the Wyre Forest: Phil Rudlin

The Wyre Forest management area covers a total of 1654 hectares of land - 1607 hectares is classified as ancient woodland (AW) indicating that it has been continuously wooded since at least 1600. 37% (600 hectares) of this is ancient semi-natural woodland composed of a variety of site native tree species. The remainder, some 1007 hectares is plantation on ancient woodland site (PAWS) having been planted with non-native trees such as conifer and beech over the past century.

1094 hectares of the Wyre Management area is designated as the Wyre Forest Site of Special Scientific Interest (SSSI) for the diverse range of habitats and species it supports including lowland mixed broadleaf woodland, lowland heathland, neutral grassland, western oakwood birds, pearl-bordered fritillary butterflies and adder.

At the time of writing 18% of the SSSI is in favourable condition with a further 80% in unfavourable recovering condition (see Appendix 2). In addition, 550 hectares of the Wyre Management area is designated as National Nature Reserve (NNR).

The following section provides a more detailed description of the physical environment of the Wyre as well as an overview of the rich diversity of species present within the Wyre Forest.

2.1 Physical Features

2.1.1 Geology

The Wyre Forest lies on an undulating plateau, tilted to the north-east, the land rising from the Severn Valley edge towards the Clee Hills in the west. The plateau is dissected by numerous steep sided stream valleys. The surface geology consists almost entirely of Old Hill Marl. Red and mottled clays and shales alternate with localised, lenticular sandstone beds. The alternating beds combined with the dissected topography produces a complex surface pattern.

To the north of Dowles Brook the grey and purple clays, green and buff sandstones, thin coals and Spirorbis Limestone beds of the Highley Formation cap areas of higher ground. Drainage from the later limestones is the probable source of base rich and tufa depositing seepages in the forest.

The Wyre Forest coal field lies to the north of the forest. Within the forest the productive coal measures (the Kinlet Formation) are concealed by the overlying marls and only reach the surface as a series of small inliers where the Dowles Brook cuts sufficiently deeply. Although a number of boreholes were put down (most notably in the great bog) no workable measures were ever found.

Old red sandstone of the Devonian epoch underlies all of the geology described.

2.1.2 Geomorphology

The forest lies at between 70m and 110m above sea level with the highest point at its most southerly extent at Callow Hill. From Callow Hill the forest falls away gently to where Dowles Brook bisects the forest in an east west direction. From there the land rises up gently again before falling off towards the river Severn. There are steep escarpments along the north and eastern boundaries where the river Severn runs along the boundary and has cut into the land form.

Almost all of the forest lies within the catchment of the Dowles Brook and the incised drainage pattern of the Brook and its tributaries, which occupy deep, steep sided valleys, produces the characteristic topography of the forest.

Within these valleys two distinct terraces can be identified, linked with phases of down-cutting. The higher terrace, above the present valley sides is probably an old flood plain. In contrast the lower terrace, mid-way down the valley sides, is more often a rocky platform with little alluvial deposition, which ends abruptly in a steep drop to the present channel, indicating marked down-cutting since the terrace was formed. The valley sides, particularly the very steep unstable slopes of the south bank of the Dowles, are subject to active erosional processes of landslip and undercutting.

In the past the leats and weirs associated with the Coopers and Knowles Mills modified the flow of water through Dowles Brook. Since these fell into disuse, or were removed, over 60 years ago the brook has returned to a more natural state with a range of geomorphological features, including pools and riffles characteristic of a fast-flowing upland stream.

2.1.3 Soils

The plateau soils are generally markedly acidic and vary from shallow, coarse grained, free draining, podsolized sandy loams on the sandstones to gleys associated with the impeded drainage of surface clays. This pattern is further complicated by the presence of gleyed horizons lower in the soil profiles where sub-surface clays are overlain by loamy podsoles. On the valley sides active landslip and soil creep create a very complex soil structure.

The soils in the valley bottoms are usually deeper, more base rich and more moisture retentive than the plateau soils, benefitting from the deposition of alluvial silts and the leaching of minerals and nutrients from the valleys sides. Around spring-lines and seepages significantly more base-rich conditions are found where areas of impeded drainage are enriched by ground water rising from underlying limestones and coal measures.

2.1.4 Hydrology

The main drainage is formed by the Dowles Brook and its tributaries flowing east into the River Severn.

The stony channel of the Dowles Brook meanders in places, but is generally fast flowing. When in flood a great deal of material is transported downstream and the channel is scoured, whilst in low flow periods the channel becomes braided, resulting in considerable seasonal changes to the aquatic ecosystem.

The Dowles Brook, once notable for its exceptional water quality, has suffered a serious decline in the richness of its aquatic ecosystem as a result of changes to land use practices in the upstream catchment leading to nutrient enrichment and an increased sediment load.

A number of the smaller tributaries which flow entirely within the forest catchment are largely protected from this disturbance and pollution. The water in these streams is cold and generally base-rich and represents an increasingly scarce example of high quality habitat of this type in England.

The run-off of rainfall from the Dowles Brook catchment is very rapid due to the extensive impermeable strata in the area and the steep sided valleys, and flow rates in the streams are highly variable. Raised water tables and lower interception of rainfall by vegetation during the winter further accelerates run-off rates.

There are several man-made areas of standing freshwater (reservoirs, ponds and temporary pools), but it is Dowles Brook and its tributaries which add most to the habitat diversity of the forest.

2.1.5 Climate

Regional average temperatures are in the range 5.4°C to 13.1°C and rainfall levels are low to moderate averaging 669mm/year. Data from 1971 – 2000 indicates averages of 130 days of rain and 52 days of frost across the region.

A Met Office automatic weather station was installed in Town Coppice in 2013 and now provides accurate data on a wider range of climatic variables.

2.2 Flora

2.2.1 Vascular plants

Several locally scarce plants occur in the woodland ground flora, including narrow-leaved helleborine (*Cephalanthera longifolia*) (Listed in Section 41 - Habitats and species of principle conservation importance in England, NERC Act 2006), wood cranesbill (*Geranium sylvaticum*), columbine (*Aquilegia vulgaris*) and, particularly in woodland nearer to Bewdley, lily-of-the-valley (*Convallaria majalis*).

The valley and streamside woodland, particularly along the Dowles and Park Brooks, is richer with locally scarce species including tutsan (*Hypericum androsaemum*), fragrant agrimony (*Agrimonia procera*), sawwort (*Serratula tinctoria*), mountain melick (*Melica nutans*) and soft-leaved sedge (*Carex Montana*) all common on the Shropshire side of the Dowles Brook valley.

The flora of valley bottoms and wet seepage flushes contrasts with the drier surrounding woodland with locally uncommon plants such as marsh pennywort (*Hydrocotyle vulgaris*) and common cottongrass (*Eriophorum angustifolium*).

Locally scarce species are also found on a few of the richest spring-line flushes. These include marsh fragrant orchid (*Gymnadenia densiflora*), great burnet (*Sanguisorba officinalis*), and broad-leaved cottongrass (*Eriophorum Latifolium*).

