

PROTECT OLDHOUSE WARREN

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OLDHOUSE WARREN: THE HEART OF WORTH FOREST

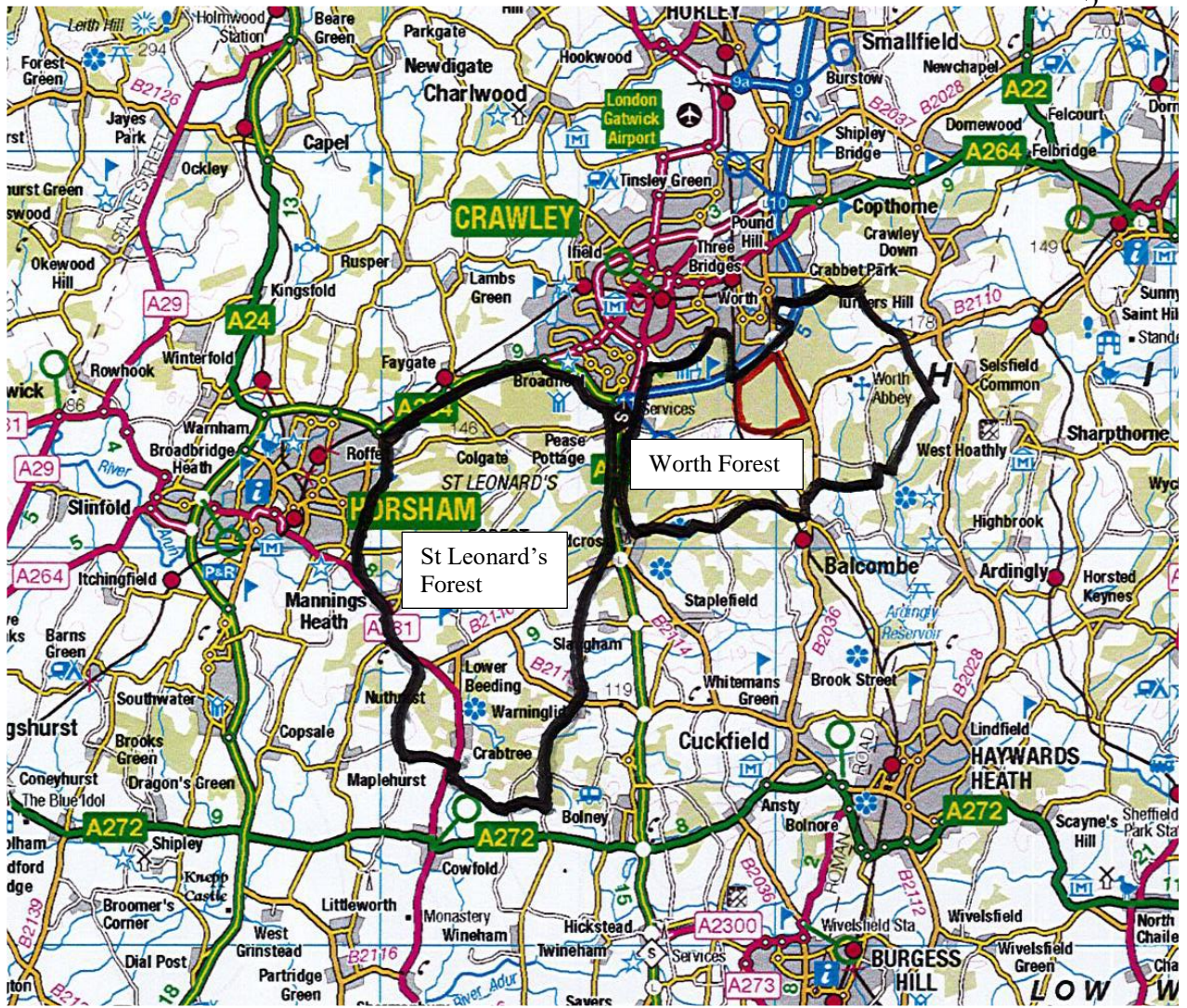
Its biological and cultural value and the threats it faces

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EXECUTIVE SUMMARY

This 600 a / 243 ha block of Sussex High Wealden ancient woodland has just escaped a threat of destruction for a major leisure development. Yet it remains deeply at risk from mounting incremental threats. It sits at the heart of ancient Worth Forest and close to major urban communities. It is structurally diverse, with several humid gills, one of which is an SSSI; a major assemblage of veteran trees; and a biodiverse rides system of open wet and dry heath. Its birds include breeding Goshawk, Nightjar, Woodcock, Firecrest and Lesser Spotted Woodpecker. Honey Buzzard is present in the Worth Forest complex. Amongst 53+ ancient woodland plants it has Lily of the Valley, Orpine and Wild Daffodil, with superb fungi, oceanic bryophytes, rare dragonflies, and major amphibian and bat populations.



The location of the former Forests of St Leonard's and Worth, with Oldhouse Warren (red polygon) at the heart and centre of Worth Forest.

1. Oldhouse Warren: the place and its context.

Oldhouse Warren, which includes Cowdray Forest, is a roughly rectangular block of ancient woodland, of some 607 acres / 243 ha, which lies at the heart of the medieval hunting Forest of Worth in the Sussex High Weald. A short travelling distance (c. 20 miles) from South London it lies immediately south of Crawley, 4 miles from Gatwick. It is partly bounded by the M23 (see Fig. 1).

Oldhouse Warren lies within the High Weald AONB. It holds part of the Worth Forest SSSI, with the remainder owned by the neighbouring Greentrees Estate. This SSSI was much bigger at its original designation in 1954, but was reduced in size in 1987 as a result of the large scale planting of conifers.

Worth Forest is conjoined with medieval St Leonard's Forest, and Worth and St Leonard's Forest together form the 'backbone' of the western end of the High Weald AONB. Worth Forest lies five miles west of Ashdown Forest, and is roughly the same size (at c. 6000 acres / 2400 ha). Together these areas provide a corridor of forest habitat, linking species communities across the High Weald between Horsham, Mid Sussex and Wealden District Councils' countryside. The importance of this connection has previously been recognised in the Wildlife Trusts plan for 'A living landscape' for the South East, and by the Weald to Waves Partnership.

