

A revision of the Ancient Woodland Inventory for Ashford Borough, Kent

**Report and Inventory Maps
March 2009**



**Project carried out by the
Weald and Downs Ancient Woodland Survey**

A revision of the Ancient Woodland Inventory for Ashford Borough, Kent

Project carried out by the Weald and Downs Ancient Woodland Survey for East Sussex and Kent
November 2006 to March 2009

With additional field surveys by Kate Ryland,
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A partnership project funded by: Ashford Borough Council,
the High Weald AONB, the Forestry Commission and Natural England

*Front cover photograph: King's Wood near Ashford
(photograph: Patrick McKernan, Natural England)*





Natural England foreword

Natural England works for people, places and nature, to enhance biodiversity, landscapes and wildlife in rural, urban, coastal and marine areas; promoting access, recreation and public well-being, and contributing to the way natural resources are managed so that they can be enjoyed now and in the future.

Natural England considers that ancient woodlands are irreplaceable, and should therefore be protected and managed so as to maintain and enhance their special character. Knowing where ancient woods are is therefore a key nature conservation need.

The Ancient Woodland Inventory was originally compiled by the Nature Conservancy Council (a predecessor to Natural England) between 1981 and 1992, with the Inventory for Kent being produced first in 1984. The Inventory was further updated in 1990 and 1994 and was digitized by the Forestry Commission in 2000 for use on Geographic Information Systems.

A new inventory revision began in Wealden district in East Sussex in 2004, consolidating the earlier work on the Ancient Woodland Inventory, and including woodlands below two hectares for the first time. This revision has grown to become the Weald and Downs Ancient Woodland Survey, which is now undertaking similar revisions to the Ancient Woodland Inventory across Sussex and Kent. A similar survey is also about to start in Surrey.

This report outlines the work of the project in Ashford borough, taking in additional historical map evidence and site surveys to verify the status of sites. Natural England will add the information captured by this project to the national Inventory. Natural England welcomes the work of this survey, and the increased protection and understanding of ancient woodland that it brings.

Emma Goldberg
Forestry and Woodland Specialist
Natural England

Forestry Commission foreword

As the government department responsible for forestry, the Forestry Commission works to ensure the protection and sustainable management of our woodlands. Ancient woodlands in particular are exceptionally rich in wildlife, and often contain important archaeological and heritage features relating to their past management. The appropriate management and protection of these sites is a key concern for the Forestry Commission, particularly in the South East, England's most heavily-wooded region, which contains some 40% of England's ancient woodlands.

The focus on ancient woodland received a new emphasis in 2005, with the launch by Defra and the Forestry Commission of 'Keepers of Time: A Statement of Policy for England's Ancient & Native Woodland'. This set out the Government's vision that 'Ancient woodlands, veteran trees and other native woodlands are adequately protected, sustainably managed in a wider landscape context, and are providing a wide range of social, environmental and economic benefits to society.'

Ancient woodlands are widely recognised as being irreplaceable habitats, but many are not protected through designation. Local authorities have a key role to play in the protection of this unique resource through the planning process. This role has been strengthened by the publication of Planning Policy Statement 9, which requires local authorities to identify any areas of ancient woodland that do not have statutory protection. The Forestry Commission recognises that this is a complex and potentially time-consuming task and its support for this revision of the Ancient Woodland Inventory for Ashford borough is part of a wider initiative to help co-ordinate similar surveys in other densely wooded districts.

This survey has resulted from a strong partnership between Ashford Borough Council, Natural England, the High Weald AONB Unit, and the Forestry Commission. The Forestry Commission believes that such partnerships, working with local authorities, provide an important means for increasing the understanding, protection, and sustainable management of our historic ancient woodlands.

Alan Betts
Regional Director
South East England Conservancy
Forestry Commission



High Weald AONB foreword

The High Weald Area of Outstanding Natural Beauty (AONB) Joint Advisory Committee (JAC) has been involved in the ancient woodland survey since its inception in 2003, employing the staff team and providing office and support services. Responsible for a large protected landscape in the South East, covering parts of East and West Sussex, Kent and Surrey, the High Weald JAC recognises that understanding what we have is a vital pre-requisite of good decision making.

Ancient woodlands are a fundamental component of the High Weald's character for which it is designated as an Area of Outstanding Natural Beauty: one of England's finest landscapes. Maintaining their extent and ecological functioning is a primary objective of the AONB Management Plan. The Ancient Woodland Inventory provides us with a vital tool to achieve this objective, identifying woodlands with a new degree of accuracy, including those below two hectares. Surveys have now been completed or are underway for 10 of the 11 districts covering the AONB.

We value these woodlands for many reasons, including soil conservation, carbon storage, biodiversity, recreation and timber supply but they also give us new insights into how humans interacted with the landscape in the past, and how people colonised and settled it, farmed and survived. There is an astonishing wealth of cultural history in these woodlands which the survey has brought to light.

I would like to thank the survey team – Philip Sansum, Matthew Grose and Patrick McKernan for all their enthusiasm and dedication to the project. We welcome the support and commitment of our partners in this project, Ashford Borough Council, the Forestry Commission, Natural England and the Kent & Medway and Sussex Biological Records Centres.

Councillor Sylvia Tidy
Chairman
High Weald AONB Joint Advisory Committee

Ashford Borough Council and the revision of the Ancient Woodland Inventory

Ashford borough

Following the merging of Tenterden with the rural and urban districts of Ashford in the local government reorganization of 1974, Ashford is the largest borough in Kent, with an area of more than 580 sq km, much of which is rural or semi-rural and well wooded. The population in 2007 was 112,500 but is set to rise significantly over the next 20 years as Ashford town is a designated ‘Growth Point’ by Government and as such is planned to have an additional 31,000 new homes in the plan period, which represents almost a doubling of the present population.

Whilst Ashford is an attractive place to live and work and has the benefit of some of the best rail links to London and the Continent of any town in the UK, this comes with the pressure for development that is associated with its strategic location in the South East. Whilst most of the planned development is either on brown field sites, such as the former Powergen land close to the River Great Stour in the Town Centre, or on green field sites which were formerly arable land, such as Park Farm on the outskirts of the town and in the Parish of Kingsnorth, there is inevitably direct and indirect development pressure on the many areas of woodland that persist in the Borough.

Not all development affecting woodland is planned and regulated. Ashford has experienced a considerable amount of ‘wood lotting’, where woodland is bought up by companies and then parcelled up into smaller plots for sale. Purchasers of these plots may attempt to secure development within the woodland which the local authority considers inappropriate, and there are examples of ‘bad neighbour’ activities that have occurred in lotted woods. A number of studies and significant planning enforcement work have been dedicated to dealing with this phenomenon in recent years.

Landscape and Nature Conservation

At the regional level, Ashford encompasses the national landscape character designations of the Kent Downs, High Weald, Low Weald, Greensand Belt and Romney Marshes. Of these, both the Kent Downs and High Weald have the statutory protection afforded to designated Areas of Outstanding Natural Beauty. Outside the areas with statutory landscape designation, the South East Plan proposes that local authorities should develop criteria-based policies to ensure that all development respects and enhances local landscape character, securing appropriate mitigation where damage cannot be avoided. In a separate policy relating to Natural Resource Management, the South East Plan also advocates support for the implementation of the Regional Forestry and Woodland Framework, ensuring the value and character of the region’s woodland are protected and enhanced. This is to be achieved by protecting ancient woodland from damaging development and land uses and promoting effective management, economic and sustainable uses of timber products and extension and creation of new woodland areas where appropriate.

