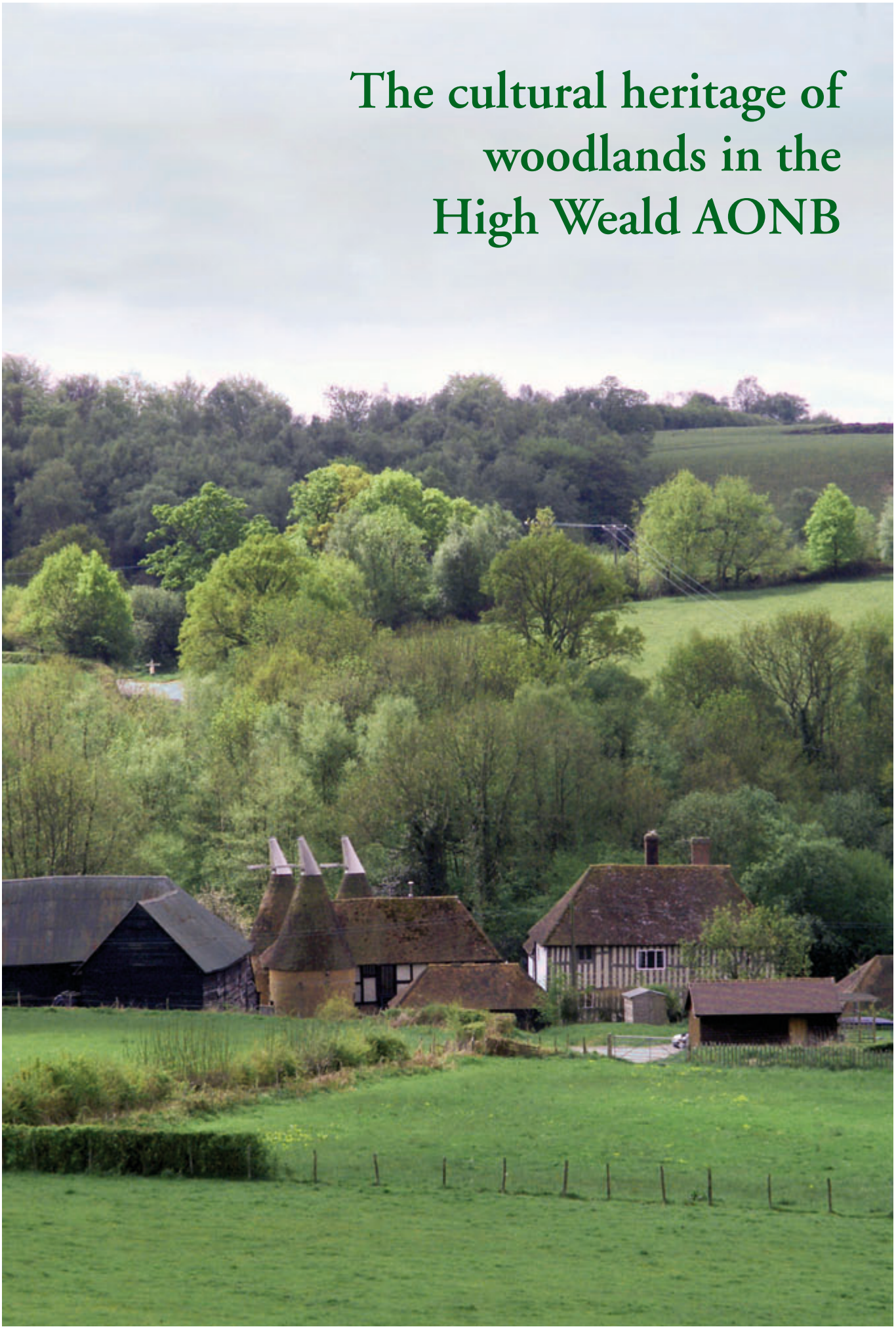
# The cultural heritage of woodlands in the High Weald AONB



*View of the High Weald near Ticehurst in East Sussex (Photo - RH)*

# The Cultural Heritage of Woodlands in the High Weald AONB

**Description of the High Weald AONB**
The High Weald AONB, designated in 1983, covers 1,457 square kilometres, and is the fourth largest AONB in the country. It stretches from St Leonard's Forest in the west to the channel coast at Fairlight near Hastings in the east. The AONB lies mainly in East Sussex, but also extends in the west into West Sussex and Surrey, and to the east into Kentish High Weald [1]. The headwaters of the river systems of the Medway, Ouse and Arun commence in the High Weald. The Rother, Brede and Tillingham rivers also flow through the AONB before discharging into the sea near Rye.