The size of Worth Forest is similar to the size of Epping Forest, and has the same adjacent relationship to a large urban area, yet Worth Forest's provision of protective wildlife designations and public access are, by comparison, very limited.

There is only one SSSI, and a single small LNR (Local Nature Reserve) in Tilgate Forest. LWSs (Local Wildlife Sites) are confined to the areas of public forest (Forestry Commission and Crawley Council) and to peripheral areas, namely: an eastern area crossed by a public footpath; two archaic meadows in High Beeches private gardens; and Sedgy Gill, south of Monks Forest.

Despite its outstanding wildlife resources Oldhouse Warren has no LWSs (Local Wildlife Sites).

2. Public access

The southern c. 45% of Oldhouse Warren-Cowdray Forest has permissive access. There is no access as of right, beyond the ancient east-west 'Parish Lane' bridleway, and two tiny lengths of footpath. There is one small car park. No rangers manage public access.

Less than 20% of Worth Forest as a whole has open access.

This legacy of public exclusion leaves Worth Forest with extremely low public recognition. This lack of recognition is reflected in a dearth of modern biological records. In turn, this invisibility leaves Oldhouse Warren and Worth Forest with wholly inadequate planning recognition.

3. Vegetation and land use history

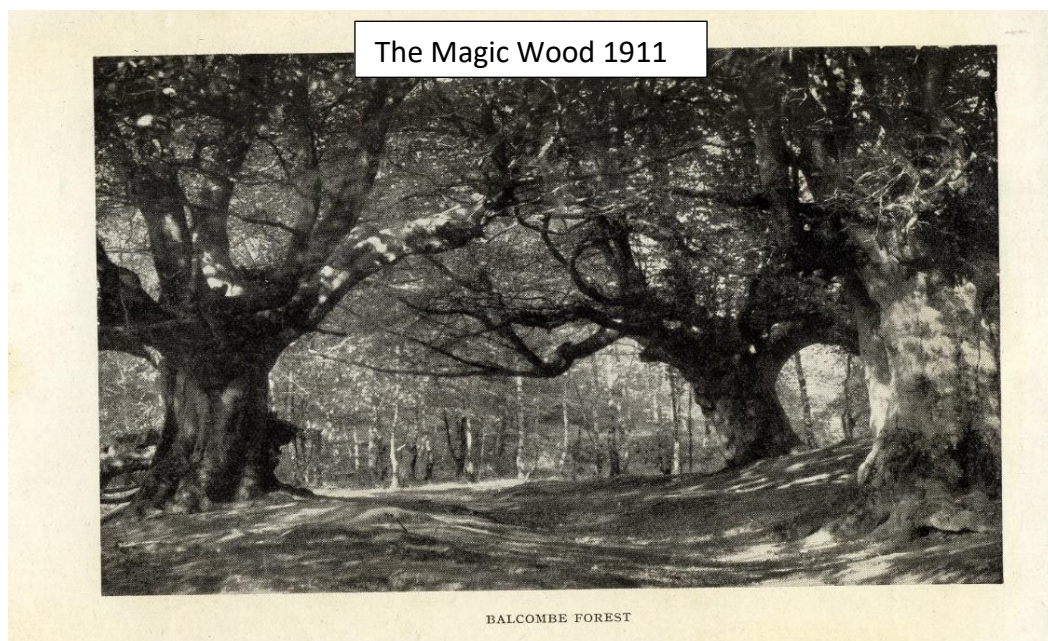
In medieval times it is likely that the proportions of open ground to woodland in Worth Forest were similar, with a matrix of high forest, Alder and Birch plats, Oak and Beech pollards, and much wet and dry heath.

The woodland was drastically cleared in the second half the 16th century, in part for fuel for the new iron industry, which had a furnace in Oldhouse Warren and another close by. There are many un-excavated relics of the Tudor iron working economy.

Between c. 1580 and 1820 Oldhouse Warren and the rest of Worth and St Leonard's Forests were dominated by rabbit (coney) production in giant warrens, and open heath would have been by far the largest vegetation component. Oldhouse Warren (and the rest of Worth Forest) have a large and almost intact assemblage of pillow mounds. Some of the oldest veteran trees are also important cultural relics of the warrening economy.

Since c. 1820 woodland has become the dominant vegetation, at first with broadleaf regeneration, alongside much Sweet Chestnut coppice and conifer planting, and an element of surviving pollard usage. Since c. 1950 Oldhouse Warren has been systematically modified to conifer plantation, and an extensive system of gridded rides has been formalised. Most are new, though some are on the alignments of ancient trackways.

However, considerable elements of older broadleaved woodland were allowed to survive: in the gills, in places with concentrations of veteran trees, in standing broadleaved groves, and along boundaries.



The absence of destructive farming activity and settlement in the Forest means that its cultural heritage is largely intact, with considerable archaeological potential. This ranges from braided trackways, artisanal quarries, pond bays, footings and charcoal

platforms, to the highly visible pillow mounds and many un-investigated features (Bannister 2022).

4. Wildlife habitats and features

Oldhouse Warren has a number of quite outstanding high value features.

4.1. 'Forest' character. The wildlife assemblage of Worth Forest is greater than the sum of its parts. The presence of breeding **Goshawk** in Oldhouse Warren, which need extended woodland cover, alongside other scarce forest-favouring birds, points to the need to preserve the integrity of each sub-forest, if this added value is to be preserved.

The bird assemblage of Oldhouse Warren reflects its structurally complex mixed woodland character, with breeding species including **Crossbill** (Schedule 1), **Firecrest** (Schedule 1), **Goshawk** (Schedule 1, RBBP), **Lesser Spotted Woodpecker** (Red-listed, Section 41, RBBP), **Marsh Tit** (Red-listed), **Nightjar** (Amber-listed, Section 41), **Raven**, **Redstart** (Amber listed), **Siskin**, **Spotted Flycatcher** (Red listed, Section 41), **Willow Warbler** (Amber listed) and **Woodcock** (Red listed).

