PROTECT OLDHOUSE WARREN

Mid Sussex District Plan consultation

SUBMISSION ON THE PLACE OF WORTH FOREST IN THE DISTRICT PLAN

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16th December 2022

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WORTH FOREST VISTA

1. Lack of recognition of Worth Forest

It is striking that the Draft Plan completely lacks recognition of the specialness of Worth Forest.

Major - and correct - attention is given to the specialness of Ashdown Forest...but no targetted attention is given to Worth Forest. Thus, Ashdown Forest's seven km buffer zone for residential development (created because of its status as a Special Protection Area and Special Area of Conservation) comes within two km of Worth Forest, but Worth Forest itself is afforded not a shadow of equivalent protection.

This situation is replicated in a lack of targetted attention given to St Leonard's Forest in the Horsham District Plan.

The two forests of Worth & St Leonard's are twins[i] and should be considered a shared resource between Horsham DC and MSDC. They constitute the raison d'etre for the extension of the High Weald AONB westwards to Horsham. They are the AONB's western backbone.

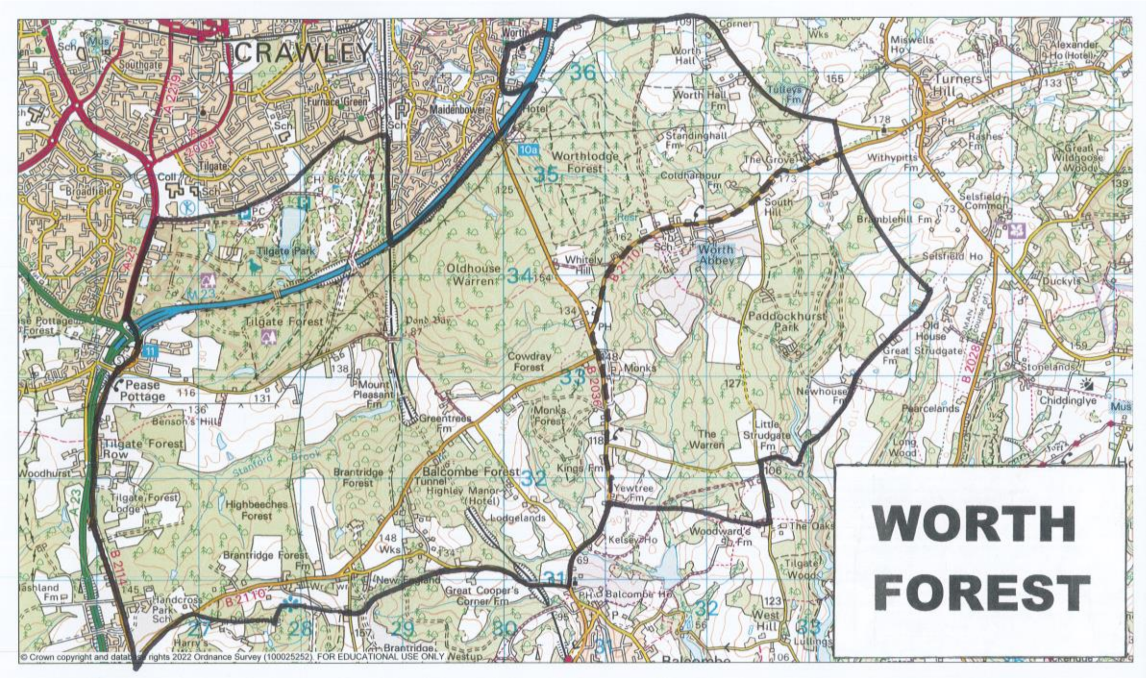
The combined size of the twin forests is over half as big again as that of Ashdown Forest.

2. Worth Forest defined

We take Worth Forest (see maps x2) to be the footprint of predominantly wooded country largely co-extensive with, and in continuity with, the footprint of the medieval hunting Forest of Worth.

Its **western boundary** is the A23 (an ancient watershed route). Its **southern boundary** embraces the ancient watershed ridge route which is now the B2110 High Street, and also takes in the ridges' southern slopes (Balcombe Forest and Monks Forest). These southern

boundaries are still recognisable in part by earthworks and ancient veteran trees. The **eastern boundary** mostly follows the boundary of the High Weald AONB, past Tulleys Farm. The **northern boundary** is dictated by the edge of Crawley's built-up area and the M23, but takes in Tilgate Park and the 'cathedral of the Forest': ancient Worth Church.



The land use history and vegetation of Paddockhurst Park and The Warren are very similar to Worth Forest and directly border it, and for that reason we suggest they be treated as part of Worth Forest. (The boundary between them is shown on the maps by a black dotted line).

Worth Forest's continuity with the ancient forest is expressed in its distinctive vegetation communities and fauna, its absence of settlement, its extensive archaeological and cultural heritage from the late prehistoric to early modern periods, and in its degree of 'wildness', which is plain to see despite the Forest being partly bisected by the M23 motorway, and part-eroded by built development (at Maidenbower and now Pease Pottage).

This degree of 'wildness' is emblemised by the sight of roding Woodcock crossing the Forest in the summer dusk; the sight of 'yikkering' Goshawk passing just above the forest canopy; and the churring of Nightjar from open places across the Forest. It is emblemised by the sight of the tiny blooms of Elfin Bellflower and Bog Pimpernel on marshy forest rides; the sight of Shining Dumble Dor beetles wonkily flying in Oaken glades; Lesser Stag Beetles scuffling in the crumbled wood at the foot of an ancient Beech hulk; and the sight of some of the most diverse and colourful displays of macro-fungi in Sussex.

3. Treatment of Worth Forest in the planning process

3. 1. West Sussex County Council

The 'West Sussex Landscape Character Assessment' (WSCC, 2000) correctly singled out the major parts of Worth Forest and St Leonard's Forest as a Landscape Character Area, but truncated the forests by separating them from their southern parts, south of the ridgetop watershed. In Worth Forest it excluded the southern part of High Beeches, and - crucially - Monks Forest and most of Balcombe Down. (In St Leonard's Forest it excluded Plummers Plain, Newells, Leonardslee & Free Chase).