Several species-rich grasslands and orchards associated with smallholdings lie in and around the forest and contain a number of locally uncommon species, including lady's-mantle (*Alchemilla filicaulis* ssp. *Vestita*), moonwort (*Botrychium lunaria*), bloody cranesbill (*Geranium Sanguineum*), spiny restharrow (*Ononis spinosa*), meadow saffron (*Colchium autumnale*), green-winged orchid (*Orchis morio*) and adder's tongue (*Ophioglossum vulgatum*).

Light bracken and scrub cover on grasslands provide a woodland element to the flora with bluebell (*Hyacinthoides non-scripta*), wood anemone (*Anemone nemorosa*), bugle (*Ajuga reptans*), wild daffodil (*Narcissus pseudonarcissus*), common dog-violet (*Viola riviniana*), heath dog-violet (*V. Canina*) and early dog-violet (*V. reichenbachiana*).

2.2.2 Non-vascular plants

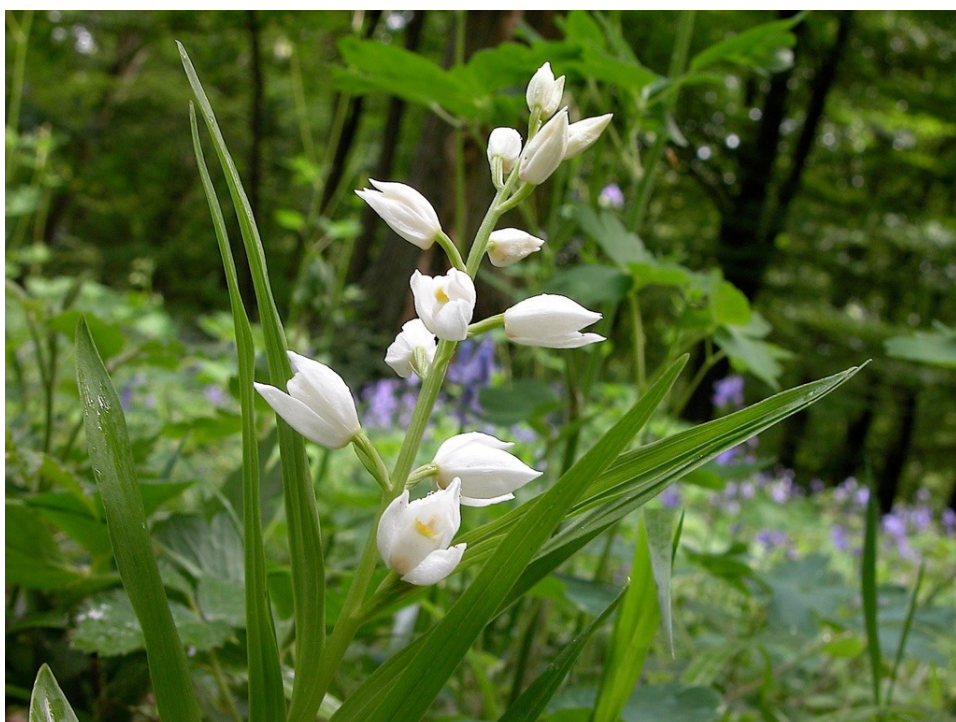
Both the woodlands and grasslands are rich in fungi with an important assemblage of nearly 1400 species currently recorded. These include nationally scarce species such as *Cortinarius violaceus*, *Hygrocybe calyptraeformis* and *Strobilomyces strobilaceus*. Old charcoal hearths, now replaced by brash burning sites, have a distinctive fungal flora with *Collybia atrata* and *Cantharellus carbonarius*.

The woodland, particularly within the steep sided, shaded stream valleys, contains a diverse bryophyte assemblage of special interest, with many species associated with ancient woodlands such as *Polytrichum formosum*, *Mnium hornum*, *Dicranum majus* and *Hypnum cupressiforme*, and others characteristic of base rich seepages, including *Trichocolea tomentella*, *Cirriphyllum piliferum* and *Pellia fabbroniana*.

Of the 65 liverworts found in the Wyre Forest area 18 are considered 'rare' according to Ratcliffe (1963) and Rose (1968/9). *Jamesionella autumnalis*, an epiphyte, was first recorded in the forest in 1968 and it is a very rare 'western' species in Britain. *Bazzania trilobata* is another uncommon 'western' species which is locally abundant.

Of the 218 species of moss found within the Wyre Forest area, 48 are considered 'rare' according to Ratcliffe (1963) and Rose (1968/69). However, Averis (1988) suggests that only 19 species are at present significant in a national context. Of these, three species are exceptionally noteworthy: *Bacynthecium salebrosum*, *Buxbaumia aphylla* and *Cratoneuron commutatum* var. *viriscens*.

According to a British Lichen Society report (1982), Wyre Forest ranks as a grade 5 site, being of county importance. Key species include: *Lecidea cinnabarina*, an ancient woodland lichen known to be widespread in the New Forest and the Weald, with odd localities in Suffolk and Hereford; *Thelotrema lepadinum*, another ancient woodland species that is also extremely rare; *Phaeographis ramificans*, an uncommon lichen found growing on holly; *Parmeliopsis hyperoptera*, a northern species new to the Midlands; and *Cladonia rangiformis*.



Narrow-leaved helleborine, Rosemary Winnall

2.3 Fauna

2.3.1 Birds

The range of woodland birds includes those typical of upland woodlands, such as redstart (*Phoenicurus phoenicurus*) and pied flycatcher (*Ficedula hypoleuca*) and the Section 41 species wood warbler (*Phylloscopus sibilatrix*), along with other more common woodland species such as chiffchaff (*Phylloscopus collybita*), nuthatch (*Sitta europaea*), and treecreeper (*Certhia familiaris*) along with tawny owl (*Strix aluco*), sparrowhawk (*Accipiter nisus*), buzzard (*Buteo buteo*) and raven (*Corvus corax*).

A number of breeding bird populations are associated with the more open areas of woodland, particularly coppiced areas, these include the Section 41 species tree pipit (*Anthus trivialis*) along with woodcock (*Scolopax rusticola*). Hobby (*Falco subbuteo*), listed under schedule 1 of the Wildlife and Countryside Act 1981, are also seen, but do not breed in the forest.

The areas of coniferous woodland in the forest support further breeding bird populations, particularly crossbill (*Loxia curvirostra*), siskin (*Carduelis spinus*) and goldcrest (*Regulus regulus*), along with goshawk (*Accipiter gentilis*), a rare breeding species on the Midlands Plateau.

Woodland edge habitats along rides and around meadows, and the orchards located within the forest support a further assemblage of birds including the Section 41 species skylark (*Alauda arvensis*), bullfinch (*Pyrrhula pyrrhula*), hawfinch (*Coccothraustes coccothraustes*), linnet (*Carduelis cannabina*), spotted flycatcher (*Muscicapa striata*), yellowhammer (*Emberiza citrinella*), house sparrow (*Passer domesticus*) and song thrush (*Turdus philomelos*). The three woodpecker species, great spotted woodpecker (*Dendrocopos major*), green woodpecker (*Picus viridis*) and the Section 41 species lesser spotted woodpecker (*D. minor*) are also particularly associated with these woodland edge habitats as are barn owl (*Tyto alba*), a Schedule 1 species, and little owl (*Athene noctua*).