The extensive woodland tracts within which Oldhouse Warren lies are also important for **Honey Buzzards**, of which Sussex holds about 18% of the British population (the highest percentage of any county in Britain) and in the past the species has bred in Oldhouse Warren (Mallalieu and Scott-Ham 2022).

Oldhouse Warren's ancient woodland higher plant assemblage is strongest in the gills and areas with concentrations of veteran trees. Our rising total of indicative ancient woodland vascular plants is now 53. (See Table 1). They include charismatic species such as: **Lily of the Valley**, at one of two Worth Forest sites, **Orpine**, **Wild Daffodil**, for which the twin forests are a stronghold, and **Small Leaved Lime**.

4.2. Veteran tree assemblage. Oldhouse Warren's veteran tree assemblage includes about 265 large (>3.5 m breast height girth) veteran Oak and Beech, in roughly equal numbers (Fig. 2). If we include 'notable' trees of smaller sizes (still within the Natural England guidelines of girths of over 2 m) our survey work so far suggests that the final numbers of veterans and notable broadleaved trees will reach over 500.

The Oldhouse Warren veteran tree assemblage is part of a nexus of veteran trees, which includes those on adjacent Balcombe Down, in Monks Forest and Greentrees, and extends in a thinning penumbra across the rest of Worth Forest (see Fig. 3 and Bangs 2018).



This assemblage is sadly unrecognised either in planning or nature conservation terms. It is the equal of the very best veteran tree assemblages across the Wealden Vale and beyond.

55% of the Oaks are pollards, whereas only 10% of the Beech are pollarded. This suggests that the Oaks were the backbone of the pollarding / wood pasture economy.

The proportion of Oaks relative to Beech in wider Worth Forest was estimated (2012) to be about 43%, whereas in St Leonard's Forest it was just 14%. This suggests that Worth Forest's veteran tree assemblage has stronger links with the more natural tree assemblage of the medieval forests (in which Oak and other tree species were as, or perhaps more prominent than adventitious Beech) than is found in St Leonard's.

Many of the grander Beech are without boles and are multi-stemmed, which suggests they were open grown, and survived browsing at very young age within a grazing economy. Some were bundle planted.

There are also scattered Yew groves which contain trees with veteran features, and singles and clusters of Sweet Chestnut and Scot's Pine which have reached substantial sizes.

The relationship is becoming clear in our survey work between areas of fungal diversity and areas with many veteran trees, particularly Beech. Recent survey work has identified over 200 fungi, including two Sac fungi (Ascomycota) new to Britain (Sussex Fungal Group).

Many of the charismatic macro-fungi, including **many Bolete species**, at least **four Chanterelle species** and **three Hedgehog-Wood Urchin species**, have mycorrhizal associations with our forest trees. Many of these species, including many smaller ascomycetes, are dead wood dependent.

Epiphytic lichen present which have value as 'old forest' indicators include: **Barnacle Lichen (*Thelotrema lepadinum*)**, **Elf's Ears (*Normandina pulchella*)**, and **Warty Beard Lichen (*Usnea ceratina*)**.

4.3. The rides system. The network of semi-natural rides in Oldhouse Warren is far larger and more ramified than the rides systems anywhere else in Worth or St Leonard's Forests, and is of far greater value even than its total size would suggest. It constitutes a refuge for the flowering plants of the old open forest, with many plants associated with wet heath, marsh, and dry heath.

The early successional 'Cicendion' vegetation community is widespread. It is dependent upon customarily open, moist and heathy ground disturbed by periodic forestry traffic, and includes: - **Bog Pimpernel**, **Chaffweed**, **Green Ribbed Sedge**, **Ivy Leaved Bellflower**, **Lesser Skullcap**, **Lousewort**, **Marsh Violet**, and **Trailing St John's Wort** (see Fig. 4 and 5).

The flooded vehicle ruts hold large numbers of amphibians, particularly **Smooth Newts**, with **Palmate Newts**, **Frogs** and **Toads**, and scarce lower plants and fungi, such as the freshwater macro-alga **Dark Stonewort (*Nitella opaca*)**, which has recently been found at only four other Sussex sites, and frequent **Bog Beacon**, (***Mitrula paludosa***).



Many of the rides system's plant species have their area redoubts in the High Wealden Forests of Worth, St Leonards and Ashdown (Abraham et al, 2018). Most have declined further in the twin forests of Worth and St Leonards than they have at Ashdown, because of the twin forest's smaller footprint of open heath.

The Oldhouse Warren rides system thus constitutes a crucial stronghold for the open components of the twin Forests.

4.4. The Gills. There are humid, wooded High Wealden gills on the southern, western, and eastern sides of Oldhouse Warren. The northern side, too, has a number of marshy gully streams which are truncated by the M23.

Stanford Brook has **Beautiful Demoiselle (*Calopteryx virgo*)** and **Giant Hairy Eyed Crane fly (*Pedicia rivosa*)** whilst its headstreams have widespread **Golden Ringed Dragonfly (*Cordulegaster boltonii*)**.

In addition, Halfsmock Pond (oligotrophic and without carp - a rare blessing in the High Weald) has a rich dragonfly and damselfly fauna, with **Brilliant Emerald Dragonfly (*Somatochlora metallica*)** and a marshy pondtail.

Oldhouse Warren is a place of many gullies, wet flushes, springs and headstreams, some of which have so far flowed even in the worst droughts (such as summer 2022). Many of its shaded rides, too, share that wet character, with their bog mosses and marsh flowers, sedges and rushes. The widespread distribution of **Bog Mosses, (*Sphagnum spp.*)** - with five species so far recorded - reflects this matrix (Fig. 6).

A number of the gill bryophytes and flowering plants present are Oceanic in their national distributions, and some have a 'temperate rainforest' character. These bryophytes include: **Handsome Woollywort (*Trichocolea tomentella*)**, and **Least Pouncewort (*Lejeunea cavifolia*)**, both liverworts, with **Flagellate Feather Moss, (*Hycomium armoricum*)** and **Shining Hookeria Moss (*Hookeria lucens*)**.