The WSLCA correctly lists a number of Key Characteristics. There are, however, significant omissions. Thus, the assemblage of veteran trees in Worth Forest is omitted. It is very large indeed, and of exceptional importance. The unimproved rides system has preserved assemblages of marsh, gully flush, and wet and dry acid grassland, with a wide range of scarce, rare and charismatic species. The size and lack of fragmentation of this combined woodland block (Worth & St Leonards) is quite exceptional within the High Weald.[ii]

3.2. Mid Sussex District Council

MSDC's Landscape Character Area 8 defines Worth Forest similarly to the SWLCA, with its southern reaches mistakenly excluded (11.3), and insufficient recognition of the veteran trees assemblage and the gill, gully and wet grassland assemblage (though we welcome the inclusion in the draft District Plan's DPN1 of veteran trees). It under-emphasises the over-arching importance of the sheer size and relatively un-fragmented character of the Forest's woodland block. It also underestimates the large stands of semi-natural broad-leaved woodland that survive, both in the form of large, inter-connected sites (particularly in the southern blocks - High Beeches and Brantridge, Balcombe Down and Monks Forest) and networks of small broad-leaved sites, both linear and compact (which make up a sizeable fraction of both Worth Lodge Forest and Oldhouse Warren).

The assessment correctly (11.1) acknowledges the links between the medieval hunting forest of Worth and the large deer park and waste of Paddockhurst and The Warren. They share a similar history and character and share similar vegetation communities. They were directly joined till modern times, and were, and still are, directly adjacent now, with a continuity of ancient woodland between the two. This recognition suggests that the footprint of Worth Forest would best be considered to include both Paddockhurst Park and The Warren.

The discussion of **Biodiversity** (11.2) greatly understates the particularity and outstanding richness of Worth Forest, and depends upon noting the single SSSI (Site of Special Scientific Interest) and single LWS (Local Wildlife Site - erstwhile SNCI). Biodiversity is covered BELOW in this submission, **but at this point it is necessary to emphatically state that Worth Forest is drastically under-designated for its wildlife interest at both national and local levels.**

Much of the two-part Worth Forest SSSI should not have been de-designated in 1987, and still retains much of the quality (and the ability to restore damaged quality) which led to its original designation (and this is true in part, too, of the much-reduced St Leonard's Forest SSSI). Large areas of Worth Forest are of SSSI standard. This applies to the whole length of the almost wholly unmodified Stanford Brook West and its feeder gills, gully flushes and valleysides (within Brantridge and High Beeches Forests) and Stanford Brook North, and to Monk's Forest and Balcombe Forest's gills and valleysides.[iii]

Much of Worth Forest is grossly under-designated as LWSs. This means that large assemblages of high nature value veteran trees in Oldhouse Warren, Balcombe Down and Forest, Cowdray Forest and Monk's Forest are left without that status, as are the lacework of high value rides within Oldhouse Warren, and the high value gill, gully, bog moss and wet rush grassland sites within the forest cover.

There is an obvious and close relationship between the areas within the twin forests currently designated as LWSs and the areas which have public access. Sites with full public access have been recognised as LWS (the Forestry Commission Estates, Tilgate Park and Buchan Country Park) as have sites with local resident access (the Hyde Estate gills). High value sites forbidden to the public remain largely unrecognised, both in planning policy and within the official biological recording system[iv].

Planning recognition and, indeed, any kind of public recognition has plainly been greatly stunted by the lack of public access to large areas of Worth Forest.

Paddockhurst Park and The Warren are better served by SSSI and LWS designations, perhaps because of the higher public awareness of Wealden sandrock outcrops, one of which is in Paddockhurst. The Wakehurst and Chiddingly Woods SSSI covers the main Paddockhurst Park gill and sandrocks, and LWSs cover three Paddockhurst purlieu woods (Grove, Threepoint and Green Woods) and The Warren's main gill and adjacent forest.

The discussion of **historic character** (11.3 - 11.6) similarly under-estimates the resource within Worth Forest. Thus the archaeology of the post-medieval warrening economy[v] is unmentioned, though it is extraordinarily complete across the Forest, with the full array of pillow mounds intact or otherwise visible in Bensonhill Wood, Tilgate Forest Lodge Estate, High Beeches Forest, Cowdray Forest, Oldhouse Warren and Worth Lodge Forests. The oldest cohort of the veteran tree assemblage is part-contemporary with this warrening archaeology, though some trees are late medieval and early post-medieval in age.

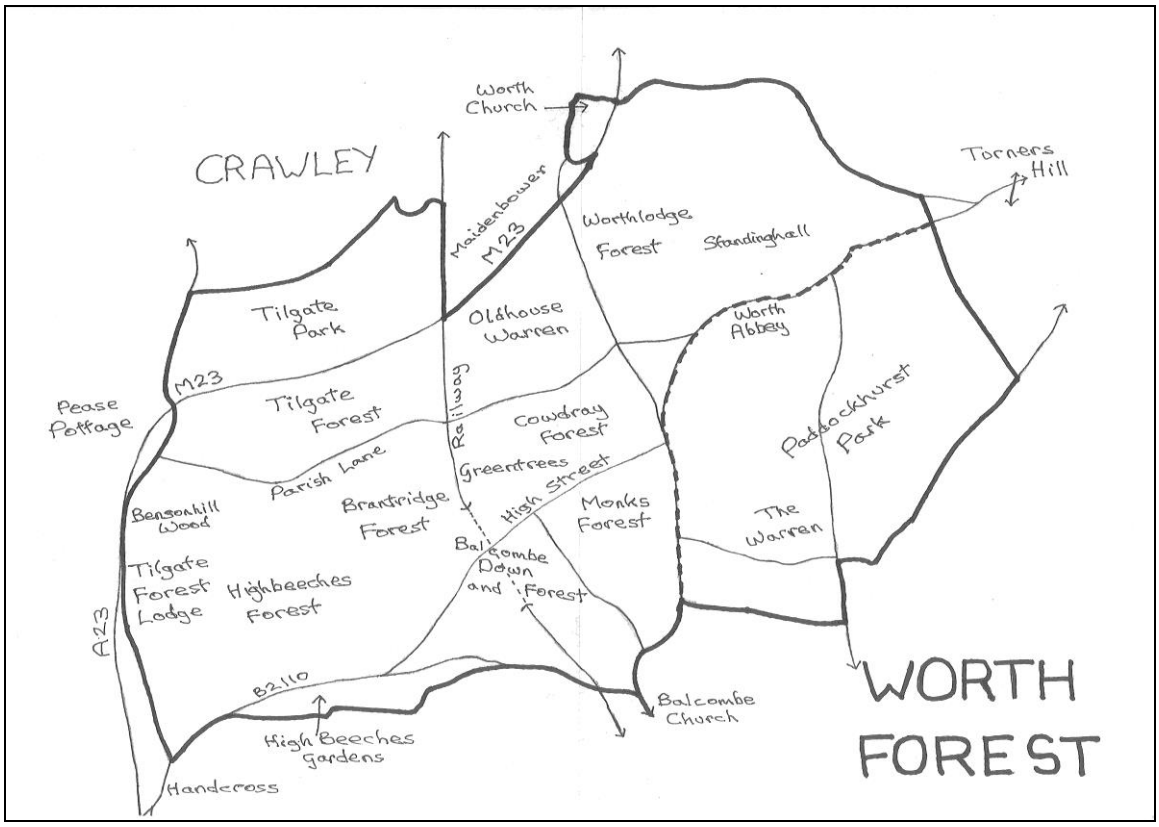
3.3. High Weald Area of Outstanding Natural Beauty

The High Weald AONB is not a planning authority and its Management Plan is an advisory document. Its identification of key issues is limited to the given legal framework.