The larger streams support breeding populations of kingfisher (*Alcedo atthis*), dipper (*Cinclus cinclus*) and grey wagtail (*Motacilla cinerea*).

Two further Section 41 species grey partridge (*Perdix perdix*), and turtle dove (*Streptopelia turtur*) occasionally breed in the forest, while the Schedule 1 species' fieldfare (*Turdus pilaris*), and redwing (*Turdus iliacus*) are seasonal visitors.

2.3.2 Mammals

Otter (*Lutra lutra*) frequent the River Severn and Dowles Brook but are rarely seen in the forest, dormouse (*Muscardinus avellanarius*) are widely dispersed over the forest, polecat (*Mustela putorius*) have a long established stronghold in the area and brown hare (*Lepus europaeus*) also occur, all of which are Section 41 species.

The forest also supports a great diversity of the more common mammals including water shrew (*Neomys fodiens*), yellow-necked mouse (*Apodemus flavicollis*), bank vole (*Myodes glareolus*), field vole (*Microtus agrestis*), common shrew (*Sorex araneus*), weasel (*Mustela nivalis*) and stoat (*Mustela ermine*).

Strong breeding and hibernating populations of brown long-eared (*Plecotus auritus*), noctule (*Nyctalus noctula*), common pipistrelle (*Pipistrellus pipistrellus*), and soprano pipistrelle (*Pipistrellus pygmaeus*) occur in the woodland, with daubenton's bat (*Myotis daubentoni*) frequent along the river and stream valleys. Whiskered bat (*M. mystacinus*), natterer's bat (*M. nattereri*) and barbastelle (*Barbastella barbastellus*) are widespread but uncommon in the forest with brandt's bat (*M. brandtii*) and the lesser horseshoe bat (*Rhinolophus hipposideros*) rare and in localised populations.

A well-managed population of fallow deer (*Dama dama*) have historically maintained the characteristic open appearance of the woodland understorey where they have free access. Muntjac (*Muntiacus reevesi*) are also increasingly common in the forest while Roe deer are only occasionally seen.

2.3.3 Amphibians and Reptiles

The forest contains nationally important populations of Section 41 reptiles with adder (*Vipera berus*), common lizard (*Lacerta vivipara*), grass snake (*Natrix natrix*) and slow-worm (*Anguis fragilis*) widely dispersed over the area but particularly abundant to the east.

Great crested newts (*Triturus cristatus*) are found in some ponds and in the forest. Small populations of common toad (*Bufo bufo*) also occur. These two Section 41 species occur alongside smooth (*Lissotriton vulgaris*) and palmate newts (*L. helveticus*) and common frog (*Rana temporaria*).

2.3.4 Fish

Several freshwater fish are found in the streams including bullhead (*Cottus bobio*), stone loach (*Noemacheilus barbatulu*) and brook lamprey (*Lamoeira planer*) along with the Section 41 species' brown trout (*Salmo trutta*) and salmon (*S. salar*).

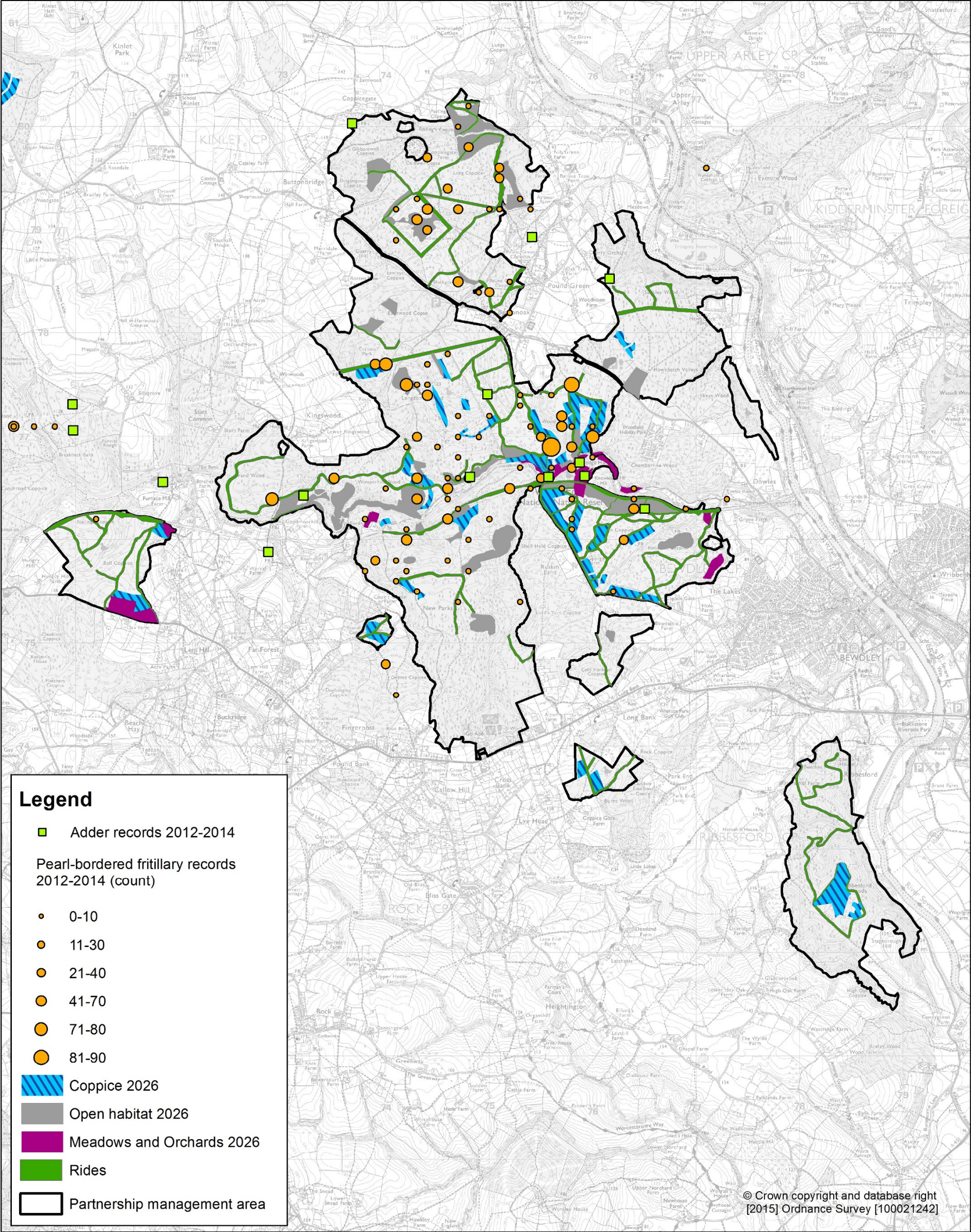


Redstart, John Robinson



Adder, Rosemary Winnall

2.4 Adder and Pearl-bordered Fritillary Distribution: 2016



2.5 Invertebrates

The Lepidoptera are the most thoroughly recorded insect group in the forest. In all, 33 butterfly species and over 1150 moth species have been recorded in recent years, placing the Wyre Forest second only to the New Forest in terms of important sites for Lepidoptera in England. Of the butterflies, the dingy skipper (*Erynnis tages*), grizzled skipper (*Pyrgus malvae*), pearl bordered fritillary (*Boloria euphrosyne*), small pearl-bordered fritillary (*B. selene*), white admiral (*Limenitis camilla*), white letter hairstreak (*Strymonidia w-album*) and wood white (*Leptidea sinapis*) are Section 41 species.