Flowering plants present include: **Bog Pondweed, Bog Violet, Bulbous Rush, Common Yellow Sedge, Creeping Forget-me-not, Cross leaved Heather, Lesser Skullcap, Marsh Pennywort, and Pale Sedge.**

The southern gill, Stanford Brook East, has the richest assemblage of ancient woodland and Oceanic species in Oldhouse Warren, and is designated as the Worth Forest SSSI.

4.5. The heath. The centre of Oldhouse Warren is a raised plateau, which is a westwards extension of Whitely Hill. Here the rides, and even parts of the forestry coups, retain an assemblage of dry heath species which must once have been far more widespread. Along with scattered heathers are a number of drier heath grasses, flowers, and wood rushes, and even small lengths of lichen heath. The distinction between the dry heath and wetter heath assemblages is not sharp, and impeded drainage occurs across the whole plateau, creating a somewhat Oceanic mosaic, which parallels that at the more obviously 'upland' Ashdown Forest.

The dry heath species include: - **Many Forked Cup Lichen (*Cladonia furcata*)**, **Heather, Ling Heather, Dense Headed Heath Woodrush, Fine leaved Sheep's Fescue, Harebell, Heath Grass, Heath Milkwort, and Heath Rush** (see Fig. 7).

4.6. A rich fauna. We know enough to describe Oldhouse Warren as having a diverse fauna. **Amphibian** populations are very large, particularly **Common Frog**,

Toad, and **Smooth Newt**, and **Palmate Newt** is also present. The freshwater fish population includes **Bullhead** and **Brown Trout**. **Brook Lamprey** was present until recently, and may be still.

The invertebrate fauna includes **White Admiral**, **Purple Hairstreak**, **Golden Ringed Dragonfly**, **White legged Damselfly**, **Green Tiger Beetle**, **Shining Dumble Dor Beetle**, **Glow Worm**, **Red Wood Ant**, **Hornet**, **Sabre Wasp (*Rhyssa persuasoria*)**, and the ancient woodland indicator molluscs: **Ash Black Slug (*Limax cinereoniger*)** and **Lemon Yellow Slug (*Malacolimax tenellus*)**.

Many aspects of the fauna are grossly under-recorded in recent times, including bats, (which are widespread and with substantial populations), moths, and most other invertebrate groups.

5. Major threats

5.1. Center Parcs defeat. Oldhouse Warren has just survived an existential threat from a proposed giant holiday leisure development. On 9th February this year Center Parcs withdrew their proposal, citing the advice they had received from their ecological advisers.

Nevertheless, threats to Oldhouse Warren did not begin with the Center Parcs proposal and have not ended with its defeat.

Indeed, much of the special wildlife assemblage of Oldhouse Warren is in crisis, and we predict an imminent and major wave of species extinctions if the Warren cannot be brought into purposeful conservation management.

5. 2. Incremental built development. Whilst Center Parcs have gone, there may be attempts to build smaller leisure oriented developments. For example, there was a paint balling business on the north side, prior to Covid.

5.3. Damaging ownership changes. An attempt could be made to divide up and 'wood lot' all or part of Oldhouse Warren. This was threatened at Broadwater Warren, and has happened at other large Wealden woods, such as Waste Wood, near Hadlow Down. The site could be sold to buyers who are hostile to conservation management and public access, and, indeed, to any monitoring of wildlife and heritage assets, as has been the case in other parts of the High Wealden forests.

5.4 Neglect of veteran trees. The veteran tree assemblage is "on its last legs". To our knowledge, no recent management survey of the assemblage has been done. Scarcely any remedial management has taken place.

A large proportion of the veterans are badly crowded by closely planted conifers and Sweet Chestnut coppice. Very little 'haloing' (relief from this crowding) has been

done. Even when adjacent clearance has recently taken place (for instance, in compliance with the Statutory Plant Health Notice on the Warren) the clearance has - paradoxically - been too drastic, and threatens to damage or kill the veterans by too traumatic exposure to micro-climate change.

No major crown reduction has taken place on the larger veterans and long-out-of-cycle pollards and multi-stemmed veterans. This has encouraged a wave of recent collapses, particularly of veteran Beech.



5.5. Destruction and neglect of the high value rides system (see Fig. 8).

In 2017 an network of new hard surface rides was constructed, without an environmental impact assessment, involving the dumping of huge quantities of hard core, builders rubble and chalk rubble on the main circuit of forestry rides (see Bangs 2018). This was done in contravention of the legal requirement for planning permission. When enforcement action was taken by Mid Sussex District Council it was ignored.

Some of those now-destroyed rides followed the course of ancient trackways and are likely to have had very rich plant assemblages.

Since then the rest of the semi-natural rides system has been little used by forestry traffic and has not been maintained. Fallen trees and woody debris are not readily cleared, and necessary mowing and brashing have not been done.

When heavy forest harvesting machinery is used on the semi-natural rides it cuts so deep that it is likely that sustaining mycorrhizal networks that cross the rides are severed.

5.6. Continued dominance of commercial conifer production. Much of the surviving wildlife of the old forest has been reduced and constrained by the dominance of dark and crowded stands of Western Red Cedar, Western Hemlock,

Norway Spruce, Pines, Larches, etc. Although some mycorrhizal macro-fungi can survive such conditions and some conifer utilising birds (notably Firecrest, Goshawk and Honey Buzzard) need areas of conifer woodland, much of the rich semi-natural wildlife has been severely damaged and has retreated to marginal habitats.

5.7. An imminent wave of extinctions. A whole suite of species which would have been widespread and characteristic in Oldhouse Warren, often dependent on the managed semi-natural rides system, have sunk towards the point of disappearance in recent years.

These at-risk species include: - **Betony, Bilberry, Bristle Club Rush, Brook Lamprey, Brown Trout, Bullhead, Chaffweed, Cross Leaved Heather, Dark Stonewort, Devil's Bit, Glow Worm, Green Tiger Beetle, Handsome Woollywort, Harebell, Heath Milkwort, Heath Rush, Least Pouncewort, Lousewort, Marsh Horsetail, Marsh Violet, Pale Sedge, Slender Parsley Piert...**and many more.

We predict their imminent extinction on-site, if remedial conservation action is not taken rapidly.