**Geology and Soils**
The High Weald AONB comprises the central part of the Wealden anticline created about 65 million years ago when layers of sedimentary rock (laid down in a marshy plain inundated by the sea) were uplifted by a series of earth movements which also created the Alps. The anticline or dome was raised high above sea level. Its long axis (215km) stretched from the Bas de Boulonnais in France through Kent into Surrey, Sussex and Hampshire. Over the following 20 million years the Wealden dome has been eroded rather like an onion, revealing a very varied geological structure. The oldest exposed rocks - the Hastings Beds - lie in the centre of the Weald and dominate the High Weald AONB. The youngest lie around the outer edge marked by the chalk escarpment of the Surrey Hills and Kent Downs AONBs. Drift deposits are confined to the alluvium accumulated in the lower reaches of the river valleys around the Lower Rother and Brede. The differential erosion of the sedimentary deposits of the Hastings Beds has resulted in a hilly terrain comprising ridges and valleys with deep sinuous gills draining into them [2].

The differential layers of sedimentary rocks which make up the High Weald provide valuable mineral and stone resources. The most well known geological resource exploited in the High Weald is ironstone found in a discontinous layer in the Wadhurst Clay. Where rivers and streams have eroded valleys, these layers became exposed and have been exploited from prehistoric times to the 19th century. The course of these deposits can be traced in a line along the sides of the valleys by looking at field and woodland names, such as 'Mine Pit Copse'. Irregular pits, mounds and excavations are the physical evidence which often survive in the woodland, for example near Mayfield in East Sussex.