In order to effectively protect ancient woodland, it is obviously necessary to first identify where it is, which this valuable revision of the Ancient Woodland Inventory does so well. It is possible to see the potential value of the revision in supporting criteria-based policies to protect landscape character outside the AONBs and in identifying areas of high biodiversity opportunity for the Local Wildlife Trusts' scheme of landscape scale habitat restoration. The outputs of the study can be used to inform innovative, GIS-based habitat information mapping both within the borough and for county and regionally-based programmes, such as the Kent Landscape Information System and the work of the Kent and Medway Biological Record Centre.

From the point of view of European Protected and BAP priority species, such as dormouse, all species of bat and great crested newt, the revision will highlight areas where such species are likely to occur, even where specific biological records for them do not exist. For example, sections of important hedgerows that link to known ancient woodland are highly likely to support flora and fauna that is nationally rare or of at least county level significance. Planting woodland extensions that could effectively link up previously fragmented areas of ancient woodland can offer habitat and species gains which are far greater than those that can be achieved through stand-alone planting schemes. Linking up fragmented habitats is particularly important in this era of dramatic climate change, where species will need to move away from habitats that are becoming unsuitable and into areas of new opportunity.

The Council's aims and priorities

"To protect and improve the quality of life of every resident of the Borough, now and in the future".

This is the stated aim of the Council's Corporate Strategy, 2008, which includes an Environment section, and support for projects which will enhance and protect the environment.

The Natural Environment and Rural Communities Act, 2006, Section 40, refers to a statutory duty of regard for biodiversity which applies to all public bodies, including local authorities. This duty is not only applicable to planning but applies to all aspects of the functions of local authorities, including procurement and management of assets. The Ashford Borough Council actually owns some areas of ancient woodland and the revision may highlight additional areas which will require special management measures.

In the adopted Core Strategy, ancient woodland is specifically referred to as: 'a rich source of biodiversity that should be afforded a high level of protection', and is covered by Policy CS11: Biodiversity and Geological Conservation. The Council has always made a high priority of protecting known areas of ancient woodland by the application of Tree Preservation Orders and, in extreme cases, Article 4 Directions (which have the effect of removing all Permitted Development rights). During the period of survey for this Ancient Woodland Inventory revision, the Council has made three new Tree Preservation Orders which drew upon information provided by the survey work. It is envisaged that further Tree Preservation Orders could be made to protect any vulnerable areas of ancient woodland that are identified by the revision.

Outcomes and future of the project

Ashford Borough Council followed Tunbridge Wells borough in taking up the invitation to review the Ancient Woodland Inventory in its area. It is vital that those districts which are known, or suspected to contain most of the county's ancient woodland resource lead the way in having this important survey work carried out. It would be a great achievement for the whole of this county to have been subject to this type of review and we are very pleased to commend it to our neighbouring authorities.

The Council is extremely grateful to the following organizations and individuals who have given financial and practical support:

The High Weald AONB Unit
The Kent Downs AONB Unit
The Forestry Commission
Natural England
The Kent and Medway Biological Records Centre
Landowners who have allowed their sites to be visited and recorded

Elizabeth Walker
Landscape and Ecology Officer
Ashford Borough Council

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1. Summary

Ancient woodland is a nationally important and threatened habitat, and its existence over hundreds of years has preserved irreplaceable ecological and historical features. The South East has approximately 40% of the ancient woodland in England, but this valuable resource is increasingly under threat from development pressures in this densely populated region. The Weald and Downs Ancient Woodland Survey was set up in recognition of the increasingly important role of ancient woodlands and the deficiencies of the existing Ancient Woodland Inventory.

This report summarises the methodologies and findings of a project, running from November 2006 to March 2009, to revise the Ancient Woodland Inventory for Ashford borough. The Weald and Downs Ancient Woodland Survey has worked with Ashford Borough Council, the High Weald Area of Outstanding Natural Beauty (AONB) Unit, the Forestry Commission, Natural England, and the Kent and Medway Biological Records Centre to provide a robust evidence base upon which to assign ancient woodland status.

The whole of the borough's ancient woodland resource has been re-examined. The area of ancient woodland since the original inventory was produced has risen from 5,801 ha to 6,155 ha, a gain of 354 ha as a result of this revision. This represents a modest increase from approximately 10% to 10.6% the borough's area designated as ancient woodland. The number of parcels of ancient woodland in the revised inventory, by contrast, is almost two and a half that of the original inventory with the gain mostly attributable to small parcels of woodland well distributed across the borough.

The revised Inventory will assist Ashford Borough Council's planners in making decisions about development within the district, thus ensuring that the effects of any development proposals on ancient woodlands can be properly assessed and considered. The revised inventory will also enable a better assessment of the extent and quality of Ashford borough's ancient woodland resource to be made, and will help identify threats to the resource, areas for improving habitat connectivity, and opportunities for the strategic management of key woodlands.

2. Introduction

2.1 Background

Ancient woodland sites over two hectares in size are recorded in the county Ancient Woodland Inventories which were compiled in the 1980s and 1990s by the Nature Conservancy Council (NCC) ¹. These inventories, now brought together as the national Ancient Woodland Inventory, have become an important tool for policy makers and planners whilst also assisting land managers to identify key areas for the restoration and planting of native woodlands and increasing awareness of the importance of ancient woodland.

The original Ancient Woodland Inventory (AWI) for Kent was first produced in 1984, and revised in 1990, by the NCC ². The Inventory was only available on printed maps, until being digitally mapped (digitized) between 1998 and 2000 by the Forestry Commission. This digital dataset was subsequently updated on a case-by-case basis by English Nature (now part of Natural England), the successor to the NCC. For the purposes of this report, a comparison has been

¹ Spencer & Kirby (1992)

² Hutton (1990)

made between the revised inventory and the digitized inventory which became available in 2000. This version is the nearest to the original inventory available to this survey in electronic format, and is referred to hereafter in the text and maps as the ‘original AWI’.

Whilst the compilation of the original inventory was an extremely valuable process at the time, and a landmark achievement for the conservation of British woodland, new information and advances in technology mean that its inaccuracies and omissions can now be addressed. With the pressure on land increasing year on year, these errors can cause significant problems for a planning authority. The original inventory also only recorded ancient woods greater than two hectares in size. In well wooded areas such as Ashford borough, small woodlands are a central part of the fabric of the countryside and make a significant contribution to the overall woodland resource. Their omission from the inventory undermines their protection through the planning process. This survey includes these small woodlands for the first time.

2.1.1 The Weald and Downs Ancient Woodland Survey

The Weald and Downs Ancient Woodland Survey is the name given to the partnership of organisations revising the Ancient Woodland Inventory in the Weald and Downs of Sussex and Kent. Key partners in the survey include the Forestry Commission, Natural England, the High Weald Area of Outstanding Natural Beauty (AONB) Unit, Sussex Biodiversity Records Centre, Kent and Medway Biological Records Centre, the South Downs Joint Committee, and local authorities.

The aim of the survey is to revise and update the Ancient Woodland Inventory in these areas, and to include, for the first time, ancient woodlands less than two hectares in size. For East Sussex and Kent, the survey is based at the High Weald AONB Unit. For West Sussex, the survey is based at Sussex Biodiversity Records Centre.