Of the moths, four species are listed in Section 41: drab looper (*Minoa urinate*), common fan-foot (*Pechipogo strigilata*), waved carpet (*Hydrelia sylvata*) and the narrow bordered bee-hawk moth (*Hemaris tityus*). Argent & sable (*Rheumaptera hastata*) has not been recorded in the forest since 2000, but planned management will retain suitable habitats and it is hoped that it may reoccur.

Invertebrate assemblages with associations to particular habitats have been identified using the Invertebrate Species – Habitat Information System (ISIS). Using ISIS as a basis a number of these assemblages are judged to be significant at a national or regional level, however the assemblages identified as features of the forest should be regarded as provisional as significant further survey work is required to establish the quality of these assemblages in the forest.

Despite limited volumes of dead wood in many of the high forest areas of the forest the invertebrate assemblage of dead and decaying wood (ISIS A2 - Dead wood assemblage) is well represented and comprises; Lepidoptera (butterflies and moths), including the red data book moth species *Schiffermuellerina grandis* and *oecophora bractella*, Coleoptera (beetles), Mollusca (snails), Araneae (spiders), Syrphidae (hoverflies), Tetranychidae (mites), Diplopoda (millipedes), and Chilopoda (centipedes).

Strong populations of nationally scarce beetles include glow-worms (*Lampyrus noctiluca*), the leaf beetle *Clytra quadripunctata* and the sexton beetle *Dendroxena quadrimaculata*. Longhorn beetles are also particularly abundant.

Other species of note that are present include the giant lacewing (*Osmylus fulvicephalus*), hornet (*Vespa crabo*), alder wood wasp *Xiphidria camelus*) and sawflies associated with large woodland areas such as horntail (*Urocerus gigas*), the sawfly *Pseudohemitaxonus sharpi* and the birch sawfly (*Cimbex femoratus*).

At the time of writing this plan the invertebrate assemblage of the forest canopy (ISIS A1 - Arboreal canopy) is not well defined in ISIS. It has not therefore been possible to ascertain how well represented this assemblage may be in comparison to other sites in England, however given the diversity of tree canopy moth and spider species recorded in Wyre it seems likely that this assemblage will come to be regarded as a notifiable feature in due course.

The woodland supports one of the densest populations of wood ant (*Formica rufa*) in England occurring near the northern edge of its range. Nests of wood ant are found throughout the forest.

The shining guest ant (*Formicoxenus nitidulus*) is also found as is the rare slave ant *Formica sanguinea*, along with ant-associated species of invertebrate include the nationally scarce seven-spot ladybird (*Coccinella magnifica*).

A distinct assemblage of invertebrates is associated with the grazed meadows, ride sides and recently felled coppice plots throughout the forest (ISIS F112 – open short sward assemblage). Coleoptera (beetles) make up almost half of the species of this assemblage, Heteroptera (true bugs) are also significant, as are Lepidoptera (butterflies and moths) including the red data book moth *Caryocolum juncella* which is known to feed on the lesser stitchwort (*Stellaria graminea*) found on the ant hills in the meadows along Dowles Brook. Diptera (true flies) and Homoptera (mealy bugs and aphids) along with smaller numbers of Araneae (spiders) and Mollusca (snails) make up the rest of the assemblage.

The nationally vulnerable Section 41 beetle, the noble chafer (*Gnorimus nobilis*), and the nationally endangered beetle *Globicornis nigripes*, are both associated with old orchards in the Wyre Forest, as is the red data book leafminer *Stigmella pyri*, which has been found in the leaves of old Perry Pear trees at Lodge Hill.

Amongst the invertebrates linked with low nutrient scrub and dwarf shrub heath (ISIS F003 - Scrub heath and moorland assemblage), the largest group are the Coleoptera (beetles), along with significant numbers of Araneae (spiders), Lepidoptera (butterflies and moths) and Diptera (true flies) and smaller numbers of Heteroptera (true bugs), Homoptera (mealy bugs and aphids) and Hymenoptera (sawflies, ants, wasps and bees).

The invertebrate community associated with areas of seepage and wet flush (ISIS W126 – Seepage assemblage) is characterised by large numbers of Diptera (true flies) particularly Stratiomyidae (soldier flies) and Tipulidae (crane flies). Trichoptera (caddis flies) also form a significant proportion of the assemblage with the remainder being made up of Coleoptera (beetles) and Mollusca (snails).

Flies include the nationally scarce hoverflies e.g. *Chalcosyphus eunotus*, the uncommon soldier-fly *Stratiomys potamida* and horse fly *Tabanus sudeticus*. The forest is also the centre of distribution for the nationally rare terrestrial caddis fly *Enoicyla pusilla* which is abundant and widespread throughout the woodland.

The Section 41 species, white-clawed crayfish (*Austropotamobius pallipes*), was formerly abundant in Dowles Brook and its tributaries, but in 1988 it was all but wiped out by 'crayfish plague', a fungal disease spread by the introduced signal crayfish. More recent survey work has indicated a recovery of white-clawed crayfish populations in a number of the tributaries of the Dowles Brook.

Dragonflies and damselflies occur along the major streams and brooks with the golden-ringed dragonfly (*Cordulegaster boltonii*), club-tailed dragonfly (*Gomphus vulgatissimus*), both banded (*Calopteryx splendens*) and beautiful demoiselle (*C. virgo*) and white legged damselfly (*Platycnemis pennipes*) all present.



Pearl-bordered Fritillary, Rebecca Wilson

2.6 Vegetation & Landscape Character

2.5.1 Vegetation Communities

Wyre Forest is one of the largest ancient semi-natural woodlands (ASNW) in England and the largest Grade 1 Nature Conservation Review (NCR) woodland site. The Wyre Forest National Nature Reserve is the largest of England's NNR designated primarily for their woodland habitat interest.

No attempt has been made to map the forest using the National Vegetation Classification (NVC) however a number of vegetation communities have been identified. NVC W10 (pedunculate oak-bracken-bramble woodland) and NVC W16 (oak-birch-wavy hair grass woodland) communities dominate as a mosaic over much of the forest and contribute to making Wyre Forest the most extensive area of such habitats in England. Pure NVC W16 occurs only on steeper slopes where the soils are shallow and acidic. NVC W10 is the commonest stand type in the forest, and conforms mostly to the wood anenome (*Anenome nemorosa*) (NVC W10b) or Yorkshire fog (*Holcus lanatus*) (NVC W10d) sub-communities.

The interest of the woodland is further increased by the location of the forest on a transition zone between western sessile and eastern pedunculate oak woodland on higher ground and lowland valley, mixed oak woodland on lower ground. Although the woodland communities have strong affinities to eastern pedunculate oak woodlands, these woods do not generally have the coppice structure or floristic diversity characteristic of western woodlands and Wyre Forest.