**Topography**
The landform of the High Weald is dominated by a

Map 4. Woodland cover in the High Weald AONB

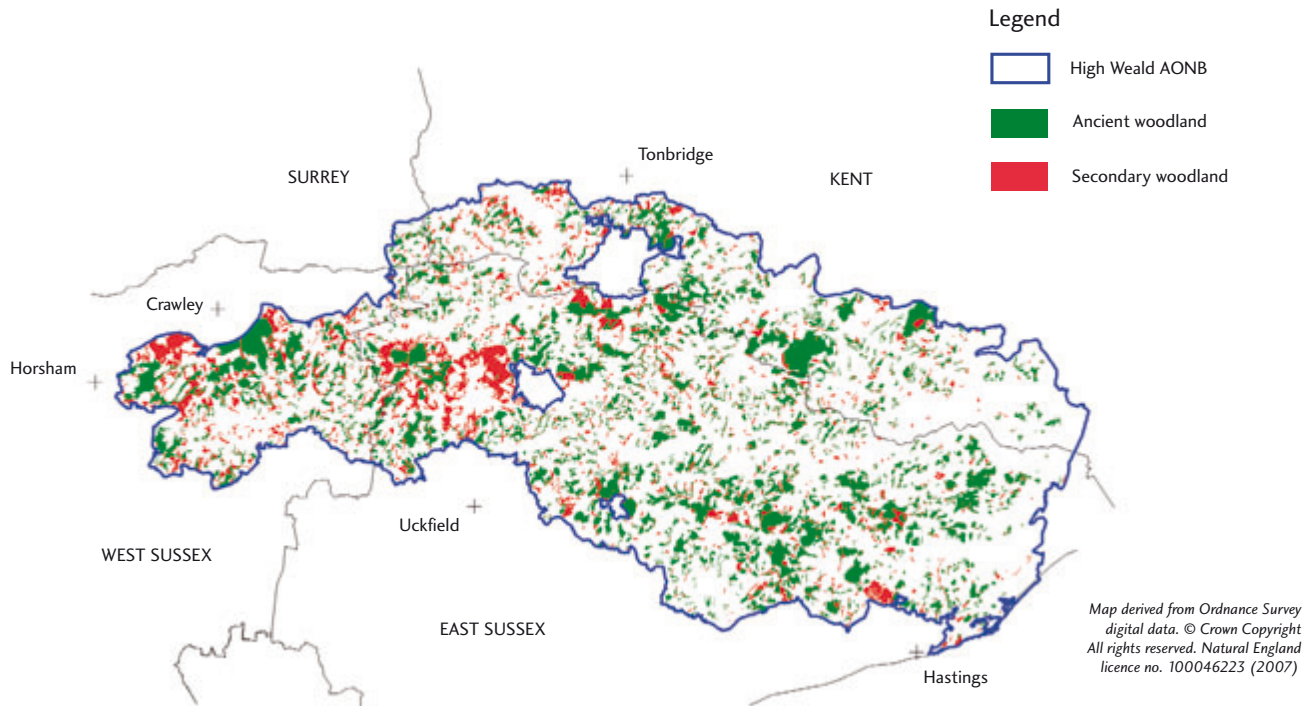


**Table 1. Woodland types in the High Weald AONB (woodlands > 2 hectares)**

| Woodland type | Area (hectares) | % of AONB woodland resource |
|---|---|---|
| Broadleaved | 18,404 | 51.3 |
| Coniferous | 4,957 | 13.8 |
| Mixed | 3,477 | 9.7 |
| Coppice | 3,188 | 8.9 |
| Felled | 2,835 | 7.9 |
| Young trees | 1,984 | 5.5 |
| Coppice-with-standards | 646 | 1.8 |
| Shrub | 249 | 0.7 |
| Ground prepared for planting | 165 | 0.5 |
| **Total** | **35,905** | **100.0** |

Source: Derived from the National Inventory of Woodland and Trees, Forestry Commission, 2000

series of large east-west ridges and valleys; the Battle Ridge terminates at the high cliffs at Fairlight. Just beyond the boundary of the AONB and around the hinterland of Rye, is the denuded cliff escarpment of the former coastline. The sea once extended several miles inland, and the estuary of the River Rother, now heavily silted up, lay close to Rye and Winchelsea. Between Rye and Fairlight are the enclosed marshlands of the Pevensey Levels. To the north lies the Forest Ridge, so called from the several tracts of 'forest' which occupy the high ground. The largest of these is Ashdown Forest, but there are also Worth and St Leonard's Forests as well.

**Extent of woodland type and distribution**

The High Weald has the greatest amount of ancient woodland in any AONB, representing 7% of all the ancient woodland in England. Together, both ancient and secondary woodland cover around 25% of the High Weald. About 11% of the woodland is under active coppice management (see Table 1, above). Of the ancient woodland, 64% is recorded as ancient semi-natural, and 36% plantations on ancient woodland sites [3]. Sweet chestnut is the most frequently cut wood today, because of its value for fencing, construction and furniture.

**Woodland Landscape Character**

The character of woodland within the High Weald is dominated by numerous small woods and sinuous gills interconnected by narrow shaws or rewes. These smaller woods were managed as coppice with standards, but today, many have not been cut for decades and have grown to high forest with mature canopies.

Larger tracts of woods, such as at Brightling, are often a characteristic feature of the larger landed estates.

On the Forest Ridge are large tracts of plantation woodlands in the areas of former 'forests' at Ashdown, Worthing and St Leonard's. Some of these plantations occupy former ancient wood-pasture commons, others are afforested heaths or ancient woodland.

The term 'Forest' has two meanings. In the historical sense a Forest was an area set aside by the Crown for hunting, usually for deer but also other forms of game. The word is derived from the Latin *foris*, meaning 'outside of the jurisdiction of the common law' [4]. The area was not solid woodland, rather a mosaic of woods, coppices, wood-pasture, heaths and commons. Ashdown is an example of a medieval Forest, which still retains to a certain extent its open character and mixed habitats. Other land use activities took place including farming, probably on a subsistence scale. The residents within the designated area were subject to strict 'Forest Laws' laid down by the Crown, with the aim to preserve the deer and game.

Today, 'forest' in the modern sense of the word means high mature woodland, where the trees are managed for timber (not underwood). It is a term brought from the Continent during the 18th and 19th centuries, when large areas were planted with non-native trees, especially conifers. So Worth Forest is so-called in both senses of the word, as much of the former wood-pasture common of the medieval forest was enclosed and planted with conifers in the 19th and 20th centuries.

*Ancient woodland in the High Weald with a carpet of bluebells in the spring (photo - PM)*

**Introduction**
The character of the High Weald is dominated by ancient woodland, ancient routeways and historic dispersed settlement, all well established by the 14th century and surviving in the main part intact through major social and economic changes to the present.

**Prehistory**
Evidence for human impact on the woodlands in the Weald is present from about 8000 BC. Excavations on a Mesolithic site on Iping Common in West Sussex revealed the site was located in dense hazel woodland but that towards the end of its use as an occupation site the locality had developed into a heather covered heathland[5]. At the High Rocks Mesolithic rock shelter site, hazel together with beech, oak, birch and yew dominated essentially a woodland environment [6]. However, the role of wild herbivores in suppressing tree growth and maintaining open glades should not be under estimated. Naturally occurring glades would probably have been focal points where hunters caught animals. Well into the Iron Age (c. 60 BC) the adjacent land at High Rocks was still fairly wooded, with oak predominant amongst charcoal remains found on the site [7]. However, the site of the fort itself was probably cultivated for a period of time before the defence ramparts were built.