Within this framework, and within the framework of this submission, we particularly support Objective S2 (settlement), Objectives W1, W2, W3, W4 (woodlands), Objectives FH3, FH4 (field and heath), and Objectives OQ1, OQ2, OQ3, OQ4 (public usage and access).

However, it is noteworthy that the major sub-landscapes of extensive, un-fragmented woodland blocks and related open unimproved habitats, do not have any autonomous, free-standing status within the Plan. This is a significant omission. These 'forests' (loosely defined as large-scale woodland blocks with their related open habitats) generate robust ecosystem diversity which is much larger than the simple sum of their parts. Recognition of 'forests' (in this submission pertaining to Worth Forest) would generate a

robust recognition of sustainability relative to multiple public goods: biodiversity, cultural and archaeological conservation, public access and usage, and settlement and business planning.



4. The specialness of Worth Forest

4.1. Distinctiveness of wildlife

For a whole range of species, vegetation communities and faunal communities Worth Forest stands out as a highly distinctive entity.

The account of the distinctive high value wildlife community of the Forest BELOW was drafted using the framework of the Ratcliffe Criteria[vi] (1977 et al). These criteria measure the biological worth of sites by examining their Typicalness, Fragility, Size, Diversity, Naturalness, Rarity, Ecological coherence, Potential Value, and Recorded History.

4.2. Birds

The assemblage of breeding birds of Worth Forest includes two large raptors that depend upon the extensive and un-fragmented character of its forest cover. These are the **Honey Buzzard** and **Goshawk**. Goshawk is easily seen and heard across the whole Forest. Honey Buzzard is rarer and more discrete, and, as a summer resident, it migrates south in winter. Both birds are shy of disturbance and use the most infrequently visited parts of the Forest for breeding.

Hobby, another summer resident, is frequently seen. **Peregrine** and **Sparrowhawk, Buzzard, Red Kite,** and **Kestrel** are frequent. **Tawny Owl** is frequently heard and often seen, and **Barn Owl** is seen (e.g. Greentrees). **Raven** is often heard and frequently seen.

Woodcock breeds in numbers in Worth Forest, and the Forest has been called a "Woodcock hotspot". Woodcock is a woodland wader that has drastically declined in our Wealden countryside as a breeding bird, and the three almost contiguous forests of Worth, Ashdown and St Leonard's are important redoubts for them. Roding[vii] birds are present in numbers across Oldhouse Warren, Greentrees, Worthlodge and Brantridge Forests. Goshawk has been seen to attack roding Woodcock, and it is likely that other raptors do too, such as Hobby. **Nightjar** is a summer resident in High Beeches and Brantridge Forests, Balcombe Down and Oldhouse Warren. It has been present too in Tilgate Forest. Both Woodcock and Nightjar are ground nesters and therefore require freedom from disturbance in the breeding season.

The rough and structurally diverse nature of Worth Forest's vegetation enables the rare **Lesser Spotted Woodpecker, Redstart,** and **Spotted Flycatcher** to retain small breeding groups in Worth Forest. In similar, but semi-open areas, particularly with Silver Birch, **Willow Warblers** breed (as in High Beeches, Brantridge, Monks and Worthlodge Forests, Balcombe Down and Oldhouse Warren). **Grasshopper Warbler** was heard in Oldhouse Warren in 2022. A variety of **Tits** are present in numbers - **Marsh** and **Coal Tits, Long Tailed Tits, Great** and **Blue Tits**, often seen with **Nuthatch. Firecrest** breeds in good numbers. **Tree Pipit** is occasionally seen and heard. **Grey Wagtail** breeds on the three branches of Stanford Brook.

Cuckoo is still present.

In winter **Golden Plover** appear on the Parish Lane ploughland. In winter, too, when there are many more over-wintering Woodcock, they fly out from the Forest's cover at dusk, and drop onto the fields to forage. **Woodlark** use these open areas too, such as Whiteley Hill.

Brambling feeds in winter finch flocks, and **Siskin, Crossbill** and **Lesser Redpoll** are frequently heard and seen in mixed parties in the canopy, widely across the Forest, particularly where it is conifer dominated.

4.3. Higher plants

For a range of plant species with high rarity value and high indicative value for ecological continuity Worth Forest is a particular redoubt (with St Leonard's Forest). **Small leaved Lime**, a relict ancient woodland species from the late wildwood Atlantic Period has one of its major Sussex redoubts in Worth Forest, extending from Brantridge Forest east to Turners Hill.[viii] The twin forests form the major refuge for the very rare **native form of Lily of the Valley**. It is present in Worth Forest at Oldhouse Warren and Brantridge Forest, though it is best known from St Leonard's Forest's 'Lily Beds'. **Wild Daffodil** has spectacular displays in Brantridge and Balcombe Forests, and smaller sites in Cowdray Forest (as well as characterising a whole sub-landscape centred on The Hyde Estate in St Leonard's Forest).

Worth Forest forms a major refuge for plants of the highly threatened and declining Cicendion vegetation community,[ix] which is dependent upon customarily open, moist and heathy ground disturbed by periodic forestry traffic. Thus, **Elfin / Ivy Leaved Bellflower,** *Wahlenbergia hederacea***, Bog Pimpernel,** *Anagallis tenella***, Bog Violet,** *Viola palustris***, Green Ribbed Sedge,** *Carex binervis***,** and **Bulbous Rush,** *Juncus bulbosus***,** are largely confined to Worth, St Leonard's and Ashdown Forests. **Chaffweed,** *Centunculus minimus*, a very rare and steeply declining pimpernel species, has key redoubts in Worth Forest, where it was recently re-discovered in Oldhouse Warren. **Lousewort,** *Pedicularis sylvatica*, survives in Oldhouse Warren and elsewhere in the twin forests. **Allseed,** *Radiola lineoides*, **Bristle Club Rush,** *Isolepis setacea*, and **Slender Parsley Piert,** *Aphanes australis*, similarly use Worth and St Leonard's Forests as fastnesses. **Heath Milkwort**, *Polygala serpyllifolia*, has a quite distinctive stronghold in Worth and St Leonard's Forest. It is present in Oldhouse Warren on heathy ground.