2.1.2 Ashford Ancient Woodland Inventory revision

Ashford borough is well wooded. Of the 67 local authorities in the South East region, it has the 14th greatest area of woodland, and the fifth greatest area of ancient woodland, with more than three quarters of its woodland area identified as ancient. These ancient woodlands represent a significant resource, covering 10% of the borough (based on the original AWI), the ninth greatest ancient woodland land cover percentage for a local authority in the region³.

Ashford encompasses appreciable parts of the High Weald AONB and the Kent Downs AONB where fields and woodlands form an intimate mosaic. Ashford’s core area, lying in the Low Weald and Wealden Greensand character areas (see Map 1) is also important for woodland. Many of the woodlands in all these areas are field shaws, belts of trees, or woodlands less than two hectares in size.

The extent of woodland in the borough, and the absence of small woodlands in the original Ancient Woodland Inventory were important factors in deciding to undertake this revision of the inventory.

³ Based on analysis of the Forestry Commission’s National Inventory of Woodland and Trees (2000), and the Ancient Woodland Inventory (2000) by Philip Sansum, High Weald AONB Unit, 2008.

2.1.3 Historical and ecological overview of the woodland of Ashford borough

The interacting factors that shape the character and distribution of woodland in Ashford are the climate, underlying geology and soils – the root environmental controls on the development and composition of vegetation – and the changing ways in which this vegetation has been used and controlled as a resource by people through history.

Ashford is rich in woodland, not just in the size of its resource (having more woodland than any other district in Kent and Medway) but also in the great ecological and historical diversity of its woods. Some, such as the Hamstreet Woods National Nature Reserve (NNR) and those in the Wye and Crundale Downs NNR are well known and scheduled as of national importance in terms of their biodiversity⁴ and a handful of other woods in the borough are notified as Sites of Special Scientific Interest (SSSIs). There are, however, an abundance of woods of equal ecological and historical interest in the borough including hundreds of small semi-natural woods of distinctive local character which have received relatively little study or attention from science or nature conservation.

The basis of this variety is the range of topography and geology encountered within Ashford's area (see Map 1). On the sandstone of the High Weald in the southwest of the borough one may find cool, humid gills hosting communities of species more typical of the westernmost, so-called Atlantic, regions of the British Isles. Such vegetation is in stark contrast to the beech hangers and mixed ashwoods of the dry south- and west-facing chalk escarpments of the Kent Downs in the north and east of the district or, for that matter, the broad flat stretches of shady hornbeam woodland straddling the parish boundaries of the Low Weald claylands.

A brief look at the maps and figures in this report will reveal an interesting spatial pattern in the distribution of the woods in the borough. The bulk of the ancient woodland resource, in terms of area under trees, is concentrated around the periphery of the Wealden basin at the south and on the flinty clay soils of the plateaux and dip slopes of the North Downs in a rather small number of very large woods. The interior of the Weald by comparison contains a lesser amount of woodland (although its area is still well wooded by English standards) distributed among numerous relatively small and isolated woods. This may seem somewhat counter intuitive given that in prehistoric and early mediaeval time, as is generally accepted, the Weald was a very heavily wooded area. The reasons for this are bound up in the long story of human settlement in Kent⁵.

The first significant human inroads into the woodland cover of the South East began in the Neolithic period⁶ and continued through prehistory and into the mediaeval period. In spite of this, forest clearance for agriculture on the heavier clay soils of the Weald and North Downs was less rapid than elsewhere, for example on the fertile coastal plains and South Downs⁷, and by the time of the Norman Conquest the Weald was still a great 'forest'. We do not know exactly what this forest looked like and the details of how people used it are still being debated and researched⁸. It was certainly not an untouched wilderness as some early historians supposed. It had been affected by the activities of prehistoric peoples and, particularly on its fringes, been exploited as a source of the charcoal fuel and iron ore of Roman iron production⁹. Pioneering settlement of

⁴ Ratcliffe (1977)

⁵ Witney (1976, 1990); Everitt (1987)

⁶ Drewett, Rudling & Gardiner (1988)

⁷ Brandon (2003)

⁸ *ibid*; Harris (2003)

⁹ Cleere & Crossley (1995)

this region of common wooded land had been ongoing since the 7th Century. Nevertheless, it has been estimated that the county of Kent still had perhaps a third of its area wooded at this time (the 11th Century)¹⁰ and, significantly, the more intensively cleared and farmed districts lay mostly outside of what is the modern borough of Ashford.

The chief value of the woodland in the Weald of Kent at this point had been as an extensive pannage and pasturage resource used, at first seasonally and later through a scatter of permanent settlements, by the Jutish herdsman of east Kent. The woods, though certainly exploited, were not managed intensively or systematically for their timber and underwood produce. The exceptions to this were those woods situated close to the coast and to navigable waterways or near the settlements of the downs and plain. These woods would always have been more closely husbanded; their accessibility made them of disproportionate value compared to the plentiful, but difficult to extract, supply of wood in the poorly settled interior of the Wealden forest. These woods are the same as those seen dominating the Ancient Woodland Inventory for Ashford borough – the still extensive forested areas on the clay hinterland of the Romney Marshes in the parishes of Kenardington, Warehorne, Orlestone, Ruckinge and Bilsington and in the modern parishes of Charing, Challock and Godmersham within reach of the Thames basin and its ancient settlements.

The situation changed dramatically in the period following the arrival of Norman rule. The great increases in population which Kent saw at this time meant that the demand for the produce of woodland, in particular as fuel, drove up immensely the value of wood resources. In consequence, the already well preserved woods mentioned above became a very significant asset and received even better protection, with valuable markets for firewood not just in Kent but across the English Channel. To quote Witney¹¹, “in the 13th century and up to the Black Death these woods were a source of wealth comparable to the coalfields of the 19th Century and the oilfields today, with the added advantage of being constantly renewable”. The land-hunger associated with this growth could only be accommodated by human settlement being driven into the Wealden forest. With the economics of pannage decreasingly viable under these conditions the landscape of the Weald we see today, of small woods in intimate mixture with fields, was largely formed during this period. It has been proposed that the woodland cover of Kent was transformed from 121,000 ha in the year 1000 AD to 40,000 ha over the next three centuries¹².

Thus is explained the relative paucity of large tracts of woodland in Ashford borough’s Wealden centre. The bigger woods that do remain here are invariably situated on the margins of historical human units of land administration. The implication is that these are the relics of more extensive pre-Norman woodland-pastures or ‘dens’ which were gradually assarted (fields were incrementally cut into the wood from its outer edge) on multiple fronts by neighbouring farming communities pushing back the boundaries of the wood towards some, eventually formalized, territorial limit. Often these limits would also coincide with the poorer agricultural ground since the mediaeval colonists of the dens would have felt out the better drained and more cultivable spots on which to centre the new settlements. Bannister’s detailed study of Dering Wood¹³ (TQ900440), one of a small number of large surviving Wealden interior woods in the borough, exemplifies, and expounds this process. Many of the small woods throughout the area represent the culmination of a process akin to this whereby the wood resources needed to support a settlement were chased back onto the lands with the poorest soils.