The High Weald landscape was shaped in the main by transhumance – the seasonal movement of stock between grazing pastures. But this is not to recognise that other land uses were also taking place in the prehistoric period, including farming and iron manufacture. However, the environmental and archaeological evidence suggests that the High Weald was still a place where hunter/ gather practices prevailed into the Neolithic period of early farming, with seasonal woodland camps exploiting the woodland resources [8]. Where the sandstone rocks are exposed, around the Tunbridge Wells area, woodlands may preserve sites of undisturbed prehistoric camp sites. Naturally occurring sources of water such as springs will have been focal points for seasonal camps, identified today by scatters of flints.

*Mesolithic rock shelter at High Rocks in the High Weald (photo - PM)*

Environmental analysis of sites in the eastern Rother valley reveals a landscape in which early cultivation of cereals with their associated weeds was taking place [9]. The impact of the early farming communities on the woodland cover in the High Weald may have been considerable. Silts and alluvium accumulated in the valleys of the Brede, Rother and Cuckmere indicate significant silt load in the water which can only have come from land with a significant reduction in the number of trees and an increase in the amount of bare soil [10]. Whilst grazing animals will create openings, glades and wood-pasture within woodland, it is not usual for them to create large areas of bare soil as it is with human clearances for cultivation.

Bronze Age burial mounds and Late Iron Age enclosures and boundaries have been found in Ashdown Forest [11]. These former heathy commons may have been caused in part by the prehistoric clearance and subsequent cultivation of the sandy soils. There has, however, been no systematic field investigation of woodland on former heaths and commons, which would identify any further evidence of extent prehistoric field systems and enclosures.

There are six Iron Age hillforts or enclosures within the High Weald and all are thought, from archaeological evidence, to have been associated with iron production. However, they may have served other functions, such as being centres for pastoral farming defence, administration and trade [12].

**Roman**
The High Weald was the centre of Roman iron production, which underwent considerable expansion and development in the 2nd century AD. It is now thought that the Weald comprised two main groups of iron works. The first, an Imperial Estate organised by the Roman Fleet, *Classis Britannica* (CL BR) was centred in the eastern part, while the second, a private group, was located in the western area. By the end of the 3rd century iron production was in decline, with the closure of many of the eastern sites, leaving only the western ones [13]. The main centre for the eastern production area was at

Beauport Park (near Hastings in East Sussex), where an extensive iron working site has been excavated, including a bath house roofed with tiles bearing the CL BR stamp. Around Beauport Park were other iron production centres, such as at Bardown which in turn were served by smaller scattered sites [14]. Iron was manufactured using bloomeries and it is the remains of these with their associated slag heaps and mine or 'bell' pits which can be found in woods and gills throughout the High Weald, where the Wadhurst Clay Formation mudstone comes to the surface.

Bloomery sites are usually identified by rounded slag heaps, the by-product of smelting, and by large concentrations of slag found in the beds of gill streams. Slag was produced in large quantities, and at Beauport Park, the hub of iron production, it has been estimated that 100,000 tonnes of slag were produced, much of which went for metalling roads in the 19th century [15]. Near to a bloomery site there may be evidence of the iron ore pits or 'bell' pits, large rounded depressions, sometimes containing water, with adjacent spoil mounds. Fragments of the ironstone, a siderite mudstone, may still lie scattered on the surface. Such areas of uneven ground were difficult to level and bring into cultivation, thus many still survive in woodland today.