Round leaved / Bog Water Crowfoot, *Ranunculus omiophyllus***, Hybrid Skullcap,** *Scutellaria x hybrida (S. galericulata x S. minor)*, **Bog Pondweed,** *Potamogeton polygonifolius***, Creeping Forget-me-not,** *Myosotis secunda***, Marsh Pennywort,** *Hydrocotyle vulgaris***,** and **Floating Club Rush,** *Eleogiton fluitans*, all have their quite distinctive stream and marsh Sussex strongholds in Worth, St Leonard's and Ashdown Forests.

Lemon Scented Fern, *Oreopteris limbosperma*, has a Sussex distribution defined by these three Forest strongholds, though it can be found on drier ground in rides and glades across Worth and its two sister Forests.

Fine Leaved Sheep's Fescue, *Festuca filiformis*, **Harebell**, *Campanula rotundifolia*, **Allseed**, *Radiola linoides*, **Bilberry**, *Vaccinium myrtillus*, **all three heathers** (**Cross Leaved**, *Erica tetralix*, **Bell**, *E. cinerea*, **Ling**, *Calluna vulgaris*), **Dwarf Gorse**, *Ulex minor*, **Heath Rush**, *Juncus squarrosus*, **Star Sedge**, *Carex echinata*, **Common Yellow Sedge**, *C. demissa*, **Smooth Stalked Sedge**, *C. laevigata*, and **Pale Sedge**, *C. laevigata* all have particular distinctive refugia in Worth Forest and St Leonard's, buffering their long-term decline and distributive fragmentation.

4.4. Lower Plants: mosses and liverworts and algae

Worth Forest in recent times is under-surveyed for lower plants (mosses, liverworts, lichen, fungi). It was probably better surveyed in the 19th century and the first 40 years of the 20th century. From 1805 we know of such high value species as the temperate rainforest **Pendulous Wing Moss**, *Antitrichia curtipendula*, and **Fingered Cowlwort**, *Colura calyptrifolia*, a liverwort last seen in Tilgate Forest in 1926 .

Nevertheless, we know it currently has a group of key old forest indicator species for ecological continuity of forest cover in humid, wet conditions such as were found in the Atlantic Period, seven to five thousand years ago (the 'temperate rainforest' period). Thus, the charismatic **Handsome Woollywort**, *Trichocolea tomentella*, a liverwort of gully flushes, has an important Sussex refugia in Worth Forest, where it is found in Oldhouse Warren and Brantridge Forest. **Flagellate Feather Moss**, *Hyocomium armoricum*, has a similar oceanic distribution, with strong relic populations in Worth Lodge Forest and Oldhouse Warren, and in the Worth Forest SSSI. **Shining Hookeria**,

Hookeria lucens, has the same temperate rainforest distribution, with populations in Worth Lodge Forest, Monks Forest, Oldhouse Warren, Worth Forest SSSI and Brantridge Forest. **Least Pouncewort**, *Lejeunea cavifolia*, a liverwort, has a similar refugia in Worth Forest, at Oldhouse Warren. So does **Little Shaggy Moss**, *Rhytidiadelphus loreus*, in Worth Forest SSSI. **Dark Stonewort**, *Nitella opaca*, a freshwater macro-alga, is found in Worth Forest in a flooded rut on a ride in Oldhouse Warren. It has recently been found at only three other Sussex sites.

4.5. Lower Plants: lichen

Historically (1805) Worth Forest and St Leonards Forest had a superb 'old forest' lichen flora[x] with three foliose **Lungwort species**, *Lobaria spp., Sticta limbata*, *Parmelliella plumbea, Pannaria rubiginosa, Nephroma laevigatum*, *Peltigera horizontalis, Usnea florida, U. articulata*, et al. Whilst Worth Forest now suffers in air quality because of its proximity to a large built up area and a motorway (as well as from large background levels of air pollution) it still retains a moderately good assemblage of epiphytic lichen, particularly on its older trees, characterised by such abundant species as *Parmotrema (ex-Parmelia) perlata, Flavoparmelia (ex-Parmelia) caperata*, and *Lecanactis abietiana*. It still has the epiphytic 'old forest' indicator species *Thelotrema lepadinum, Phaeographis dendritica*, and *Usnea ceratina*, and may still have *Cresponea (ex-Lecanactis) premnea* and *Lecanactis subabietina*. It also has a number of other old woodland species: - *Enterographa crassa, Normandina pulchella, Pertusaria hemisphaerica, P. hymenea*, and *Chrysothrix candelaris*, with *Cladonia diversa* (Stanford Brook West). There are areas of *Cladonia furcata* lichen hearth on rides, as in Oldhouse Warren.

Given the high number of veteran trees in sheltered conditions it is very likely that experts would find other surviving old forest lichen species still extant in the Forest.

4.6. Fungi

Worth Forest and St Leonard's Forest have the conditions which have facilitated some of the richest mycological diversity in the Weald.

These conditions are given by an intimate mixture of layered sands and clays, sometimes dry, sometimes soggy, sometimes acidic, sometime neutral or even calcareous, with impacted drainage[xi]. They nurture a complex mixture of fungi-rich broad-leaved trees like Birch and Beech, Oak and Alder, with Scots Pine and other conifers like Norwegian Spruce, Western Hemlock and Larches.