NVC W7 (alder-ash-yellow pimpernel woodland) is typically found in the flood plain of alluvial stream valleys, but also occurs on sloping ground as a component of wet sedge flushes. Two other communities are found, NVC W4 (downy birch-purple moor grass woodland) and NVC W8 (ash-field maple-dog's mercury woodland), but these are restricted in area and tend to form transitions with the two main types.

Due to wide variations in soil types, fertility, drainage and past management practices, a range of other habitat types occur within the forest.

Several grassland community types are present within the forest on alluvial valley bottoms and in plateau meadows associated with orchards and hedgerows but contiguous with the woodland, contributing to a larger habitat mosaic.

By far the most common is NVC MG5 (crested dog's tail-common knapweed grassland). Within this type, two sub-communities occur, the dominant being NVC MG5c (*Danthonia decumbens* heath grass type). In addition, NVC MG5 tends to grade on a few sites to acidic NVC U4 (sheep's fescue-common bent-heath bedstraw grassland), especially if the soils are shallow. NVC U4 often occurs on ant hills within NVC MG5 grassland.

NVC survey of the very species rich meadows at Bell Coppice found that both NVC MG5a (meadow vetchling) and NVC MG5c sub-communities were present. Some additional less important community types also occur (e.g. NVC MG1, MG6, MG7, MG9).

The slopes of the embankments and cuttings on the old railway track which runs through the forest have been invaded by scrub/woodland since the railway was abandoned in the 1950s. A mixture of scrub types are present, mostly NVC W22 (blackthorn-bramble) and NVC W23 (gorse-bramble) communities.

There are some patches of NVC W22 scrub in the meadow areas, for example Bell Coppice and Lodge Hill Farm. Scrub types, NVC W23 and W25, bracken-bramble community, are also present in the woodland both as a successional stage of woodland development, and as managed stands, where open habitat conditions are maintained.

NVC H12 (heather-bilberry heath) community and NVC H10 (heather – bell heather heath) are present but rather restricted and tend to occur on open sites within the woodland.

Also, three main NVC wetland types occur: M23 (soft/sharp flowered rush-marsh bedstraw rush-pasture), which occurs with MG5 grassland and within the woodland; M24 (meadow thistle-purple moor grass fen meadow), which appears to be the most typical vegetation stand type of the soligenous flushes within the woodland; and M27 (meadowsweet-

wild angelica mire), which is a frequent stand both within the woodland and in the meadows.

2.5.2 Landscape Character

Wyre Forest is an integral part wooded landscape of the Mid Severn Sandstone Plateau - National Character Area (NCA), that together with intensive farming, rolling estates and post-industrial landscapes of the Shirebrookdale coalfield, defines the character of the area.

The forest's underlying Carboniferous Coal Measure sandstone, ancient semi-natural woodland, hedged pastures, patches of lowland heathland, industrial heritage and streams and rivers set in steep sided valleys, are all examples of key features of the area.

The forest is a remnant of the once extensive tract of ancient woodland that covered much of south Shropshire, southwest Staffordshire and north Worcestershire. This preserved continuity makes the forest not only distinctive in the landscape in its own right but, along with the wide range and mosaic of habitats, has contributed to the notable species diversity it contains. A mixture of woodland and grassland was typical of most British forests in medieval times, and Wyre is one of the few forests left in Britain which still retains this type of structure.

2.7 Heritage

The environmental and cultural character of Wyre Forest and its setting is highly distinctive. It is located in a landscape that has broadly evolved as a result of the interaction of the River Severn with an area that lies at the boundary of a high plateau and the rolling lowlands leading towards the Severn Vale. 10,000 years of socio-political, cultural and economic forces have adapted and modified the landscape to create a place that has a definitive signature character.

2.6.1 Early Prehistory

The earliest recorded settlement is located just east of modern Wyre, north of Wribbenhall. The site was excavated revealing evidence of temporary shelters and a hearth that contained the charred remains of hazelnut fragments. Scientific dating of the fragments revealed they were around 8800 years old. This is within the period of prehistory called the Mesolithic (10,000 - 4,000BC): a time when a nomadic hunter gatherer society was developing the technology of flint working to a very high standard. The site near Wribbenhall has been interpreted as a seasonal hunting camp. The hazelnuts would have been gathered from the surrounding woodland.

A wide distribution of discarded flint artefacts has revealed how the landscape was being intensively exploited as a natural hunting resource throughout earlier prehistory. The discovery of a Neolithic (4,000 - 2,300BC) flint axe at Dowles in addition to a group of Bronze Age (2,300 - 700BC) axes near Bewdley is evidence of the earliest farmers settling in the locality. At this time, the large-scale clearance of post-glacial wildwood was common practice as society became less nomadic and began to manage the landscape and its natural resources to support a slowly expanding population. This is tantalising evidence of prehistoric communities beginning to occupy the landscape. Aside from the Wribbenhall site, direct evidence of earlier prehistoric settlement remains elusive prior to the Iron Age (700BC - 43AD).

2.6.2 The Later Prehistoric and Romano-British Periods

The arrival of the Iron Age saw a population that was continuing to increase and, in common with much of Britain, society had become largely settled and also organised into large tribes. It is from this period that we can see the presence of ancient society preserved in the landscape of Wyre. In 2007 a Lidar survey of Wyre (light detection and ranging) was carried out as part of the Grow With Wyre project. Lidar records the surface of the land in high detail and it has revealed the earthen banks and ditches of several prehistoric settlements commonly located on promontories of high ground that overlook the Dowles and Severn Valleys.

An example is at Kingswood, which is situated just beyond the central-northern edge of Wyre. This is the largest of the settlements and it may have been a local administrative centre and meeting place for the extended family groups that lived in smaller settlement in the surrounding area.

By the time of the Roman advance across Britain in the 1st - 2nd centuries AD, Wyre's landscape was settled by an extensive farming community that also consumed goods via established local, regional and possibly international markets. At this time the identity of Wyre Forest was still not established. Indeed, the landscape may have largely been devoid of mature trees, although woodland management and coppicing would have been established practice: wood products being a primary resource. There are no Roman villa sites recorded in Wyre, although this is not unexpected because villas are not commonplace in North Worcestershire or South Shropshire. Roman period coins have been found near Hawkbatch Farm in the East of Wyre, adjacent to the Severn. However, West of Wyre is the impressive Wall Town Roman Fort, which survives as a large earthwork. This was a military site during the early decades of the Roman campaign. However, by the 2nd century AD the site had evolved into a larger civilian settlement that remained occupied at least until the 4th century AD.

2.6.3 The Post-Roman and Medieval Periods

This marks the beginning of a significant historical period which saw the Forest of Wyre defined as a distinctive place within the landscape. The early medieval period (6th - 11th century AD) is sometimes referred to as The Dark Ages. In Wyre's landscape this is, perhaps, an apt description, at least in terms of established archaeological sites.