¹⁰ Witney (1990); and see Roberts (1998)

¹¹ *ibid*

¹² Witney (1990); Roberts (1998)

¹³ Bannister (2002)

In addition to these relic woods, a proportion of the small ancient woods of Ashford are secondary, that is they have arisen on land cleared of its original tree cover for some purpose. Many woods may have arisen on marginal land which fell into disuse following the Black Death in the 14th century (or subsequent lesser historical depressions in farming activity) and still more occupy man-made features such as the rims of abandoned marl-pits, chalk diggings and stone quarries (see 4.2.5). Quantification of this interesting distinction within the ancient woodland resource must await a future study.

Since the demise of pannage and pasturage as the dominant woodland management system the prevailing historical treatment in Kent woods has been some form of coppice. Arguably, this sustainable harvesting regime – a symbiotic relationship between trees and man – may have been operated more or less continuously from the Norman period until the end of the 19th century, albeit with fluctuations in intensity, demand, style and the type and quantity of output¹⁴.

Due to a combination of factors, including the coming of railways and arrival of cheaper substitutes for many of the uses of wood (and for hops), the surging market for coppice produce of the mid 19th century was swiftly followed by a slump and the widespread abandonment of traditional woodland management in the late Victorian period continued into the 20th century. The situation in Kent was less extreme than elsewhere in the country due to a sustained demand, at least locally, for significant loads of roundwood for paper pulp and pitwood. Nevertheless, coppicing had reached a very low ebb by the end of World War II and the planting of non-native, usually coniferous, tree species grew significantly in the post-war period. Today many woods in Kent are dominated by either a derelict broadleaved coppice or neglected conifer plantations. The closing of the broadleaved roundwood intake to the paper mill at Sittingbourne in Kent in 1991, and the recent closure of other mills throughout the country has significantly weakened the market for underwood in South East England. Without new incentives to resume the coppice systems that have formed and defined these woods down the centuries, their ecological and cultural heritage is at threat. Some hope of revival has arrived in the form of renewed interest in the firewood market and the currently burgeoning interest in wood-fuel as a heat source.

2.1.4 Project aims

The primary aim of the Weald and Downs Ancient Woodland Survey is to re-examine all available information and to present a revised Ancient Woodland Inventory for a local authority area. This enables local authority planning officers to identify areas of ancient woodland and hence provide these woodlands with the appropriate recognition in accordance with planning guidance and policy.

Additional aims of the survey are:

- To develop a better understanding of the key issues and threats affecting ancient woodland.
- To document the location of ancient woodland sites within the local authority areas which will help to identify areas of opportunity for environmental enhancement, increase the understanding of habitat connectivity, and highlight woodland areas for targeting woodland management programmes and grant funding.

¹⁴ See Roberts (1998) for a scholarly and readable account of the history of the use and management of woodland in Kent.

2.1.5 Project funding

The revision of the Ancient Woodland Inventory for Ashford borough was jointly funded by Ashford Borough Council, the High Weald AONB Unit, the Forestry Commission, and Natural England. Additional support for the project was provided by the Kent and Medway Biological Records Centre.

2.2 Ancient woodland definitions

Woodlands in Britain are routinely grouped into the two categories of ‘ancient woodland’ and ‘recent woodland’ according to their history. This follows the pioneering research on the subject by George Peterken, Oliver Rackham and others in the 1970s¹⁵. The distinction is now well established as a useful one and the concept of ‘ancient woodland’ is embedded in national forestry and nature conservation policy.

2.2.1 Recent woodland

Secondary or recent woodland (less than 400 years old), is where a wood has either been planted on an area of land, or where trees have been allowed to grow naturally through regeneration, usually as the result of a cessation in land use management¹⁶. Recent woodland sites can show similarities to ancient woodland depending on their age, proximity to ancient sites and the diversity of microhabitats within the site. However, generally their biological diversity is not as great as that of ancient woodland. These woods are therefore excluded from the Inventory.

2.2.2 Ancient woodland

The definition of ancient woodland used for this survey is that given by English Nature (now part of Natural England), as included in an English Nature guidance document on ancient woodland for local authorities¹⁷. The relevant extract from this document is included below:

‘Ancient woodland in England is defined as an area that has been wooded continuously since at least 1600 AD. Ancient woodland is divided into ancient semi-natural woodland and plantations on ancient woodland sites. Both types of stand are classed as ancient woods.’

The trees and shrubs in ancient woodlands may have been felled or cut for coppice at various times since 1600, but as long as the area has remained as woodland, i.e. the coppice stools have regrown or the stand has been replanted soon after felling, then it still counts as ancient woodland. Because it may have been cut over many times in the past, ancient woodland does not necessarily contain old trees.

The date used to define ancient woodland for England, 1600 AD, was chosen by Peterken¹⁸, because it reflected the point at which good maps started to become more common and was prior to the impetus for new woodland planting from the publication of Evelyn’s influential book ‘Sylva’¹⁹. Other dates could be argued for: 1650 was used by Peterken and Harding²⁰ to

¹⁵ e.g. Peterken (1977), Rackham (1980)

¹⁶ Bannister (2007)

¹⁷ Kirby & Goldberg (2006)

¹⁸ Peterken (1977)

¹⁹ Evelyn (1664)

²⁰ Peterken & Harding (1974)

distinguish post-medieval woods in Rockingham Forest, as a detailed map for that area was produced at that time, while Rackham uses 1700²¹. In practice 1600 has been adopted for policy and practical purposes in England.

Ancient woodland is divided into ancient semi-natural woodland and plantations on ancient woodland sites. Both types of stand are classed as ancient woods.

Ancient semi-natural woodland (ASNW)

Ancient semi-natural stands are those that are composed predominantly of trees and shrubs native to the site that do not obviously originate from planting. They include stands that may have been managed by coppicing or pollarding in the past, as well as those where the tree and shrub layer has grown up by natural regeneration.

Ancient replanted woodland (or PAWS)

Ancient replanted woodland sites (also called Plantations on Ancient Woodland Sites, or PAWS) are areas of ancient woodland where the original native tree cover has been felled and replaced by planted stock most commonly of a species not native to the site, for example conifers such as Norway spruce (*Picea abies*) or Corsican pine (*Pinus nigra var. maritima*), but also broadleaves such as sycamore (*Acer pseudoplatanus*) or sweet chestnut (*Castanea sativa*) [but see 3.2.5, below].

The division between semi-natural stands and plantations is not always easy to define, because there are intermediates, for example small clearings within woods, old plantations of native species, semi-natural structured stands of introduced species, planted conifer stands that now contain a proportion of self-sown native broadleaves, or semi-natural tree layers with no native understories or improved ground floras. Therefore a judgement may be necessary as to the balance between the planted/introduced elements versus the native/naturally regenerating elements.

For the purposes of this survey, the following definitions have also been used to help define areas of ancient woodland:

- Areas with continuous woodland cover.
- Areas managed or periodically cleared for timber or underwood production.
- Areas regenerating following woodland management.
- Open grazed areas within the woodland site (at least 20% canopy woodland over 80% of the site).
- Temporary clearings that may have been created within the woodland complex but which have regenerated, or are regenerating, back to woodland.

2.2.3 Ancient wood pasture

Wood pasture describes woods derived from ancient pasture woodland managed for both trees and livestock or deer²². These woodlands are usually associated with ancient deer parks, Royal Forests or wooded common land. They frequently occur in a mosaic with other habitats and the boundaries are often poorly defined. Wood pasture was previously included on the original Inventories as ASNW where recognisable stands of trees evident on old maps remain unchanged.