References

Abraham, F., Briggs, M., Harmes, P., Hoare, A., Knapp, A, Lording, T., Scott, B., Shaw, M., Streeter, D. and Sturt, N. 2018. The Flora of Sussex. Pisces, Newbury.

Bangs, D. 2018. The Land of the Brighton Line. Bishops, Portsmouth.

Bannister, N. 2022. Oldhouse Warren, Worth Forest, West Sussex summary historic landscape character and a heritage asset statement. High Weald AONB Partnership. 37p.

Mallalieu, M. and Scott-Ham, M. 2022. 2020-2021 Honey-buzzard survey. Sussex Bird Report 2021, 232-242. Sussex Ornithological Society.

Rose, F. 1999. Indicators of ancient woodland: The use of vascular plants in evaluating ancient woods for nature conservation. British Wildlife, 19, 241 - 251.

Sussex Fungal Group. <https://www.sussexfungusgroup.co.uk/fungi-of-worth-forest>

Table 1. Ancient Woodland indicator species present in Oldhouse Warren (after Rose 1999)

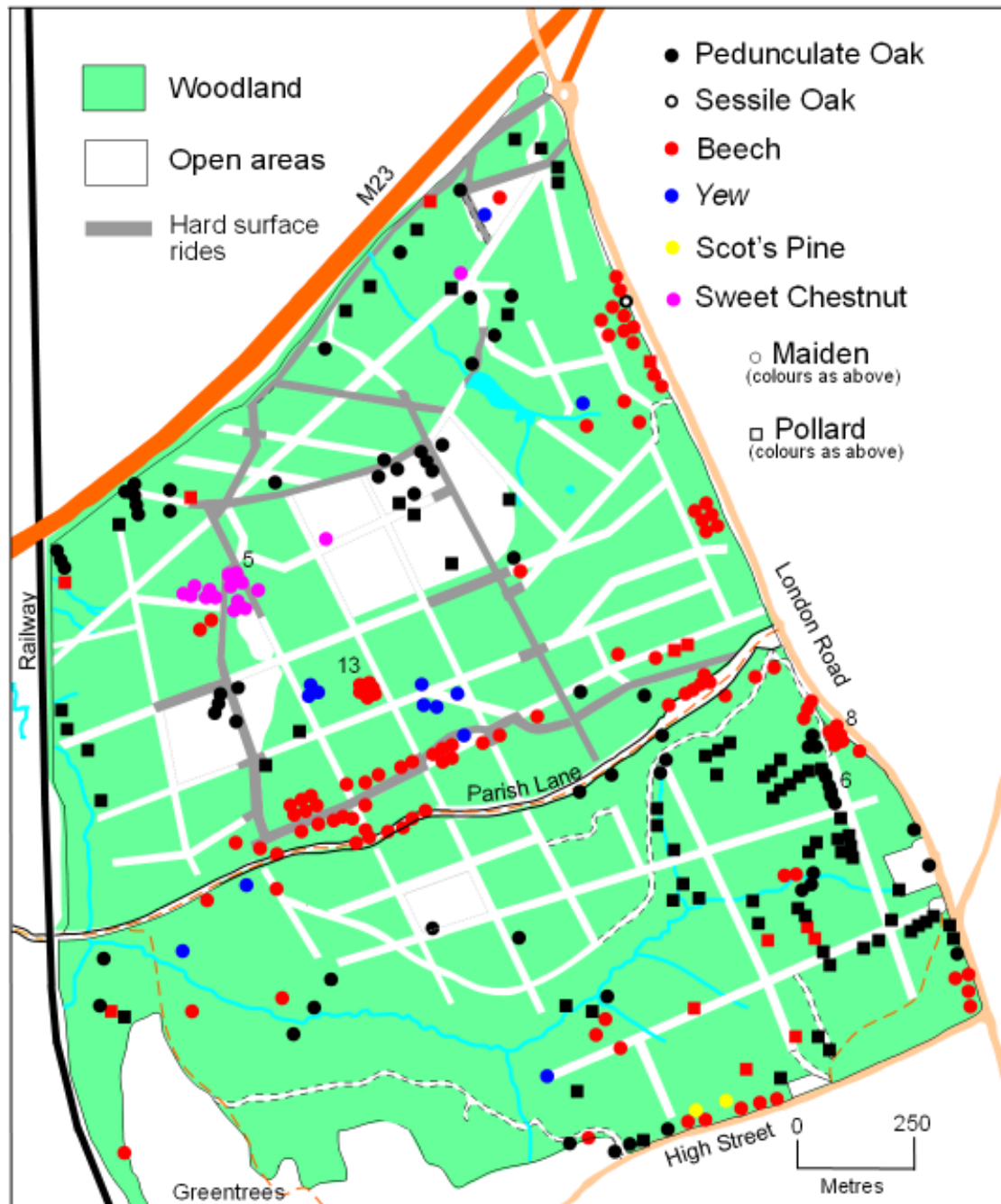
<i>Anemone nemorosa</i>	Wood Anemone
<i>Asplenium scolopendrium</i>	Hart's-tongue fern
<i>Blechnum spicant</i>	Hard fern
<i>Carex laevigata</i>	Smooth stalked sedge
<i>Carex pallenscens</i>	Pale sedge
<i>Carex pendula</i>	Pendulous sedge
<i>Carex remota</i>	Remote sedge
<i>Carex strigosa</i>	Thin spiked wood sedge
<i>Carex sylvatica</i>	Wood sedge
<i>Carpinus betulus</i>	Hornbeam
<i>Centunculus minima</i>	Chaffweed
<i>Chrysosplenium oppositifolium</i>	Opposite-leaved golden-saxifrage
<i>Conopodium majus</i>	Pignut
<i>Convallaria majalis</i>	Lilly of the valley
<i>Dryopteris affinis</i>	Scaly male-fern
<i>Dryopteris carthusiana</i>	Narrow buckler fern
<i>Euphorbia amygdaloides</i>	Wood spurge
<i>Frangula alnus</i>	Alder buckthorn
<i>Holcus mollis</i>	Creeping soft grass
<i>Hyacinthoides non-scripta</i>	Bluebell
<i>Hypericum androsaemum</i>	Tutsan
<i>Hypericum pulchrum</i>	Slender St John's-wort
<i>Ilex aquifolium</i>	Holly
<i>Lamiastrum galeobdolon</i>	Yellow Archangel
<i>Luzula pilosa</i>	Hairy wood-rush
<i>Lysimachia nemorum</i>	Yellow pimpernel
<i>Malus sylvestris</i>	Crab apple
<i>Moehringia trinervia</i>	Three nerved sandwort
<i>Narcissus pseudonarcissus</i>	Wild daffodil
<i>Oreopteris limbosperma</i>	Lemon-scented fern
<i>Oxalis acetosella</i>	Wood sorrel
<i>Polypodium vulgare</i>	Polypody
<i>Polystichum aculeatum</i>	Hard Shield Fern
<i>Polystichum setiferum</i>	Soft Shield Fern
<i>Populus tremula</i>	Aspen
<i>Potentilla sterilis</i>	Barren strawberry
<i>Primula vulgaris</i>	Primrose
<i>Quercus petraea</i>	Sessile/durmast oak
<i>Ribes nigrum</i>	Black Currant
<i>Ribes rubrum</i>	Red Currant