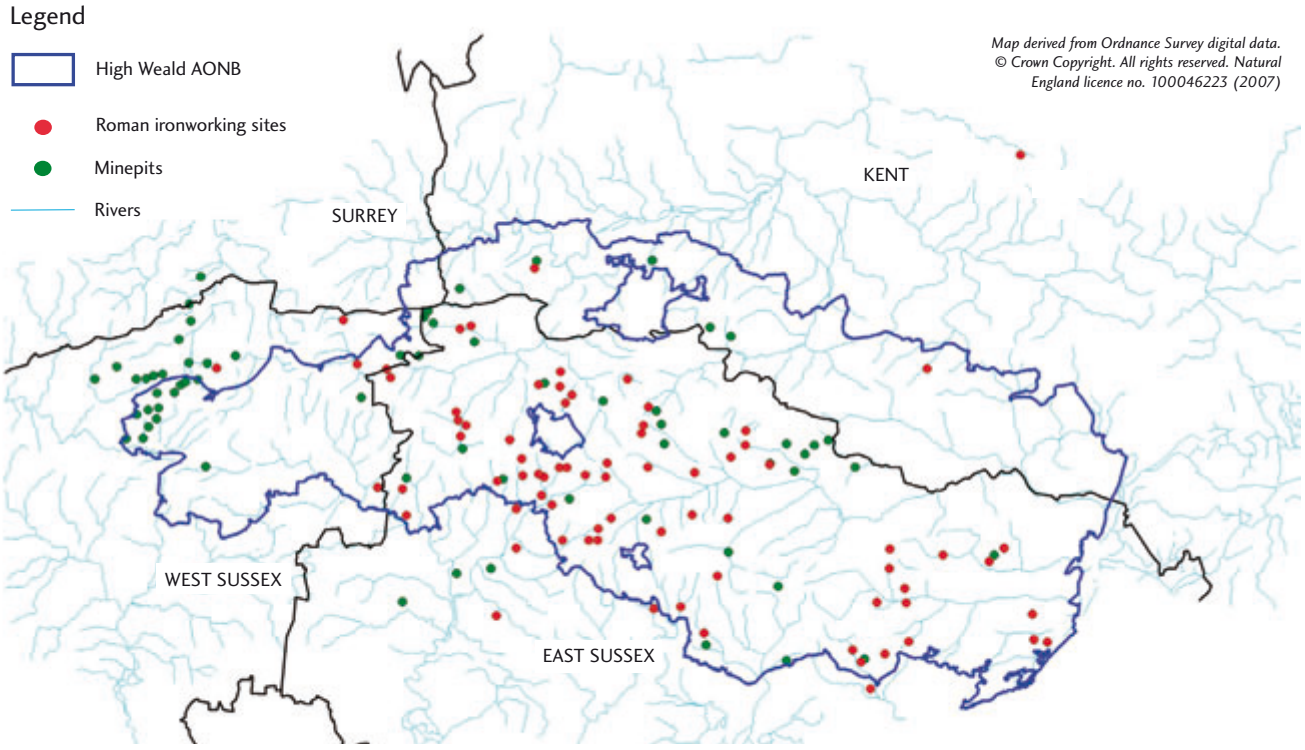
The density of iron production sites suggests that management of the woodland was of prime importance in order to keep a ready supply of suitable wood for fuel. A form of coppicing may have been practiced and it has been estimated that the 750 tonnes of iron produced in the peak period 150 - 250 AD would have required 33,000 hectares of coppice wood [16]. The sheer quantities of material involved in production at this time suggests that there was a large workforce operating in the area. This would have included not only those producing the iron but also those quarrying the iron stone, coppicing the wood, and making charcoal, as well as people to service the workforce, providing food and shelter. Little evidence for these activities has yet come to light.