There is currently no evidence of when communities migrated from established prehistoric settlements towards the settlements that became established as towns, villages and hamlets as the medieval centuries progressed. Nonetheless, there is no suggestion that the landscape was abandoned following the Roman withdrawal. Indeed, documentary evidence refers to the presence of a powerful Royal Manor at Kinlet, which was held at one time by Edith, Queen to Edward the Confessor (1042 - 1066). The Manor would not have existed in isolation. Small dispersed settlements and farms would have been established within woodland clearings, alongside drove roads and at the edges of Wyre. The landscape was not necessarily heavily wooded at this time. Historic Landscape Characterisation projects in Shropshire and Worcestershire suggest prior to current field enclosures there were many areas of unenclosed heathland associated with areas of managed woodland.

Wyre Forest was established by the 11th century gaining greater status throughout the late medieval period (12th - 15th century AD). It was a royal hunting chase during the early part of this period, subject to Forest Law, but was also under the control of Roger de Mortimer before reverting back to the Crown. At least three areas of park existed in Wyre. These were associated with Cleobury, Tickenhill Palace and Ribbesford. Throughout the late medieval period the impact of settlement, industry and farming began to shape the cultural landscape of Wyre into something resembling its modern form. The relationship between Wyre Forest and the development of Bewdley as a key river port during the 15th century was a direct result of the economic potential of the medieval Forest. West of the forest Cleobury Mortimer developed during the 14th century at a time when the Manor was held by Roger de Mortimer, later becoming a market town. Many of the small, dispersed settlements, isolated farmsteads and smallholdings that characterise Wyre today have origins in the late medieval period. Industrial activity was also beginning to influence the landscape at this time. Snuffmill with its associated group of ponds located within the deep natural cutting, once known as The Golden Valley, is documented as far back as 1336. Dowles Brook also supported a string of mills leading to modification of the watercourse and the construction of more water storage. In the west of Wyre iron ore was being mined from the 14th century.

2.6.4 The Post-medieval Period

The period beginning in the 16th century saw an increase of industrial land use, coppicing and craft specialisation. Wyre was at the heart of the looming age of industrialisation. By the 17th century, the extent of Wyre was broadly similar to the modern forest. The character of Wyre, however, is likely to have changed considerably following the decline and break-up of the parkland estates, which heralded an increase of woodland production and intensive land management. Small and larger-scale coal mining became established during the 17th and 18th centuries leaving a distinctive signature in the form of a succession of pits in the landscape.

2.7 Heritage

Craft specialisation increased, however, and charcoal production in support of industry dominated and, perhaps, peaked before the dominance of coal created a substantial demand for coppice wood. In the mid-nineteenth century coppice management began to change to incorporate the retention of selected trees to be grown on through several coppice rotations to provide a source of larger diameter timber, in the system known as 'coppice with standards'. The landscape-scale impact of this phase of intensive management is clearly evident in the results of the Lidar survey, which revealed an intricate network of tracks, substantial extraction tracks or "tushings" along with coppice boundaries, woodbanks and ditches; all bearing testament to the scale of activity.

2.6.5 The 19th and 20th Centuries

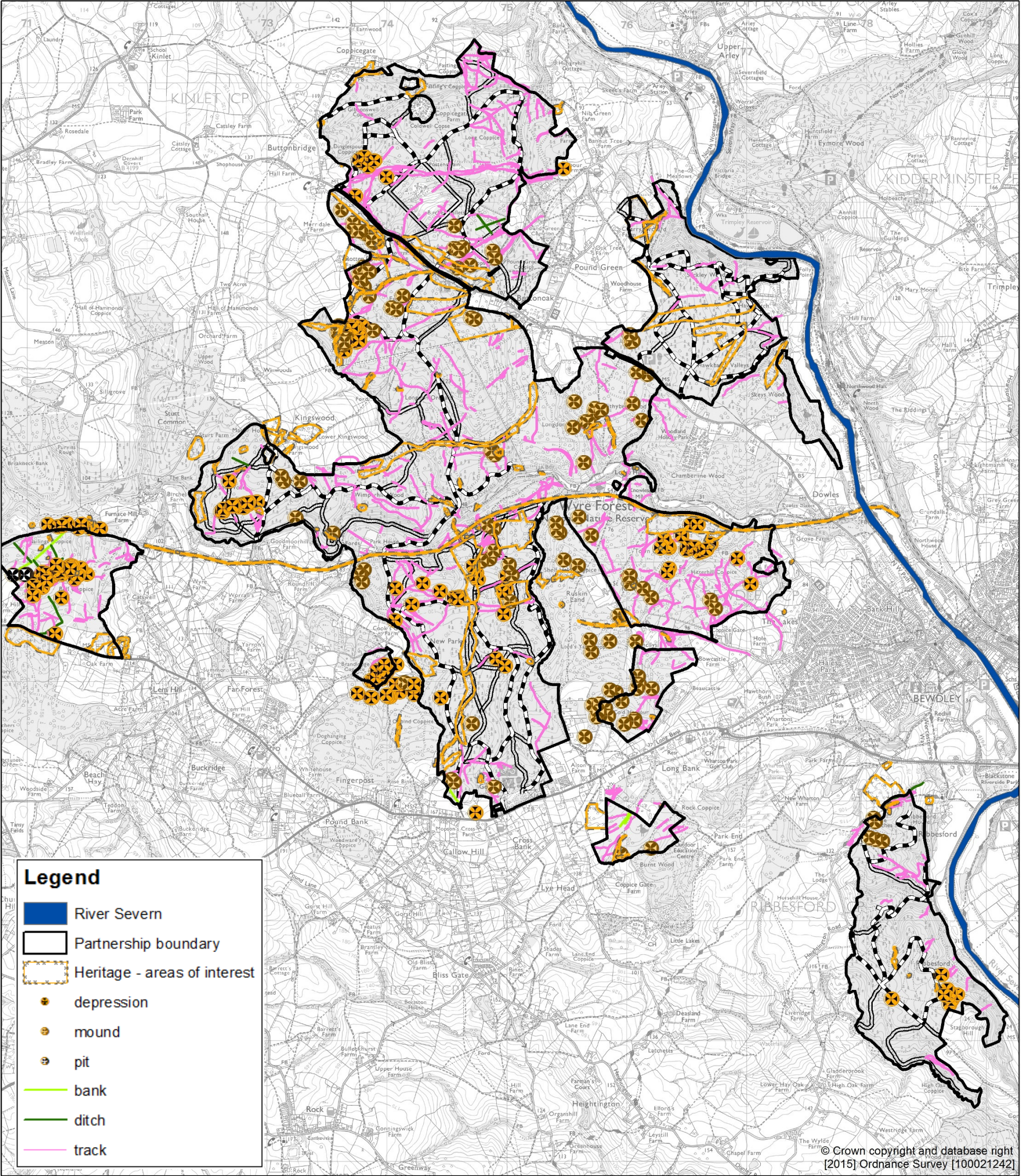
The 19th century marked the beginning of a period of gradual decline in Forest industry. This was to some extent offset by the increase in fruit production that, to some extent, profited from the construction of the Bewdley to Woofferton and Severn Valley railway lines. The Great Western

Railway opened up access throughout the West Midlands and Welsh Marches regions, operating for a century until 1963. Many new orchards were planted and fruit production increased to an industrial scale in order to serve both local consumption and the markets of Birmingham and the Black Country.