²¹ Rackham (2003)

²² Harding & Rose (1986)

Parkland sites with wide-spaced trees were omitted²³. However, the map sources used for the original Inventories were often inconsistent with only a partial coverage.

The revision of the Ancient Woodland Inventory in Wealden district, East Sussex highlighted the problems of classifying woodland sites in historically more open areas such as the Ashdown Forest and other former commons and hunting forests²⁴. Some of these woodlands had been classified on the original inventory as ancient whilst others had been omitted. However, re-examination of the historic map and other evidence does not always appear to support these decisions. Study of the historical extent of these sites can reveal a complex management history with a mixed pattern of woodland, grazing and shifting agricultural use²⁵. This spatial complexity and ‘historical dynamism’ within the woodland vegetation is also paralleled in Kent in some old woodland sites on the North Downs²⁶.

Within the revision of the Ancient Woodland Inventory for Ashford borough, some sites were classed as a subcategory of ancient woodland, wood pasture, whilst keeping the ASNW/ PAWS split.

The following criteria were used to define the subcategory:

- Wooded today (at least 20% tree cover over 80% of the site).
- Woodland shown on the Ordnance Survey First Edition County Series maps (produced for Kent 1858-73), with the cartography indicating at least 20% tree cover over 80% of the site.
- Former enclosed Forest or common land as identified on the Ordnance Survey Drawings (1795-1801).

(See section 3.2.2 for a fuller description of these map sources).

Pasture woodland was therefore defined as a semi-natural habitat that has retained a wooded nature throughout recent history as documented by the above map sources. The revised inventory includes these areas and they can be readily extracted from the dataset.

²³ Spencer & Kirby (1992)

²⁴ Westaway (2005)

²⁵ Greenaway, Roper, & Ryland (2004)

²⁶ Bannister (2007); Tuson (2007)

3. Methodology and Sources

The guiding principles followed in this project are those used to compile the original inventory. The work utilised methods piloted in the Wealden inventory revision²⁷ and developed in subsequent revisions to the inventory for Mid Sussex and Tunbridge Wells²⁸ combining digital map sources, field surveys and archive research.

The revision represents a complete and systematic rebuilding of the Ancient Woodland Inventory dataset for Ashford borough. It draws heavily on the established intelligence contained in the original inventory (and its subsequent amendments) but also reappraises this information in the light of a range of, often hitherto unavailable, evidence sources. The availability of high precision digital mapping tools and large-scale historical map sources in digital format mean that, for the first time, small ancient woods (less than two hectares in size) can be routinely included on the inventory for Ashford borough. Whilst the methodology aims to be systematic and robust, because of the regional scope of this research, the methods are, by necessity, relatively simple and quick with more detailed historical and field surveys confined to a priority set of sites. The inventory is therefore inclusive, meaning that the default for borderline sites, or those for which data is lacking, is that they are retained on the inventory, thus ensuring they can be considered in future surveys²⁹.

3.1 Software

The mapping of woodland in this project and much of the map research underpinning the final dataset was done in a Geographic Information System (GIS). This allows the relatively rapid comparison and combination of a variety of spatial data sources. Importantly, it also allows the editing of the dataset to a standard of spatial precision which would have been impossible to achieve within the space of time available without such technology. The GIS software used was *ESRI ArcMap 8.3*³⁰. The resulting GIS database can be linked to external databases which hold more detailed site survey and archive data.

Data accrued from on-the-ground woodland survey in the project is held in a Recorder 6 database from which a report for each site outlining the main survey findings can be generated³¹. Recorder 6 is specifically designed for biological recording. It allows species observations and habitat data to be captured in an electronic format that is compatible with the National Biodiversity Network. This enables the methods of data storage to be easily reproduced and also allows easy exchange of data.

3.2 Inventory revision

The approach to mapping ancient woodland used in this project is deductive. A relatively large set of woods is first captured from highly accurate and reliable but relatively recent map evidence. This ‘indicative ancient woodland dataset’ is then sequentially refined and filtered by interpretation of further sources of evidence, historical, ecological and archaeological. The procedure for revising the ancient woodland inventory has three interlinked elements:

²⁷ Westaway (2005)

²⁸ Westaway, Grose & McKernan (2007a); Westaway, Grose & McKernan (2007b)

²⁹ Spencer & Kirby (1992)

³⁰ ESRI (2002)

³¹ JNCC (2007)

1. Desk-based mapping – capture of the dataset
2. Research on historical maps and documents – refinement of the dataset
3. Field survey work – refinement of the dataset

3.2.1 Desk-based mapping - capture of the dataset

The initial stage identified, with a high degree of spatial accuracy, that subset of the present-day woodland resource which could clearly be demonstrated to be long-established woodland. Woods of late 19th century and 20th century origin were thereby eliminated from the search.

This capture of potentially ancient woodland sites employed two key mapping elements:

- The current Ordnance Survey *MasterMap* Topographic Layer displayed over recent high-resolution aerial photographs covering Ashford borough.
- Ordnance Survey First Edition County Series 25 inch to 1 mile map: Kent 1858-1873 (also referred to in this report as ‘Epoch 1’, a term used by historians).

The first of these is the modern vector dataset from which other current OS map products are derived. It is the ‘industry standard’ baseline for the creation of maps and geographic datasets in the UK. The second is the earliest very large scale mapping to give a complete and systematic national coverage. It is sufficiently accurate that, following its recent digitization and georectification by a partnership between the Ordnance Survey and Landmark Solutions, it can be routinely used in a GIS environment alongside modern datasets (see Figure 1). Both maps were surveyed at comparable scales of 1:2500 or greater and are arguably the most detailed and precise maps ever produced as a national coverage. As such, the comparison and integration of these sources provides an ideal method for the accurate capture of historic woodland boundaries – including small woods – as a first stage in revising the Ancient Woodland Inventory.

Working systematically through a grid of 500m x 500m cells covering the borough, all *MasterMap* polygons visibly woodland on the aerial photograph were compared with the Epoch 1 maps in order to identify those areas of woodland common to both. Each woodland *MasterMap* polygon (or part of) was coded according to its presence or absence on the Epoch 1 map (this approach is flexible, in that more layers of map evidence, if available for a given region, can be worked into the procedure). For the purposes of this mapping, woodland was defined as land with at least 20% canopy woodland over 80% of the site. Any continuous blocks of woodland were regarded as discrete sites with historical or ownership boundaries disregarded; ponds and other open areas within the wood less than one hectare in size were included. Man-made linear features passing through wooded areas such as surfaced roads have generally been edited out of the polygon whereas unsurfaced tracks and natural and semi-natural linear features such as watercourses less than 10m wide have been included as part of the woodland polygon.

Woods which were depicted on the Epoch 1 map but are no longer visible (lost woods) and woods which appear in *MasterMap* and recent photographs but which are not shown on the Epoch 1 map (woods apparently of recent origin) are systematically identified in this way. The absence of a wood on the highly accurate Epoch 1 maps was generally considered sufficient evidence to eliminate it from the search for ancient woodland where it only appeared on later maps or aerial photographs. An important tenet of the methodological approach adopted was that no other elimination of woods depicted on the Epoch 1 maps was carried out based on judgement or interpretation of the map at this capture stage. Many woods shown on these maps

have a modern, planted or planned appearance but may prove upon further examination (3.2.2) to have deeper historical origins. Premature removal of sites from the dataset would prevent any such examination being carried out.