In good seasons there can be spectacular displays. Spreads of **Penny Bun Bolete, Bay, Lurid, Suede, Brown Birch, Orange Oak, Orange Birch, Larch, Velvet, Slippery Jack,** and other **Boletes** can be found on early season visits. Alongside them can be found troops of poisonous **Panthercaps, Blushers, Grey Spotted Amanitas,** and **Fly Agaric, Grisette, False Death Cap, Death Cap** and **Destroying Angel**. They are followed by a kaleidoscope of **Brittlegills**, *Russulas*, often in primary reds and yellows, admixed with purples, greys, greens, buffs, whites, and blue-greys. Up to four species of **Chanterelle** may be seen, as can both species of **Wood Urchin, Hedgehog Fungi**. The ravishingly beautiful and scarce **Violet Webcap**, *Cortinarius violaceus* is present, with

many of its attractive cousins such as **Blue Leg, Goatcheese, Rooting, Dappled**, **Scaley** and **Gassy Webcaps,** variously under Spruce or Birch, Beech or Alder. There is the **Sphagnum Webcap** on Bog Moss carpets, and the **Sphagnum Greyling**, *Tephrocybe palustris*, is also found on Bog Moss (Brantridge Forest). The mossy boles of mature trees sport the tiny moss-loving **Blue Bonnet**, *Mycena pseudocorticola*. The rides show big displays of **Saffron** and **Woolly Milkcaps** and their look-alike cousins, and they can bear displays of old grassland fungi such as **Waxcaps** (and also in St Leonard's Forest) though their fruiting is impeded by poor or absent rides mowing.

Later in the season the dead wood species come into their own, with **Flame Caps, Rustgills, Brownies, Scalycaps, Bonnets, Honey Fungus,** cinnamon dusting **Ganoderma brackets** and many, many encrusting fungi of many colours and much weirdness, with slime moulds (especially after good rain) upon fallen timber, on mouldering stumps, under lifting bark, and on broken boles. Still living but damaged Beech branches sport **Porcelain** and **Oyster Funguses** like white ghost flowers, whilst the leaf carpet beneath has **Geranium Brittlegill** and lipstick red **Beechwood Sickener**.

These Worth Forest assemblages are well-known. Foraging is unmanaged. Numbers of foragers in the small car park at Cowdray Forest can match those that used to be seen at Epping Forest and in the New Forest before the banning of fungal foraging.

WOODBANK POLLARD BEECHES, GREENTREES

4.7. Veteran Trees

The veteran tree assemblage of Worth Forest (and St Leonard's) is quite exceptional in its size. The 'galaxy' of Worth's veteran trees has its crowded hub to the south and to the north of the watershed ridge along which the probable Iron Age route of The High Street (B2110) passes. These veterans cluster in Balcombe Forest, Monks Forest, Oldhouse Warren, Cowdray Forest and Greentrees. There are also important small groups and individual veterans in High Beeches Forest and Gardens, Brantridge Forest, Worth Lodge

Forest and Standinghall, but the great majority are centrally clustered around Worth Forest's high 'backbone' ridgeway.

Worth Forest's veteran tree assemblage is also quite exceptional in its lack of recognition. This was not always so. In 1911 Arthur Becket and his companion wandered freely through this part of the forest dominated by these ancient trees, which he called **"the Magic Wood"**, and[xii] narrated a conversation with a local boy, who explored the wood with them, and told him his **"father says the Romans planted those trees". "The beeches were so old, so huge, and so fantastic of shape that I should not wonder if there was some truth in this statement."**

The most ancient trees are pollards, for the medieval hunting forest, and, indeed, the early modern warrened forest, would have been largely managed as wood pasturage , in various forms, requiring the growing of small wood poles out of reach of browsing livestock. Some were bundle plantings (of groups of quicks that were planted together and grow as one organism). Some may be outgrown coppice stools, perhaps from ancient hedging (for instance along the northern braided route of Parish Lane in Oldhouse Warren).

The numbers of these older veterans (mostly pollards) are between 300 and 400 in Worth Forest as a whole, and the total is being revised upwards as survey continues. Taken in sub-clusters, a count in Oldhouse Warren, with Greentrees and Cowdray Forest, totals upwards of 260 veterans in the larger size class, mostly pollards. Taking the much more generous Natural England guidelines for minimum size for veterans of a girth of two metres these totals more than double.

Even quite small areas hold significant clusters. Thus, a small area of c.10 acre / 4 ha of Balcombe Down west of the Balcombe Tunnel and just north of The High Street has some 28 ancient pollards, made up of 22 Beech and six Oak. Of those some five Beech were dead but still standing, and therefore still of great value for wildlife. Similarly, above the northern Balcombe Tunnel entrance, on the western side (TQ 290 325/6) there is an extraordinary and grotesque 'Rackhamesque' cluster of ancient Beech Pollards, with occasional Oak. There is a better known large linear clustering along the old northern braided route of Parish Lane going west-east from the Brighton Line to Whiteley Hill, north of the fenced bridleway, c. TQ 297 337.

Most of Worth Forest's ancient veteran pollards are Oak and Beech, and there are many more Oak giants than survive in St Leonard's Forest (or Ashdown). On Balcombe Down as a whole the ratio of Oak to Beech veterans is (2012) about 43% to 56%, whereas in St Leonards Forest it is only about 14% to 86%. This larger presence of ancient Oaks may be a sign that the relict giants of Balcombe Down have stronger links with the medieval forest, where Oak and other trees such as Alder, Elm and Lime played a larger role relative to Beech.

Some of these Oaks are **Sessile Oak**, *Quercus petraea*, an ancient woodland indicator species which is patchily common in Worth Forest: - in Oldhouse Warren, Monks Forest, Worthlodge Forest and elsewhere. Some of the veterans are **Yews**, and there are frequent clusters of Yews growing together, sometimes around one or two 'mother' trees. Many of these Yew clusters are in very poor condition and often dying. One of the best Yew veterans in Oldhouse Warren has just died.

The oldest veteran tree age cohort in Worth Forest includes trees which may date back 400 or even 500 years, that is, to the end period of the medieval hunting forest. The Greentrees Giant reached a girth of 32.4 ft / 10 m. (It has recently collapsed). There is a scatter of giants of c. 24 ft / 7.3 m girth in Worth Forest. The majority of them are senescent, and they are often at the point of collapse, or are collapsing incrementally for want of appropriate conservation management. Some survive as dead bollings, sometimes for many years, and this life stage is very important for wildlife (particularly saprotrophic fungi, invertebrates and slime moulds).

The Worth Forest veteran tree assemblage is largely unmanaged, and many of the oldest trees are currently unnecessarily dying for lack of the care that would extend their lives, perhaps for centuries[xiii]. Some exceptionally old and large veterans have been killed by traumatic surgery, cutting all of their pollard 'arms' and most of their crown base too.