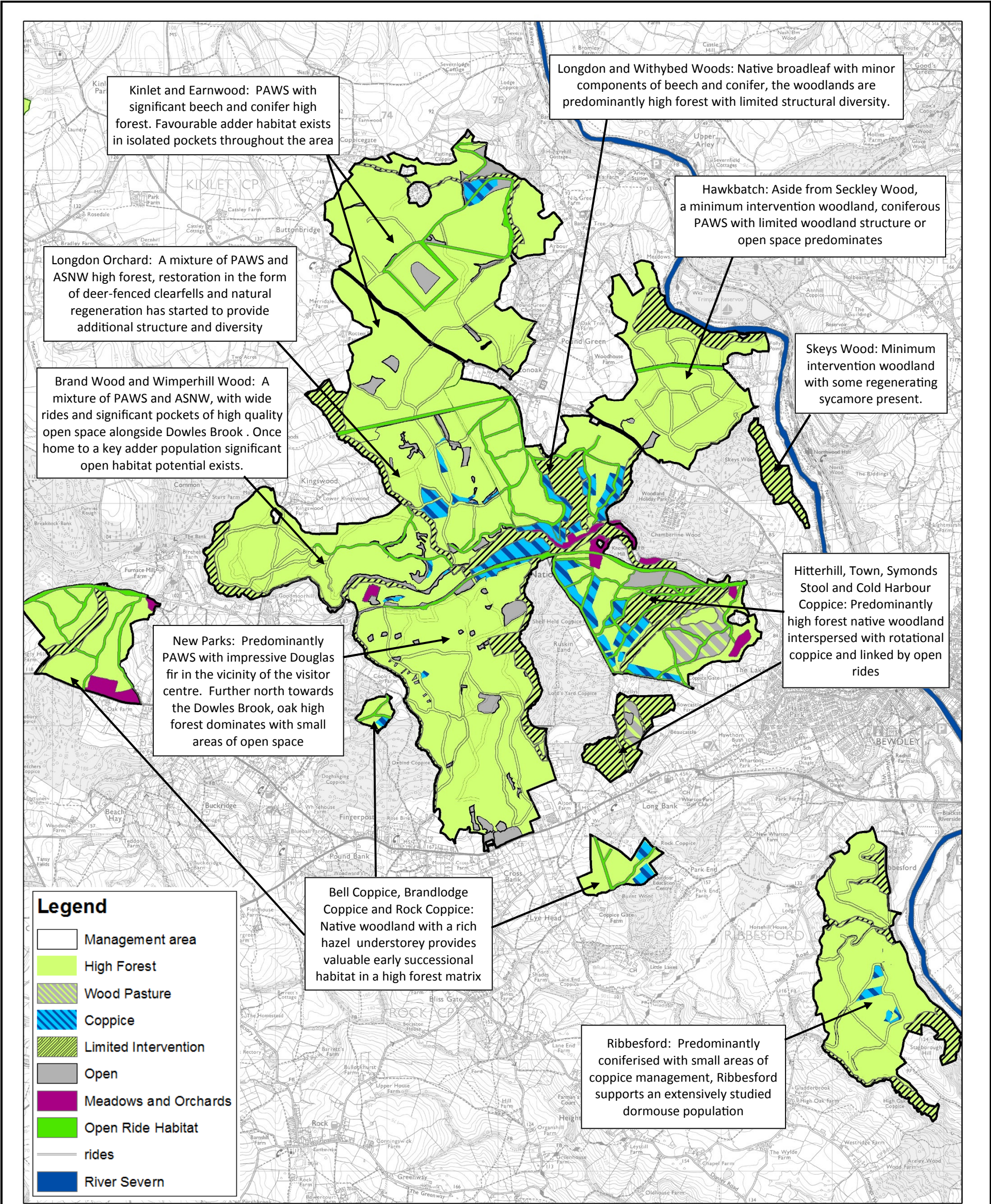
The prominence of orchards declined throughout the 20th century however, and the effect on the landscape is still evident in the field systems, particularly, to the south and west of the Forest. In the early decades of the twentieth century the demand for oak bark for tanning, oak casks for the potteries industry and charcoal went into steep decline. The value of coppice products fell by more than half over just a few years and, during the 1920s and 30s, large areas of coppice were abandoned. The coppice stools were generally reduced to a single stem.

The map on page 20 illustrates the abundance and diversity of heritage features discovered throughout the Wyre Forest.