The resulting dataset comprises a map of a particular subset of the woodland resource – the surviving portion of the woods which appeared on the Victorian Epoch 1 maps – in which woodland boundaries are both historically accurate and conform wherever possible to OS *MasterMap*. Theoretically speaking, the woods included in this dataset contain all the ancient woods in the area of interest in addition to some woods with origins in the 17th, 18th & 19th centuries (see Ancient Woodland Definitions - 2.2).

This indicative ancient woodland dataset was then incorporated and compared with the digital version of the Natural England existing Ancient Woodland Inventory within GIS. This allowed:

- Currently designated ancient woodland sites to be attributed to the corresponding polygons in the new *MasterMap* derived dataset subject to further confirmation of status.
- Identification and enumeration of the sites identified by the process described above as potentially new (hitherto unrecorded) ancient woodland sites.
- Potential discrepancies between the two datasets to be marked for further investigation (for example where a piece of woodland recorded on the original inventory does not appear to be shown as woodland on either the Epoch 1 map or on current aerial photographs).

A general principle has been to retain areas of previously designated ancient woodland in the revised inventory where the evidence of Epoch 1 supports this (but with boundaries now mapped to *MasterMap* standard where appropriate) and place the thrust of the research effort on assigning the correct status to the additional potential sites identified by the process described above. If incontrovertible evidence subsequently emerged in further archival and field research (see below) against an original ancient woodland designation then appropriate boundary revisions to those areas have been made.



Figure 1. Example of the Ordnance Survey First Edition County Series 25 inch to 1 mile map for Kent (c.1871) showing the woods and shaws of a valley of a tributary of the River Beult northwest of Bethersden.

3.2.2 Refining the dataset using historical maps

The capture stage described above yielded an indicative ancient woodland dataset comprising some 500 *MasterMap* derived polygons corresponding with the approximately 5500 ha of previously designated ancient woodland in the borough (equivalent to 311 polygons on the original inventory which was digitised with lower precision) and a further 1167 polygons of potentially additional ancient woodland (wooded areas in existence since at least the 1870s) amounting to approximately 1500 ha. The next stage in the methodology consisted of checking this indicative dataset against the evidence of a range of historical map sources held both in traditional archives and in digital form which could be analysed in a GIS as an extension of the desk-based mapping stage (above). Not all the evidence sources consulted can be detailed in this report but the key ones are described below in reverse chronological order.

- **The Ordnance Survey First Edition County Series 25 inch to 1 mile maps (produced for Kent 1858-73)**³²

These are the digital geo-referenced Epoch 1 images used in the capture process described above (3.2.1). These maps are superbly detailed and contain a wealth of information about the woods under review beyond that of simple presence or absence (Figure 1). The engravers used an extensive palette of symbols to depict different types of woodland and scrub vegetation including, simple coppice, coppice-with-standards, high forest, plantations - mixed and coniferous, osiers,

³² Dates sourced from the British Library website:
<http://www.bl.uk/reshelp/findhelprestype/maps/oscountyeditions/oscountyeditions.html>

pasture woodland, parkland etc. It is also possible to discern from these maps which woods were enclosed and which were not, as well as to see features within woods such as buildings and enclosures. In fact, the attention to nuance in the vegetation and the varying character within and among woods shown in these maps far surpasses that of modern maps and reflects the still central importance of woods and woodland produce to the rural and wider economy at the time of their production. From the perspective of this research – attempting to identify woods which have been in existence since at least 1600 AD – the main disadvantage of Epoch 1 is the relatively recent date. Because of the high level of accuracy of this source, absence of a wood on these maps is considered highly significant. On the other hand, whilst more recent woods can sometimes be identified as regularly shaped enclosures or having map symbols that indicate a previous non-woodland use or recent planting the map does not, of itself, necessarily give grounds for elimination of such sites.

- **The tithe maps for Kent (produced from the 1830s to 1840s)**

Tithe Maps were produced under the direction of a parliamentary commission following the Tithe Commutation Act of 1836 when tithes in kind to the parish were replaced by payments in rental value. For this act to be workable a prerequisite was a consensus on ownership boundaries and the extents of properties. Furthermore, the actual state of cultivation of every parcel of land in each Tithe district needed to be recorded as this determined the charges due. For example, land classed as ‘wood’ was exempt from Tithe payment within the legal boundary of the Weald and sometimes also elsewhere. In the parish of Wye 1725 acres of woodland had been traditionally free from tithe which custom continued following commutation³³. The maps provide an invaluable record of the land-use and economy of mid 19th century England³⁴ at the local level in the way that the Domesday Book does for the 11th century but with the important advantage over that source of spatial precision.

The maps relating to the parishes of Ashford borough (see Figure 2 for an example) were drawn up between 1838 and 1843. They are large scale (between 12” and 25” to 1 mile) and show each compartment of land within the parish together with a, usually numeric, code which is indexed and listed in a bound apportionment volume detailing the owner and/or occupier, the name of each parcel of land, a description of its ‘state of cultivation’ and the associated rent charge calculation. The maps vary in quality and accuracy from parish to parish. The original intention of the commission was to produce all the maps to a uniformly high standard but the cost implications of this meant that there was much local variability in the results achieved and not all of the maps were ultimately given the commissioners’ seal. Those which did became known as ‘first class’ maps and the rest as ‘second class’. Of the Ashford borough parishes, 15 are ‘second class’³⁵. Notably, these include the historically important parishes of Tenterden and Ashford (also Rolvenden, Wittersham, Stone, Bethersden, Pluckley, Hothfield, Charing, Challock, Willesborough, Godmersham, Hastingleigh, Brook and Aldington).

The Kent Tithe Maps have recently been made available as digital images by the Centre for Kentish Studies, Maidstone following an HLF funded project to photograph them. The modern borough of Ashford overlaps, either wholly or partly, with 51 parish territories as they were in the 1830s. Images for 46 of these parishes were obtained by the Weald and Downs Ancient Woodland Survey and georeferenced for GIS use especially for this project. An attempt was made to cross reference the whole of the indicative ancient woodland dataset with the Tithe

³³ Kain (1974)

³⁴ Prince (1959)

³⁵ Kain (1974)

Maps and apportionments both to verify ancient woodland status where this has been previously assigned and as a second filter to the potential revisions to the inventory identified on the Epoch 1 maps at the capture stage.