<i>Sanicula europaea</i>	Sanicle
<i>Scutellaria minor</i>	Lesser skullcap
<i>Sedum telephium</i>	Orpine
<i>Solidago virgaurea</i>	Goldenrod
<i>Sorbus aucuparia</i>	Rowan
<i>Stachys officinalis</i>	Betony
<i>Tilia cordata</i>	Lime small leaved
<i>Vaccinium myrtillus</i>	Billberry
<i>Veronica montana</i>	Wood Speedwell
<i>Viburnum lantana</i>	Wayfaring tree
<i>Viola palustris</i>	Marsh violet
<i>Viola reichenbachiana</i>	Early Dog Violet
<i>Wahlenbergia hederacea</i>	Ivy-leaved bellflower

Fig 1. Oldhouse Warren: Base Map



Fig 2. Oldhouse Warren: Larger veteran trees



The lower part of this map is not yet surveyed by us to the same standard as the higher, despite (and because) part of it is in Worth Forest SSSI.

Fig 3. The Worth Forest veteran tree nexus

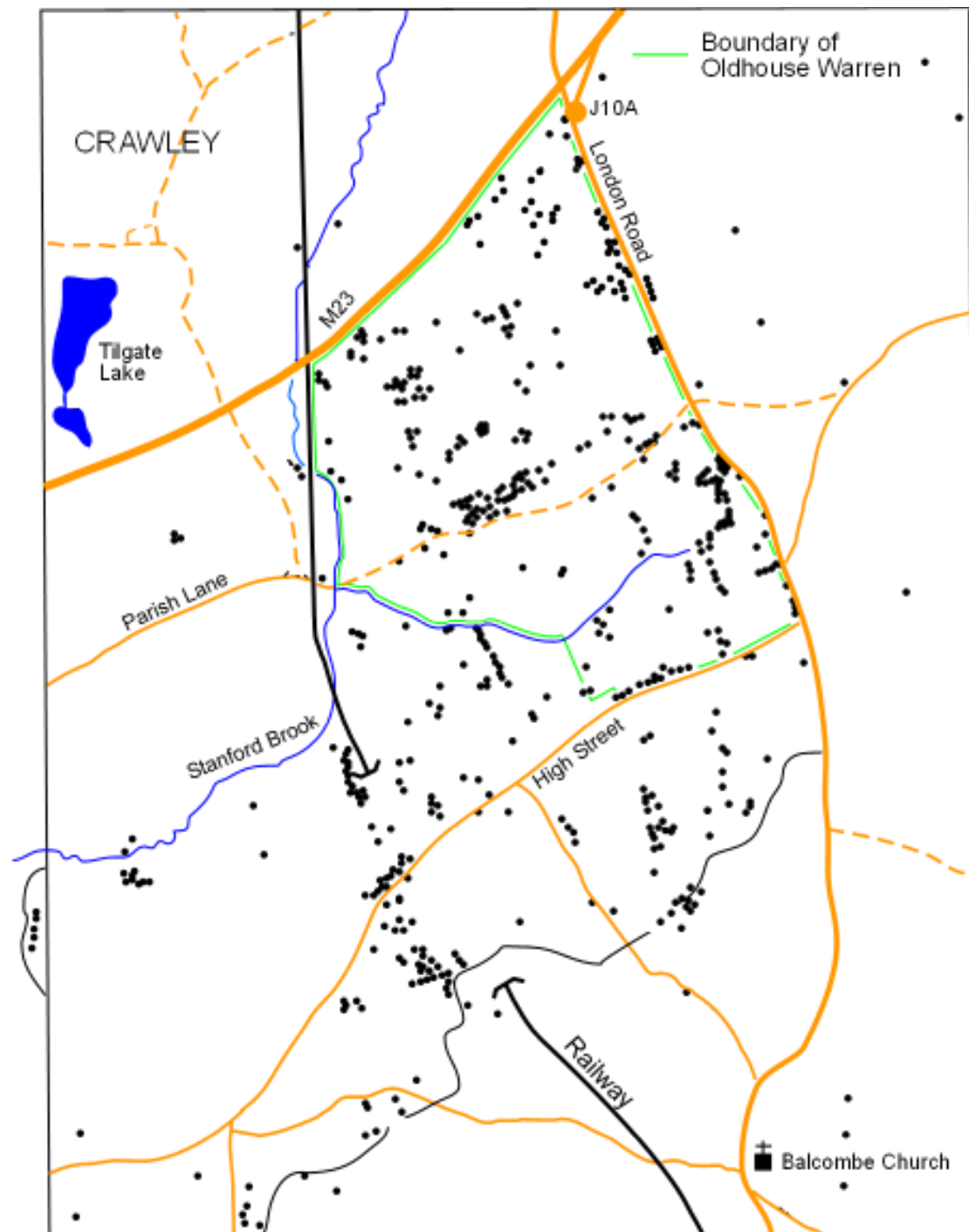
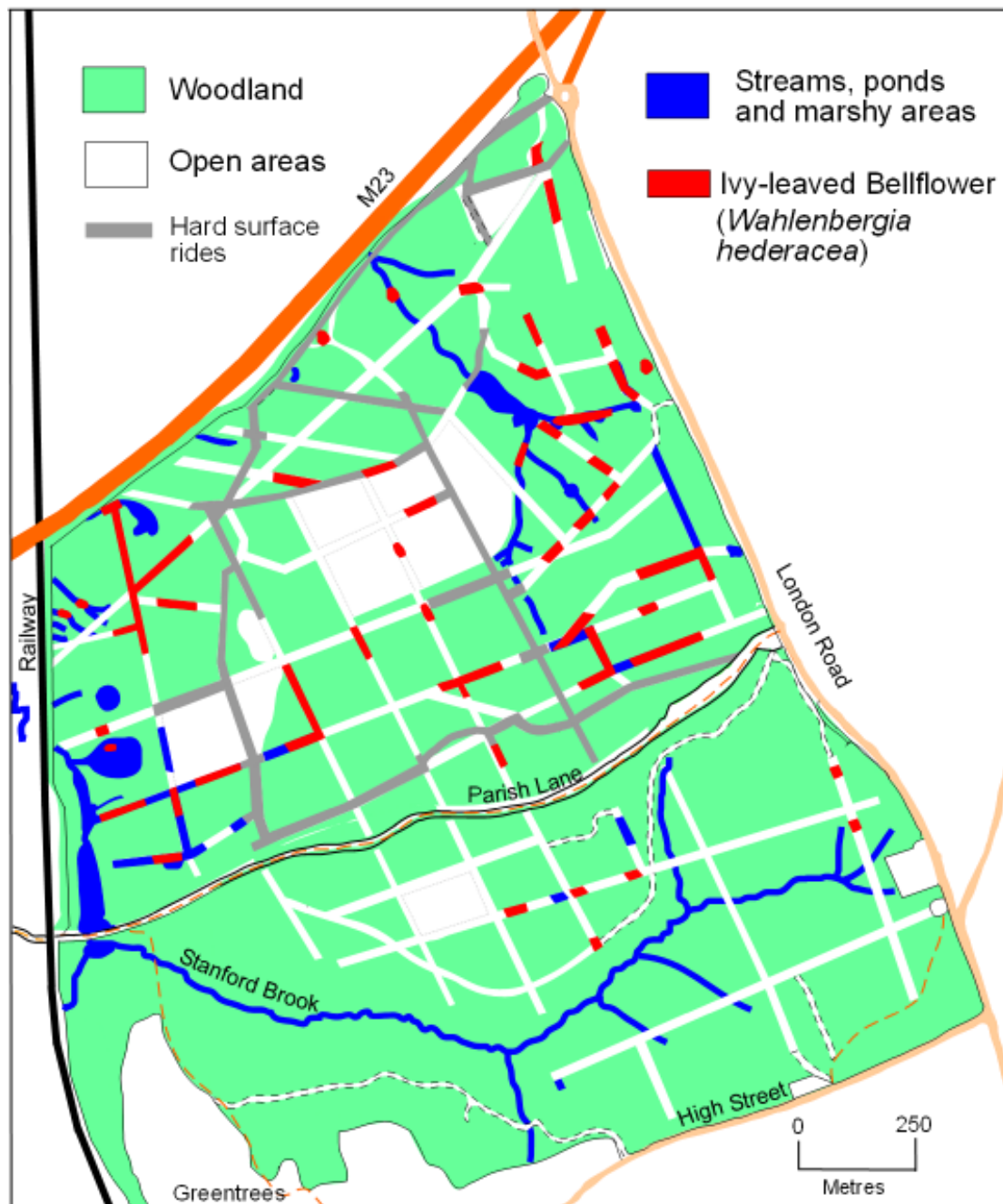
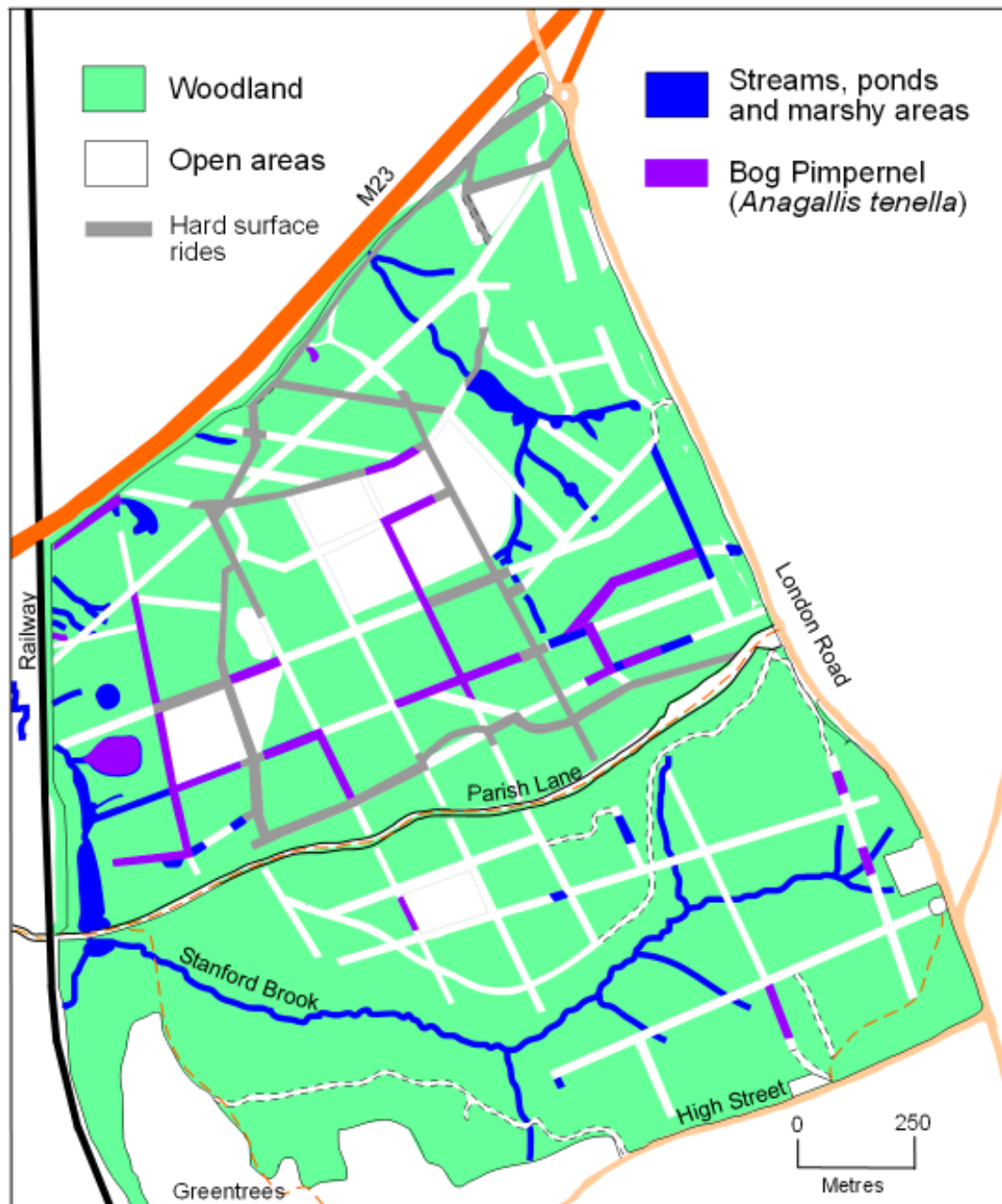