BEECH POLLARD GIANT, MONKS FOREST

Numbers of veteran 'old forest' Beech and Oak pollards have been incorporated within the grounds of Worth Forest mansions, sometimes managed and sometimes neglected. There is a group of Beech pollard giants in Birchangar's gardens, west of the Balcombe Tunnel. There are some fine English Oak and Beech veterans in Tilgate Park, including a superb pollard veteran Oak. On the historic southern boundary of Worth Forest several Oak pollard veterans survive in High Beeches Gardens, and several in garden grounds between Handcross Lane and Knoll and Brantridge Woods, to the south.

4.8. Conifers and ornamental trees

Commercial planting regimes in Worth Forest from the late nineteenth century onwards included many experiments with conifer species, such as **Noble** and[xiv] **Grand Firs, Holford's** and **Monterey Pines** (Worthlodge Forest). Some of the most robust trees of those cohorts still survive, sometimes at local champion sizes, such as a cluster of three **Scots Pines** in Oldhouse Warren exceeding three meters girth. **Douglas Firs** dating back a century often reach high above and proud of general canopy heights.

However, it is sometimes the ornamental conifers grown in the pinetums and parks of Worth Forest mansions that now stand out for their size, and act as landmarks over long vistas of the Forest landscape. This is so for the giant columnular **Apollo Fir** and the **Wellingtonia** (both planted c. 1876) in Tilgate Park, and for the giant **Wellingtonia** at Tilgate Forest Lodge.

4.9. Invertebrate Fauna

Until the 1920's and '30's and maybe into the 1940's and '50's Worth Forest was famous for its moths and butterflies. "By every account" we are told[xv], "Tilgate Forest was a legendary place for entomologists, and the chance of obtaining fabled insects enticed all of the great national collectors of the day...The heath", after the coming of the railway, "was undoubtedly then the foremost for lepidoptera in Sussex, and its destruction was another great tragedy". The **Kentish Glory** moth was the most sought after. It "flew commonly over the heather...occasionally in many hundreds". **High Brown** and **Marsh Fritillaries** and **Wood White** butterflies, with **Scarce Dagger, Purple-bordered Gold, Orange Upperwing, Anomalous, Small Grass Emerald, Dingy Mocha** and **Cloaked Pug** moths all flew there.

Some of the conditions for this fame continue. Thus, Alder carr and Birch woodland continue to be strong components of the Forest. Colin Pratt[xvi] describes **Alder Kitten**, *Furcula bicuspis*, as "a Tilgate Forest speciality (...) still considered by some nationally foraging collectors to be a great trophy" and it is still to be found at Tilgate and Balcombe Down / Forest. Tilgate Forest was also "the leading national site" for **White Barred Clearwing**, *Synanthedon speciformis*, and it is still present in Worth Forest on Balcombe Down.[xvii] Both of those moths are dependent upon Alder and Birch.

There are **Purple Emperor** and **Purple Hairstreak** butterflies in Cowdray Forest and Greeentrees.

It must not be forgotten that part of the reason for the decline of Worth Forest as a nationally important lepidopterists' site has to do with the widespread modern regime of public exclusion, rather than just ecosystem damage.

Relative to the other two Forests, Worth Forest is under-surveyed for Dragonflies and Damselflies, but we know enough to rate it highly. **Brilliant Emerald**, *Somatochlora metallica*, a scarce specialist of shady pools with a heathy geology, has a stronghold in Worth Forest (and its two sister Forests) within a highly limited and disjunct UK distribution. It is at Oldhouse Warren. **White Legged Damselfly**, *Platycnemis pennipes*, is on Stanford Brook. There is a large population of **Horse Stinger / Golden Ringed**

Dragonfly, *Cordulegaster boltonii*, in the Forest, including Worth Lodge, Brantridge and Monks Forests, Worth Forest SSSI, Stanford Brook North and Half Smock Stream in Oldhouse Warren. This is our largest dragonfly and arguably our most charismatic. It flies with **Beautiful Demoiselle**, *Calopteryx virgo*, on fast-flowing wooded headstreams. **Keeled Skimmer**, *Orthetrum coerulescens*, till recently recorded solely on Ashdown Forest, is present too on Worth Forest (as at Greentrees).

Large and charismatic forest insects present in Worth Forest include **Green Tiger Beetle**, *Cicindella campestris*, and the harmless giant **Sabre Wasp**, *Rhyssa persuasoria*, as long as a small child's hand. The latter is a parasite of the equally fearsome-but-harmless **Greater Horntail Wasp**, *Urocerus gigas*. The huge **Tanner Longhorn Beetle**, *Prionus coriarus*, larger than a Stag Beetle but without the 'antler' jaws, is present. These latter species are dead wood dependent and therefore thrive in the presence of mature and veteran forest trees.

Glow Worms, *Lampyris noctiluca*, are present on Balcombe Down West and Oldhouse Warren, and no doubt more widely.

Worth Forest has two strong ancient woodland indicator molluscs. The **Ash Black Slug**, *Limax cinereoniger*, has been called "a wonderful judge[xviii] of scenery" because of her faithfulness to ancient woodland. She is also called the **'Mint Humbug Slug'**, because her foot is striped black and white. **The Lemon Yellow Slug**, *Malacolimax tenellus*, aka **'Queen of the Rain'** (because she is mostly found in pouring rain) often particularly occurs amongst veteran trees, hence her other name **'Companion of Ancients'**. She is known from Greentrees, Oldhouse Warren and Denches Copse.

The scarce **Jet Black Ant**, *Lasius fuliginosus*, also has a close relationship with veteran trees, where it lives a largely arboreal existence. It is found on ancient Beech pollards at Balcombe Down West.

Worth Forest has a robust and important population of the only true woodland ant in Britain, the **Red Wood Ant**, *Formica rufa*, which makes large thatched, domed nests and forages widely (including in our picnics). In the Weald is its found chiefly in Worth, St Leonard's, and Ashdown Forests and on the western Lower Greensand heaths. Despite both national and local declines, at Worth they are found in Tilgate Forest, High Beeches and Brantridge Forests, Balcombe Down West, Oldhouse Warren, and at The Warren, next to Paddockhurst Park.

4.10. Vertebrate Fauna

There has been little systematic modern survey for mammals, reptiles, amphibians, and freshwater fish, but we know enough to say that Worth Forest is distinct in its 'forest' character, and outstanding in its particularity.

The management of High Beeches and Brantridge Forests for **deer** shooting has meant that those sub-forests bear much of the character of the medieval hunting forest, with noisy rutting dramas played out in the shady deep autumn cover of conifer stands and on neighbouring open ferny valleys and bosky Oaken slopes. **Fallow Deer** numbers are very

high, and **Roe** and **Muntjac** are frequent, too. Most regular motorists along The High Street, B2110, know the danger from straying Fallow on that adjacent boundary road at dusk and night.