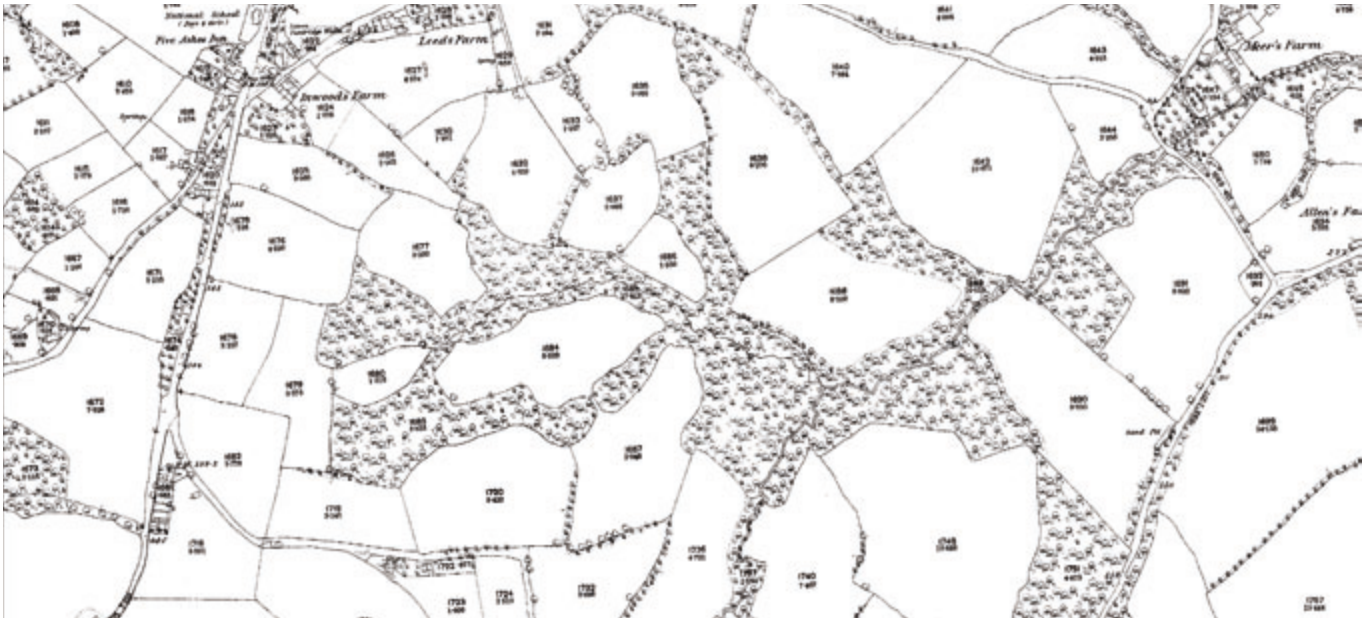
**Medieval**

There were four main driving forces shaping the type of woods in the medieval period. The first was the open wood-pasture and heathy commons with associated woods of the several Forests. These forest landscapes characterise the ridge of high ground in the north of the AONB – the Forest Ridge. A chase was also preserved for hunting primarily by the king but held by a local magnate who could also exercise hunting privileges. These are more commonly found in the Low Weald and West Sussex. As well as chases and Forests, enclosed parks for deer were created as a means of providing a ready supply of venison. These comprised a mix of wood-pasture, enclosed woodland and lawns, all of which were bounded within a roughly circular pale.

A pale comprised a large bank with accompanying ditch or ditches (one on either side). The boundary bank was topped by a wooden 'paling' fence usually constructed of upright posts of oak. It was the duty of the lord's tenants (in the manor where the deer park lay) to maintain the pale in return for land. Eridge Park still retains much of

*Map 5. Roman ironworking sites in the Weald and their relationship to iron-ore minepits (adapted from 'The Making of the High Weald', Harris, R. [2003])*






*Example of later assart woodland east of Five Ashes in the High Weald, from the Ordnance Survey First Edition County Series map for East Sussex (25 inch to the mile, 1869-75). The area is characterised by small irregular fields with wood boundaries which have been carved out of the remaining ancient woodland.*

its medieval character and its earthwork pale. Park pales can still be traced in woodland at Mayfield and the pale of the Tudor deer park at Penshurst is also preserved in woodland. As with deer parks, forests were bounded by pales. The one at Ashdown can still be followed on the ground, in places as a large single or double earthen bank and ditch.

The second driving force shaping woodland in the High Weald at this time was the continued traditional management of ancient coppice woods and gills for underwood and charcoal, predominately for the iron industry. Many of these enclosed woods may date from the period of Roman exploitation of the iron, especially in the area of Bardown and further to the east, towards Hastings.

The third process was one of transhumance; the swine pastures or dens which had their origin in the early medieval period, where pigs and possibly other stock such as cattle were herded in the autumn to feed on the oak mast. Long distance transhumance of swine is not thought to have generally taken place in the High Weald to the same extent as in the Kent, Surrey, and Sussex Low Weald. This is probably due to the distance of territory in the High Weald from potential parent manors and the difficult physical conditions of the ground terrain.

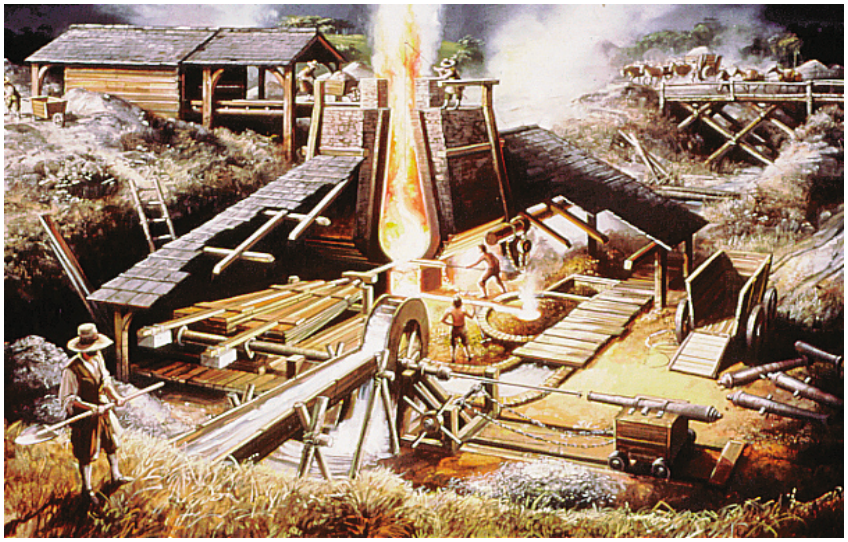
The eastern end of the AONB around Hawkhurst marks the limit of the extent of the dens and drove routes from the Kentish manors. The High Weald dens were probably used by local Saxon settlements. Many of these dens occupied the higher and better ground, which were subsequently cleared and settled by the time of the Norman Conquest.