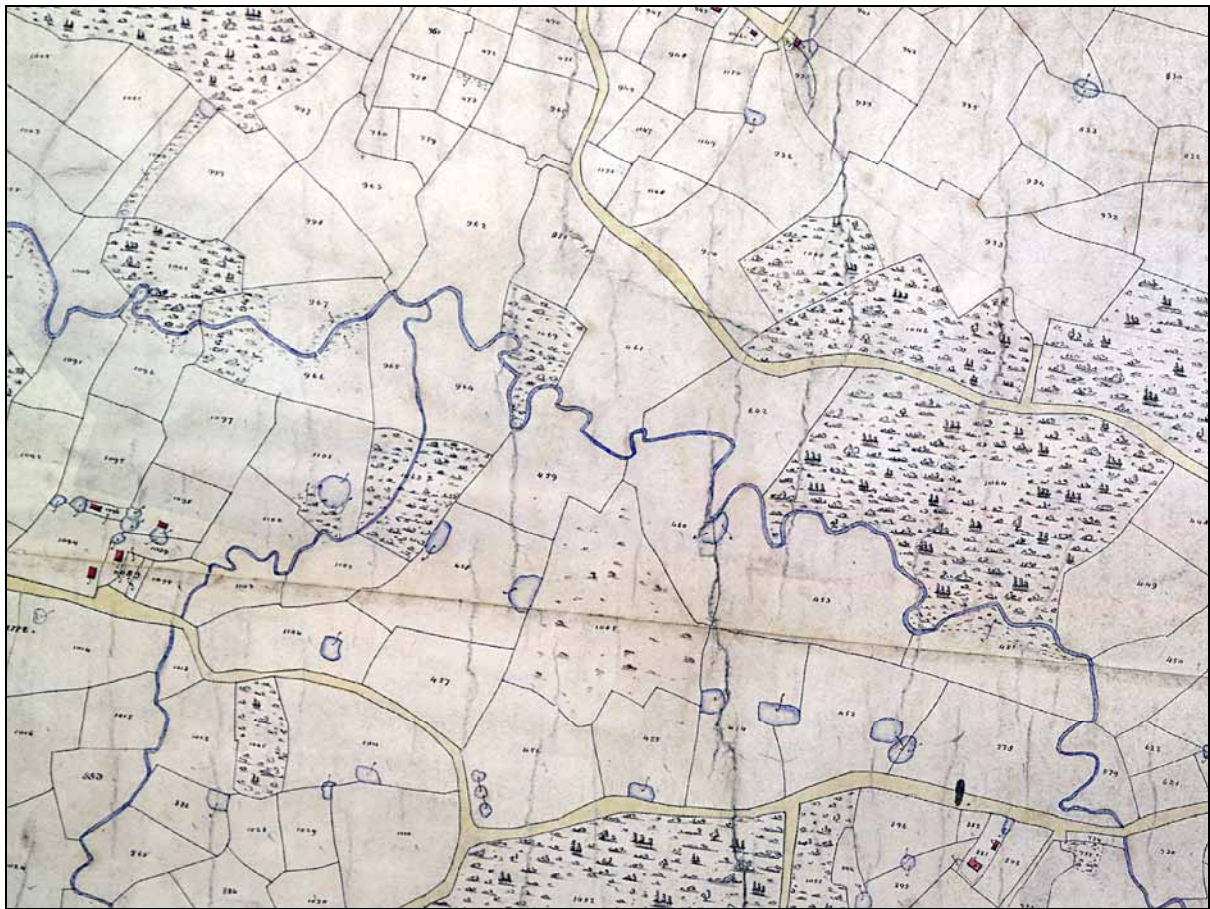


Figure 2. Example of a Tithe Map (1839). The detail in this figure shows the same area of the parish of Bethersden as Figure 1. Note the richness of information relating to woodland including distinct depictions of enclosed coppice and parkland woods as well as unenclosed scrub on the river banks and on the margins of ponds and pits. The numbers inscribed in each parcel of land relate to a book of apportionments listing the owner, extent, state of cultivation and payment. Reproduced by kind permission of Kent Archives Service: Centre for Kentish Studies.



Figure 3. Example of an Ordnance Survey Drawing (produced in the field at 3inches to 1 mile in 1789). This employs a more generalized set of symbols to indicate trees but the sophistication of the surveying is clear with careful attention to the depiction of relief through cross hatching and the inclusion of small wooded enclosures.

97% of the polygons were checked in this way. The remainder fell in areas where parts of the map in question were unreadable, missing or damaged or the corresponding number in the apportionment volume was missing or illegible. Of the relevant parish apportionment volumes twenty three have been transcribed by the Kent Archaeological Society and published on the World Wide Web. The authors are grateful to the transcribers of these documents for their generosity in making the resulting information freely and publicly available. The apportionments for the remaining parishes were examined on microfilm at the Centre for Kentish Studies where they are held.

These maps possess similar advantages and disadvantages, in terms of the survey, to the Epoch 1 maps – namely, accuracy (usually – see above) and a high information content on the one hand and on the other, the lack of antiquity ideally needed to demonstrate that a wood depicted is truly ancient. However, the production of these maps only a few decades before Epoch 1 does not detract altogether from their usefulness as an evidence source in this exercise. The tithe maps come at an opportune moment in the history of Kent’s woods, at the beginning of the Victorian period during which woodland produce would reach unprecedented heights in its economic value (prior to a decline of equal proportions at the end of the 19th century)³⁶. Consequently, the first half of Victoria’s reign was a time of considerable change for wood resources both in the style and efficiency of management and the proportion of the land given over to managed woodland³⁷.

³⁶ Roberts (1998)

³⁷ *ibid.*

Many woods, or parts of them, appear to have their origins in this period or in the decades immediately before. Examination of the Epoch 1 and *MasterMap* derived polygons in the light of tithe map evidence often resulted in further edits to the polygons being made, for example where part of a wood was shown to have been a field or plantation in the 1830s. Following a complete check of the polygons from the capture stage, 4.7% of the area of woodland in the indicative ancient woodland dataset was recorded as some other land-use than woodland at the time of the tithe survey – generally pasture, arable or meadow but also downland, commons, hop gardens and other uses. Most of this land was distributed among the small (< 2 ha) polygons not mapped in the original inventory; in numerical terms 19% of these potential new sites fell into this category (i.e. not woodland c.1840). A further 173 polygons within the indicative ancient woodland dataset were identified which were classed wholly or partly as ‘Plantation’ in the Tithe survey. Again, a high proportion of these (77%) corresponded to small, potentially additional ancient woodland polygons; approximately 11% of these polygons fell into the class of ‘Plantation’ at the time of the tithe maps. Usually the apportionments do not refer to the species in the plantation but where they do it is chestnut (6 polygons), ash (8), fir (pine)(2) or birch (1).

Following corroboration by other sources many of these sites could be eliminated from the dataset. The Tithe Maps represent a very valuable tool for refining the inventory.

- **Ordnance Survey Drawings, 2 to 6 inches to 1 mile (produced for Kent 1795-1801), prepared for the First Edition Ordnance Survey maps**³⁸

The Ordnance Survey Drawings and drafts (see Figure 3 for an example) are the manuscript maps upon which the first fully triangulated large scale published maps of southeast England were based, with Kent being the first county to be completed and published in 1801. This endeavour was a military response by the English government to the Napoleonic threat of invasion from across the English Channel and was undertaken by the Board of Ordnance (a body something akin to the modern Ministry of Defence) from which the Ordnance Survey takes its name. Work on the map of Kent officially begun in 1795 with the final map being published in 1801³⁹ though the earliest preliminary sketches consulted in this study date from the 1780s.

The most detailed drawings were made at a scale of six inches to the mile in areas of strategic importance with smaller scales down to two inches to the mile elsewhere. The significant advantage of these maps over the better known printed version of 1801⁴⁰ is that the latter was reduced and standardised to a scale of one inch to the mile for publication with an attendant loss of information and simplification in the depiction of features, for instance, the straightening of sinuous woodland boundaries, the truncation of tapering gills and other linear woodland shapes and the removal of smaller woods.