Neighbouring Balcombe Forest, around the south end of the Balcombe Tunnel, particularly on the west side, by Birchangar, is like a fragment of the New Forest's ancient woods.[xix] In the darkening evening you can hear deer shifting though the trees, and catch glimpses of parties of Fallow Deer. There is much activity. This is no surprise, for this woodland above the Tunnel is the only place across the 25 mile width of the Weald - from the North Downs to the South Downs - where deer can pass westwards and eastwards without danger from the railway, or roads and houses. This place is a bottleneck, where deer can escape the daunting dangers to their free movement. In the last 60 years it has probably been an important spot for the re-expansion of Roe Deer from their western refuges into East Sussex and Kent.

In a real way (though unwilled and ambivalent in its results) much of Worth Forest has retained more of the character of the medieval Deer Forest than has Ashdown Forest!

Bats are present across the whole Forest in considerable numbers. When a bat detector is taken across the Forest it scarcely ceases to register from end to end. We are not aware of any systematic survey. **Pipistrelles sp/p.** are most frequently seen, sometimes in numbers. Medium sized bat species are frequent too. **Serotine** is present at Whiteley Hill. Bats with a size and foraging pattern like **Brown Long Eared Bats** are present, but without verification.

For **amphibians** Worth Forest is undoubtedly a major 'hotspot'. Whilst amphibian numbers steeply decline in the general countryside, **Frog** and **Toad** numbers in most of the Forest's component blocks are very high. In spring the gully streamlets and gill streams in the Stanford Brook watershed, and in the south running headstreams of the Ouse, have abundant spawn and tadpoles. Additionally, abundant windfall root plate mini-ponds are heavily used for spawning, as are derelict pond sites and made small ponds and seasonally flooded sloughs.

Tractor ruts on Forest rides, particularly in Oldhouse Warren, but also in neighbouring sub-forests, are also heavily used for Frog and Toad spawning. Perhaps more importantly, though, they are used throughout the year by **Newts**, mostly **Smooth Newts**, with some **Palmate Newts**. Many deep flooded tractor ruts will be seen to carry small groups of resting Newts when observed, and the frequent presence of efts and juveniles demonstrates that they are preferred breeding habitats, largely free of competition from Frogs and Toads.

Common Lizards are visible in many spots across the Forest in summer, and in later summer small family parties of dark juveniles are frequently seen basking on logs. **Slow Worms** are frequent and widespread. Neighbouring observers say that High Beeches Forest has a large population of **Adders**, but this is unverified. Such large amphibian populations suggest that **Grass Snake** must be present, but this is unverified.

Badger is frequent and often seen at dusk in some places, such as Brantridge and High Beeches Forests, where lack of human disturbance makes them bold. **Stoat** and **Weasel** are occasionally seen.

The three Stanford Brook branches and the Monks Forest gill stream held populations of **Bullhead**, Cottus *gobio*, in recent years. In 2022 the flow in the eastern (SSSI) branch of Stanford Brook dried. The main branch just retained its flow until the late summer rains broke the drought. It still had Bullhead in July, before the worst of the drought event, and probably retained them. The western branch may also have retained them if the flow remained unbroken. **Brown Trout**, *Salmo trutta*, was present as parr (juvenile) in the main Stanford Brook North in July 2022, before the worst of the drought, and may have survived. **Brook Lamprey,** *Lampetra planeri*, was present in the main Stanford Brook North, below Clays Lake dam, when survey was undertaken for the enlargement of the dam for flood alleviation. It was known too, perhaps 20 years ago, in the western branch of Stanford Brook, but a sewage pollution incident at the Tilgate Forest Row, Pease Pottage sewage works, may have damaged that population.

4.11. Archaeological and cultural heritage

The archaeological and cultural heritage of Worth Forest is largely intact and highly visible in places[xx]. It is preserved at a landscape scale by the low levels of destructive farming activity in the Forest.

The Forest has a very large and almost intact assemblage of the pillow mounds of the warrening economy (c 1580 - 1820). Other features of the warrening economy, such as traps, enclosure banks and buildings remain to be investigated.

The veteran tree assemblage is in some part a cultural relic of the warrening economy, although a few trees may go back to the medieval hunting forest.

The ancient braided trackway systems from the late prehistoric (Iron Age) through the medieval and early modern economies, have elements which are in good preservation, though they are overlain by the post-war forestry rides grid system. In some parts this rides grid system incorporates sections of the older trackway system, as at Oldhouse Warren. Many fine examples of braided trackways exist (as in High Beeches Forest and Oldhouse Warren) and these afford a range of micro-variations in ecosystem, expressed particularly in rich fungal and plant communities.

There are many un-excavated relics of the Tudor iron working economy (pond bays, foundry footings, tracks, spoil), and the gill system preserves many artisanal iron ore quarries. Bloomeries, cinder wastes, hearths and charcoal burning platforms from the medieval through to recent charcoal production remain visible and await investigation.

Many mounds, pits, banked enclosures, wood banks and drains, pond bays, quarries, and early modern and wartime features remain.

4.12. Public access and recreation

The majority of Worth Forest within the aegis of MSDC has very limited public access. Only Tilgate Forest south of the M23 motorway has statutory public access. Permissive access exists to Cowdray Forest and Oldhouse Warren south of Parish Lane.

Access on Forest land from Tilgate Forest Row east to High Beeches Forest, Brantridge Forest, Balcombe Down, Monks Forest, Oldhouse Warren north of Parish Lane, Balcombe Forest, Worthlodge Forest, The Warren and Paddockhurst Park is limited to a mile of footpath at Bensonhill Wood and its neighbour field, a recently restored footpath through Greentrees, Parish Lane (adopted and bridlepath), two footpaths across Worthlodge Forest, a footpath at Worth Abbey, and one at the south end of The Warren.

Yet the geographic relationship between Worth Forest and its neighbouring urban communities is of the closest proximity, with a long shared boundary.

This close proximity to large urban areas parallels the relationship between Epping Forest and east and north east London. Yet at Epping Forest the past work of the City of London and a popular campaign has secured Epping Forest as a public resource for all its neighbour communities, and the Forest's long and almost uninterrupted history of public access as of right for the people of London has not prevented the conservation of Epping Forest's ecosystems to the highest national and international standards (SSSI and SAC). The New Forest, similarly, has the same proximate relationship with the populations of the Solent conurbation's cities of Bournemouth and Southampton, and is managed to international conservation standards (SSSI, SAC, SPA, Ramsar).