The fourth driving force was the coppice woods, shaws and gills left by the medieval period of assarting and new farmstead settlement of the remaining early medieval swine pastures or dens. This form of assarting also took place in the Forest areas as well. The later period of assarting is characterised by small, irregular fields (often about an acre in size) which were 'nibbled' out of woods and unenclosed waste. Today, they can be identified by small farms surrounded by small fields, narrow shaws and irregular shaped woods of ancient character.

*Remains of the pale at Ashdown Forest in the High Weald (photo - PM)*

**Use of High Weald Woodlands in the Post-medieval Period**

The amount of woodland still surviving in the High Weald is due not only to the poor soils and terrain being unsuitable for agriculture, but also to the historic demand for timber and underwood products, particularly for industry.



*Artist's reconstruction of a 17thC gun casting blast furnace in the Weald (reproduced with the kind permission of West Sussex County Council)*

**Iron Manufacture**

An expansion in the iron industry in the Weald took place in the Tudor period and reached its height at the time of the Civil War, when furnaces and forges were producing arms for both sides in the conflict. Iron production continued into the 18th century, with the last furnace operating at Ashburnham in East Sussex in the early part of the 19th century. Many of the obvious features of the industry found in woodland today relate to this period of production. The sites often operated on or near to former medieval or Roman forges, a probable consequence of the availability of iron stone.

The hammer pond, a characteristic landscape feature of the High Weald, dates from this time, when flowing water was used to power the huge hammer in the forge and the bellows in both the forge and furnaces. Whilst some hammer ponds still retain water, as for example at Gravetye near West Hoathly, others have become silted up and returned to farmland as at Hawksden near Mayfield. At Furnace Farm close to Bedgebury Forest ('forest' in the modern sense of the word) the pond bay or dam has been breached but still survives in excellent condition in the plantation woodland.

*Artist's recontruction of a 17th century hammer pond in the Weald (reproduced with the kind permission of West Sussex County Council)*

Other features found in many woods and associated with iron production are the slag heaps. These are often much reduced in size as the slag provided valuable hard core for metalling the poor Wealden roads, before the days of tarmacadam. Close by and also in woodland are often found the mine pits where the iron stone was dug out.

The enclosed coppiced woods of the High Weald were dominated by oak and hornbeam, the latter in particular being favoured for charcoal manufacture. At this time, such was the demand for underwood for fuel and charcoal, many woods were converted to just coppice with no 'tellers' being allowed to grow on to replace the standard trees. It has been estimated that an average 16th century blast furnace in the Weald required 2,500 acres of coppice for its coal supplies, with an additional 1,500 to 1,600 acres for its forge [17].

This caused alarm at the highest level of the country, as there was a lack of good quality timber needed for ship

*Remains of a pond bay near Mayfield in the High Weald (photo - PM)*

building at a time when the threat of invasion from the Continent was increasing. Royal Acts were passed in order to preserve timber trees from being felled for iron production.

At the same time, an increase in the demand for wood fuel came from the clothiers based around the Cranbrook area, who were required by Queen Elizabeth I to sell finished cloth i.e. dyed, and that required fuel. Thus the clothiers came into direct conflict with the iron masters, and there was also the demand from the local population for domestic use of fuel.

**Hops**

As the iron industry began to decline during the mid-17th century, a new industry was gaining momentum, the growing of hops for the brewing of beer. The hop plant requires a clean straight pole up which to grow and from which the tendrils hang. The early form of growing was by erecting a 'wigwam' of several poles around a mound of soil in which the hops were planted. These poles were dismantled each year and stored in barns or corners of the fields. In the late 19th and early part of the 20th centuries, a fixed system of upright poles held in place by wires and linked by strings was devised. The hops were encouraged to grow up the strings.

In either system, vast amounts of poles were needed by the hop growers. It was found that the strongest pole, which did not decay in the ground too quickly and which grew rapidly, came from sweet chestnut coppice. This species grows well on a variety of soils and thus large areas of the old hornbeam and oak coppices of the iron industry were grubbed up and replanted with sweet chestnut. Chestnut also made excellent fencing, and could be used for stakes for orchards as well. Woodland owners, especially the large estate proprietors, converted many of their woods in response to this demand. Edward Hussey III of Scotney Castle records in his diaries the grubbing of old hornbeam stools in his woods at Kilndown and replanting with sweet chestnut. Like many of these estate owners Edward Hussey ran his own wood and timber yard, processing timber for home consumption as well as for sale. He also sold standing coppice to local timber merchants [18]. Today there is still (just) a market for sweet chestnut, and the coppice cutters who work the woods have a history stretching back to the 18th century.