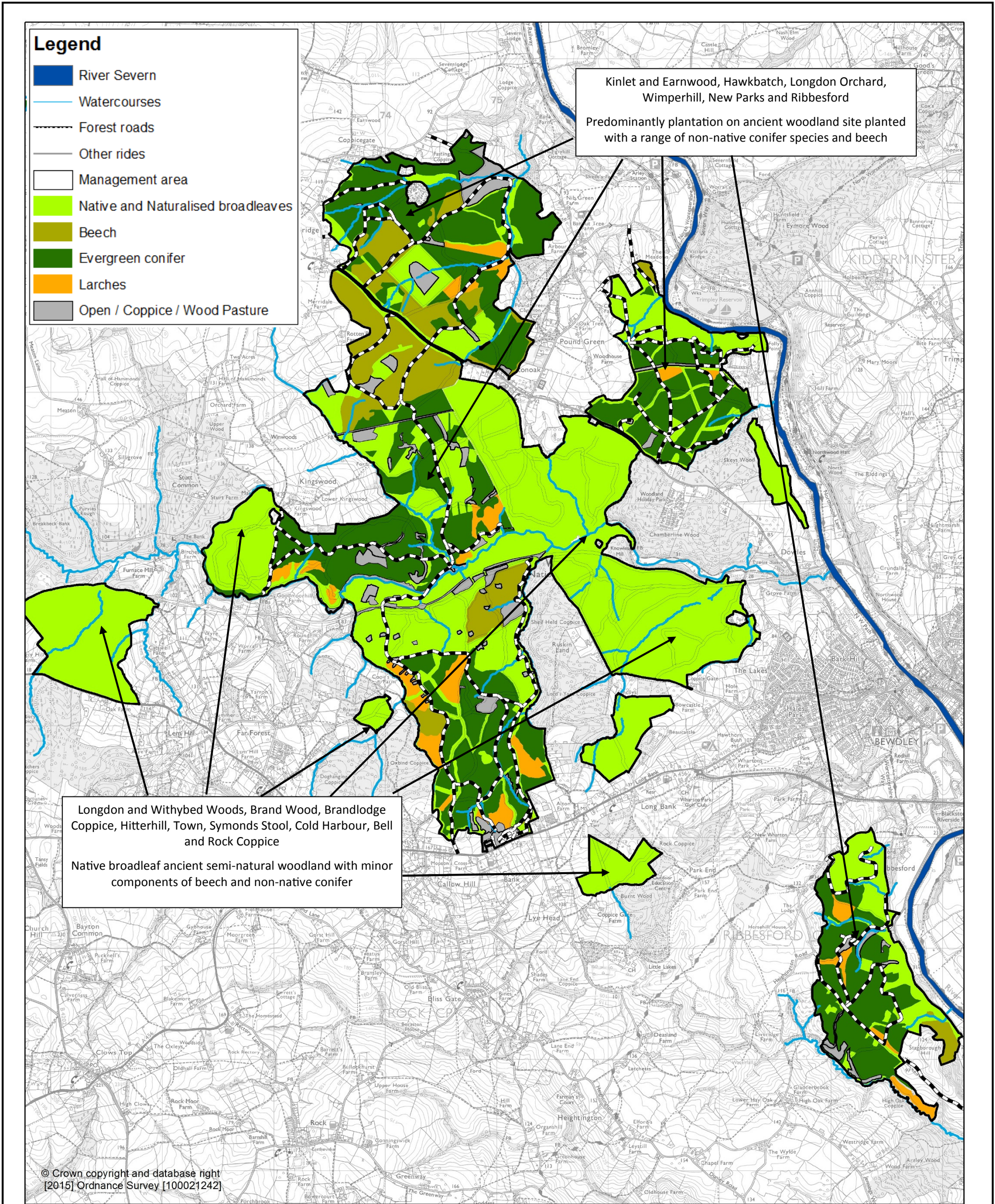
2.7 Heritage



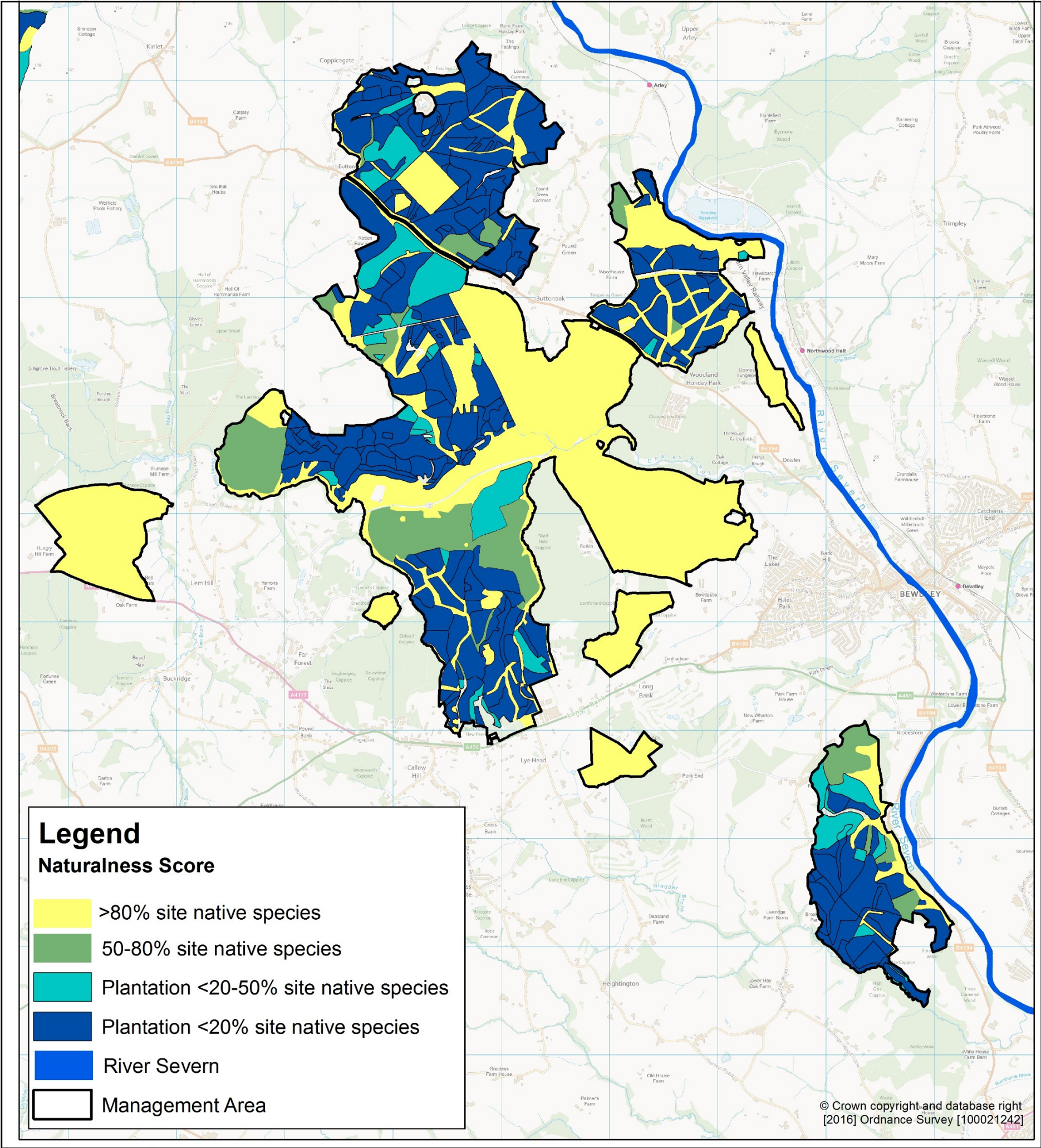
2.8 Current Habitats of the Wyre: 2016



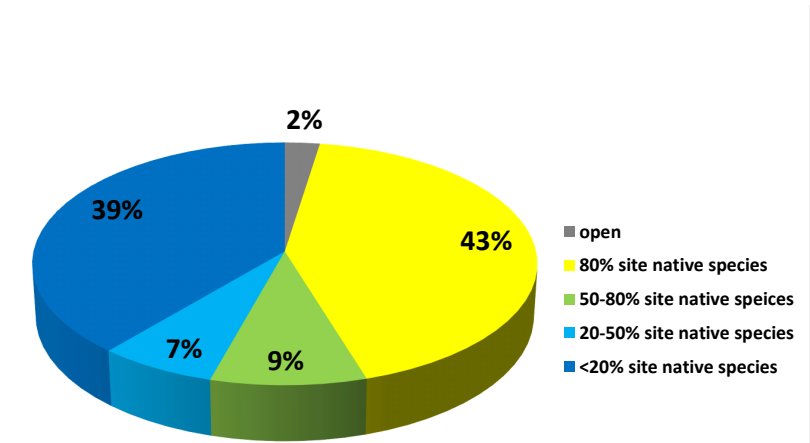
2.9 Current Woodland Composition of the Wyre: 2016



2.10 Current Naturalness Scores: 2016



Naturalness scores for the Wyre management Area: 2016



NE landholding data is approximate as landholding has not been mapped to the sub-compartment level. Based on observations in the field 95% of NE landholding has been categorised as naturalness class 1 and 5% has been categorised as naturalness class 2

The map and pie chart illustrates the composition of the Wyre Forest Management Area by percentage cover of site native species including oak and other native broadleaves on a sub-compartment basis.

In 2016, 24% of the woodland area is comprised of site native species (primarily oak) - the remainder supports varying amounts of non-natives species of conifer and beech.

The gradual removal of non-native species over the duration of this 10 year management plan will continue to be monitored using naturalness scores to allow management plan delivery to be monitored.