Clearly Worth Forest has huge potentials for large scale public recreation and access, managed in tandem with the conservation of its high value wildlife. These huge nature-friendly recreational potentials must be safeguarded.

5. Proposed new District Plan policy

This proposed new policy pertains to the 'Natural Environment and Green Infrastructure' section of the Plan, DPN1-11; to the 'Countryside' section of the Plan, DPC1-6; and to the 'Economy' section of the Plan, DPE1-8.

We propose a new policy within the 'Natural Environment and Green Infrastructure' section of the Plan, DPN, as follows:

DPN: Worth Forest

The high value of Worth Forest as an extensive tract of ancient woodland, in considerable ecological and archaeological continuity with the medieval and early modern Forest of Worth, will be sustained and advanced, recognising:

- That its high conservation value wildlife is dependent upon the un-fragmented and extensive nature of the woodland.

- That the forest operates as a self-reinforcing and integrated system, with a biological value greater than the sum of its parts.

- That further identification and designation of Local Wildlife Sites and archaeological and heritage assets will be undertaken to rectify historic deficits in this regard.

- That high conservation value elements of its wildlife community, such as large raptors and ground nesting birds, require high levels of undisturbed tranquillity.

- That, in addition to closed plateau woodland, the forest embraces an assemblage of open elements, including glades, open plains, an extensive semi-natural rides system, wet gullies, marsh, acid grassland and heath, as well as humid, closed, high value gill woodland and carr, with important oceanic, temperate rainforest elements.

- That the Forest contains an outstanding assemblage of ancient veteran trees, which require recognition and positive management.

- That the Forest's proximity to important urban areas, such as the Mid Sussex towns, Crawley and the south London corridor, offers very large potential future opportunities for public enjoyment of its wildlife and tranquillity, in comparable ways to Epping Forest's relation to east and north east London.

- That these future public recreational potentials should be protected when any development proposals are considered[xxi].

- That the absence of settlements within the Forest is key to its character, and requires an presumption against any new settlements or major built projects, such as built leisure developments.

- That small scale eco-tourism and recreational services, such as camp sites, car parks, toilets and food catering will be considered in locations which do not threaten the integrity of the landscape or its high value wildlife sites.

POLLARDED OAKS, OLDHOUSE WARREN

BEECH VETERAN STANFORD BROOK

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[i] See 'The Land of the Brighton Line, a field guide to the Middle Sussex and South East Surrey Weald', chapter 5 'Woods', chapter 6 'The forests of St Leonard's and Worth', chapter 9 'Ancient Sussex giants: the oldest and biggest trees', chapter 23 'Worth Forest'. David Bangs, self-published (2018).

[ii] It is matched only by the wider Ashdown landscape, the Battle-Dallington-Heathfield forested ridges, the Eridge-Waterdown forested plateau, and the Bedgebury forest landscape.

[iii] It should be noted that only one example of each ecosystem or geological type and sub-type can be designated as an SSSI. This leads to the false impression that SSSIs are unique examples of their ecosystem or geological type.

[iv] Thus only one ornithologist is allowed access to survey birds in the large forbidden area of Oldhouse Warren. Not even that is allowed in other large parts of Worth Forest

[v] This must be yet another result of the exclusion of the public from large tracts of Worth Forest. The major recent monograph 'Rabbit Warrens & Archaeology', by Tom Williamson ,Tempus (2007) makes no mention in the text of the large and well-preserved warrening archaeological landscape of Worth Forest and only slight mention of St Leonards Forest. Neither of those Forests is mapped (page 90).

[vi] 'Guidelines for the Selection of Biological SSSIs' (1977, with subsequent revisions)

[vii] 'Roding' is a much-seen-and-loved behaviour of Woodcock in summer, whereby birds, probably mostly males, repeatedly fly large circuits at dusk, just above the woodland canopy, regularly grunting or squeaking as they fly. Woodcock remaining on the ground, probably females, respond by squeaking to the over-flying birds. It is perhaps a territorial behaviour.

[viii] 'The Land of the Brighton Line', pages 298-300. Op cit.

[ix] Named after the tiny Yellow Centaury, *Cicendia filiformis*, now probably extinct in Worth Forest and Sussex. "Many rides in the old forest (...) retain an interesting flora of species belonging to the Cicendion community, where periodic forestry traffic exposes bare moist soil from time to time." 'The Habitats and Vegetation of Sussex", by Francis Rose, pages 24-5, within the 'Atlas of Sussex Mosses, Liverworts and Lichen'. The Booth Museum of Natural History (1991).

[x] Listed in Borrer's 'Botanical Guide' (1805) and quoted from by Francis Rose on page 24.. Op cit.

[xi] Ashdown Forest has a different and less diverse geology - of the Ashdown Sands.

[xii] 'The Wonderful Weald', pages 199-202, by Arthur Beckett, Methuen & Co (1911). Becket was the proprietor of the Mid Sussex Times.

[xiii] This care should involve incremental crown reduction and 'haloing' reduction of shading younger competitor trees. This is the practice in many public forests with veteran tree assemblages, such as Burnham Beeches, Hatfield Forest and Epping Forest.
[xiv] 'The Sussex Tree Book', page 27, by Owen Johnson, Pomegranate Press (1998).
[xv] 'A Complete History of the Butterflies and Moths of Sussex', Vol 1, page 92. Colin R. Pratt. (2011).
[xvi] Colin Pratt, Vol 3, pages 32-34. Op cit.
[xvii] Colin Pratt, Vol 1, pages 255-56. Op cit
[xviii] 'Slugs of Britain and Ireland', page 64-65. AIDGAP, FSC (2014)
[xix] 'The Land of the Brighton Line', pages 292-3. Op cit.
[xx] 'Oldhouse Warren, Worth Forest, West Sussex. Summary historic landscape character & a heritage asset statement'. Prepared on behalf of the High Weald AONB Partnership by Dr Nicola Bannister, Landscape Archaeologist (January 2022).
[xxi] The protection of Worth Forest's future recreational potential is in tandem with policy DPE9, which correctly seeks to protect the line of the Bluebell Railway from Sheffield Park to Haywards Heath with a view to the future restoration of this link. The Forest's recreational potentials are huge and should be preserved despite the very private character of much of Worth Forest at present. The future will likely be different.