Fig 4. Oldhouse Warren: Ivy Leaved Bellflower, a scarce wet heath indicator



The lower part of this map is not yet surveyed by us to the same standard as the higher, despite (and because) part of it is in Worth Forest SSSI.

Fig 5. Oldhouse Warren: Bog Pimpernel, a scarce wet heath indicator



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Fig 6. Oldhouse Warren: Bog Mosses, *Sphagna*



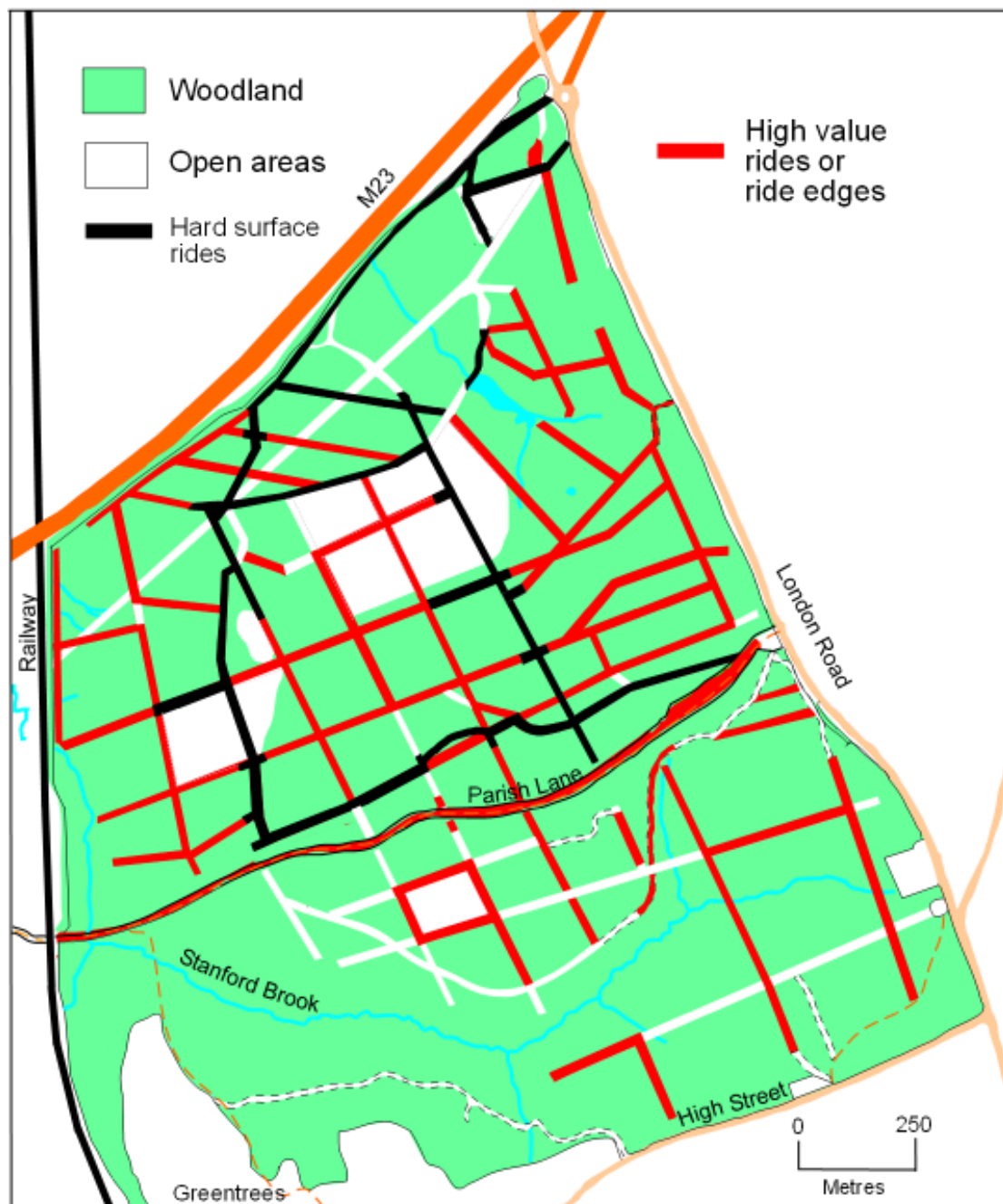
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Fig 7. Oldhouse Warren: Some scarce dry heath indicator plants



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Fig 8. High value (with at least one of the good indicators of marshy, wet heath or dry heath) and damaged rides.



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