**Stone and other mineral extraction**

Many woods within the High Weald retain areas of uneven ground – former diggings and quarries, not only from iron stone exploitation, but also from the quarrying of stone used in building and other structures. Horsham stone, a calciferous sandstone, and 'country stone', a yellow sandstone from the Hastings Beds, streaked with iron veins, were both used locally for building and give the High Weald its distinctive vernacular character. Large and small quarries can be found in many woods, for example on the Gravetye Estate, where sand was also dug locally for brick making.

*Hop field near Witherenden Hill in the High Weald (photo - PM)*

*Typical chestnut coppice in the High Weald (photo - PM)*

**Wood Crafts**

The presence of so much woodland in the High Weald meant that woodland crafts relating to harvesting timber and underwood, as well as working wood into tools, buildings, vehicles, fuel, etc., continued well into the 20th century. However, by the time of the First World War traditional coppicing practices were already in decline. Many of these woodland crafts leave little evidence surviving in woods. Saw pits and charcoal hearths are the most obvious feature but are often difficult to find due to the 'subtle' nature of the earthwork. Woodland crafts and skills are still retained and kept alive today by a small number of people who practice and earn a living by coppice cutting and related crafts in the High Weald.

**Gentrification of the landscape**

The 19th century, with improved transport links by rail and road, opened up the High Weald as a place of scenic beauty not previously appreciated. Small 'gentrified' country estates were springing up on former farmsteads for example around Horsham, close to railway stations. The 'Picturesque' movement in landscape appreciation and design embraced the wooded gills, fast flowing streams and embanked hammer ponds. Gravetye near West Hoathly is a late 19th century semi-formal landscape created by William Robinson. Once an iron master's estate with furnace and pond, it was landscaped with plantations and specimen trees intermixed with the medieval shaws, coppices and small fields [19].

**Management issues and threats concerning the cultural heritage of woods**

The key management issue for the cultural heritage of woods in the High Weald is the lack of understanding and awareness of the history of woodland management and associated land use activities. Our limited knowledge of the origins and function of many features found in woodland is exacerbated by the minimal amount of detailed archaeological research being undertaken. This in turn can lead to a lack of awareness by woodland owners and managers of the impact woodland management and other activities can have on the archaeological resource preserved within woodland.

**Fragmentation of Ownership**

Ownership of woodland in the High Weald often lies with private individuals. There are large tracts of woodland associated with medieval 'forests' which are in trust, public or other secure ownership but the dominant woodland character is of small coppices, gill woodlands and shaws.

Ownership fragmentation is still a real issue, with areas of woodland being subdivided and sold off in parcels to private individuals (who often live many miles away from the site) wishing to own a small piece of wood. Subsequent use of the wood may not be sympathetic and can lead to a decline in the condition of the flora and earthworks. Multiple ownership of a wood can lead to conflicts and disparate, unsympathetic management activities.

**Lack of understanding of wood and tree care**

With many small woods coming into the hands of 'amenity owners', there is a lack of knowledge concerning sustainable and good practice with regard to management and the care of trees. A lack of cutting can

*Traditional hedgelaying in the Weald (photo - PM)*

be just as detrimental as too much. Woodlands which abut equestrian enterprises can also suffer, either as an informal manure dump, or from overgrazing, with bark stripping and removal of ground flora where the fencing is insufficient.

**Policies for enhancement of conservation of the woodland cultural resource**

These are taken from the High Weald Management Plan 2004-2009:

**W1**. To maintain existing extent of woodland and particularly ancient woodland.

**W2**. To enhance the ecological functioning of woodland at a landscape scale.

**W3**. To protect the archaeology of AONB woodlands.

**W4**. To increase the output of sustainably produced high quality timber and underwood for local markets.

**Woodlands to Visit**

The High Weald AONB abounds in many sites where there is open access to woodlands and wooded landscapes, and where many archaeological features can still be seen. These areas are marked on current editions of the Ordnance Survey 1:25,000 Explorer series, such as the woods along the Forest Ridge, and at Bedgebury Forest. However, much of the public footpath network runs through coppices, gill woodland, plantations, wooded heaths, etc., enabling people to view boundary banks, hollow ways and associated features at close hand.

**Footnotes**

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