The original drawings are held by the British Library, and geo-referenced scans of these data were used to supply coverage of Ashford borough. The images were examined along with the tithe and Epoch 1 data using GIS software. Most of the relevant information is contained on fifteen overlapping sheets of various sizes. Some parts of the borough are served by two or more drawings whilst some small areas have no surviving coverage. Individual sheets were often produced by different surveyors and map styles and dates vary accordingly. The level of accuracy also varies greatly, with the finest sheets depicting, very precisely, woods as small as an acre in size

³⁸ Dates sourced from the British Library website: <http://www.bl.uk/onlinegallery/onlineex/ordsurvdraw/>

³⁹ British Library website: <http://www.bl.uk/onlinegallery/onlineex/ordsurvdraw/curatorintro23261.html>

⁴⁰ The 1st Edition Ordnance Survey 1 inch to 1 mile, or ‘Mudge Map’ which, as the oldest accurate and relatively large scale county map widely available at the time for such research, the original Ancient Woodland Inventory drew heavily on.

but with the poorest sheets coarse and distorted with little information on small woods. Nevertheless, features of military significance – which included many woods – were generally mapped in detail.

Absence of a wood from these maps cannot be taken as proof of woodland not existing at this time however. Some of the sheets represent early drafts of other sketches. Comparison between drawings sometimes reveals woods which are present on one version but not the other and comparison with estate maps (below) of similar age sometimes reveals the surveyors' apparent omission of sizeable woods. The experience of the research on Ashford borough seems to suggest that while enclosed woods containing significant timber would generally be accurately depicted, simple coppices (without standards) such as low-lying alder beds and parcels of brushwood are often omitted. Similarly, where steep ground is occupied by woodland or scrub, the surveyors have often placed priority on conveying the physical relief the land, above depiction of the vegetation cover. In other places the surveyors' 'preoccupation with the lie of the land'⁴¹ and use of dense hachuring to indicate steep topography obscures other coincident features.

The suggestion has also been made that woods which had recently been cut over were simply overlooked by the surveyors or that they mistook recent woodland harvesting for conversion to agriculture⁴² (an error which sometimes occurs in modern map making). Large woods managed in the traditional way by coppicing would tend to be divided into a series of compartments harvested on a cyclic rotation. Such woods would perpetually contain some conspicuous growth and be visible as woodland. Small woods however, were sometimes harvested in their entirety, with a dispersed group of copses across a farm or larger estate each acting as a felling compartment within the coppice rotation. At the time of the first Ordnance Survey most, if not all, woods would have been actively managed. At any one time then, a relatively large proportion of small woods may have been at a low and inconspicuous state of growth.

We should not expect to see every small wood depicted on these maps but where woodland is recorded these maps are considered to be reliable and give a strong indication of possible ancient woodland status when this is supported by the context of the site and the evidence of other sources. Following the approach of the original inventory⁴³, which utilised the smaller scale printed version of this source (below), a presumption in favour of retaining those woods shown on these maps (as provisionally ancient woodland sites) has been made.

As for the tithe maps (above) the whole of the indicative ancient woodland dataset was systematically cross referenced with the Ordnance Survey Drawings. Approximately 45% of polygons were shown in some form as woodland on this source. 49% were ostensibly not depicted with tree cover⁴⁴ and for 6% of polygons the maps were too damaged or faint to interpret or coverage was lacking.

⁴¹ British Library website:

<http://www.bl.uk/onlinegallery/onlineex/ordsurvdraw/t/002osd000000016u00330000.html>

⁴² Hodson and Campbell (1989)

⁴³ Hutton (1990)

⁴⁴ The evidence of other sources would often corroborate this but for 27% of these sites this was not so - either a recent origin could not be demonstrated from other evidence or an older origin positively could be demonstrated. These sites were therefore retained in the provisional Ancient Woodland Inventory.

- **Ordnance Survey First Edition, 1 inch to 1 mile 1801 and later revisions**⁴⁵

In spite of the disadvantages of using this map to identify ancient woodland rather than the larger scale drafts produced in its development (discussed above) this source is not to be ignored completely. Although it represents a ‘loss of information’ relative to the drawings it also represents the definitive distillation of an immense body of work and the Ordnance Survey’s final decision on what should and should not be mapped at the time. It is to be noted that the 1801 printed version depicts a number of woods which are not shown on earlier drawings (although the total number of woods shown on the drafts is greater). This is presumably because the drawings were originally accompanied by notes and annotations which were also taken into account when the final maps were produced. Occasionally such instructions to the engravers can be seen on the drawings. In one instance the textual annotation, ‘wood’, is appended to a parcel of land where no tree symbols have been inserted. This kind of detail can be faint and easily overlooked on photographs of two hundred year old manuscript maps (or destroyed altogether by the passage of time).

- **Hasted’s maps of the Hundreds of Kent**

Hundreds are sub-divisions of counties introduced in the 10th century primarily for taxation purposes but also having administrative, judicial and military functions. By the time of Domesday Book Kent had more than sixty hundreds⁴⁶. The name probably arose from the nominal size of the unit, containing 100 *sulungs* (or hides as they were known elsewhere in England). In the late eighteenth and early nineteenth centuries the great topographer and antiquarian of Kent, Edward Hasted, had maps of the Kent Hundreds produced, for his twelve volume ‘The History and Topographical Survey of the County of Kent’⁴⁷.

These are derived from the county map of Andrews, Dury and Herbert (below) and re-engraved by William Barlow. Hasted and his collaborators did try to correct errors in the maps⁴⁸ but they did not have the resources to perform any serious revision of topographical surveying. Differences between these maps and the original are not significant in the study area and this source suffers from the same disadvantages as that map (discussed in more detail below) as a tool for detailed research on historical woodland distribution. It has been used in the same way – as supplementary evidence cautiously interpreted rather than as a core historical source.

⁴⁵ Mudge [1801] (1990); Hull (1988)

⁴⁶ Jessup (1974)

⁴⁷ Hasted [1797] (1972)

⁴⁸ Burgoyne Black (2001); Boyle 1981



Figure 4. Detail from Andrews, Dury and Herbert's 1769 map of Kent. Published 20 years before the drawing in Figure 3 and produced at a similar scale, this map now seems archaic by comparison. Nevertheless, at the moment of its publication it was a landmark achievement as the most detailed and complete map of the county to have been made. It can provide a valuable guide to the general presence and absence of woodland in the second half of the 18th century.

- **A topographical map of the county of Kent in twenty five sheets on a scale of 2 inch to a mile John Andrews, Andrew, Dury and William Herbert 1769**⁴⁹

This is a county map produced under the patronage of the Kent gentry prior to the state-run military efforts of the following decades⁵⁰. It has the advantage of being earlier in date than the above sources and so takes the evidence base available for the whole study area back into the 18th century. Whilst containing interesting information it is overshadowed by the vastly superior quality of the Ordnance Survey Drawings (above). Its focus is on the locations of settlements, the seats of gentlemen and the routes of communication between them. The overall effect is schematic and distances and angles are often distorted. It does depict woodland (see Figure 4) but the relatively large scale for a county map of this period (two inches to one mile) belies a lack of spatial precision in the surveying of topography with 'much of the detail sketched in rather than surveyed'⁵¹. The map is of little practical assistance in defining and refining the boundaries of small ancient woods but it can provide a useful indication of the general presence or absence of woodland within the area of a site under review. This can be valuable where other evidence is sparse. The smallest woods which the map seems to portray are about two hectares in size, the upper limit for many of the revisions to the inventory being undertaken in this project.

⁴⁹ Andrews, Dury & Herbert (1769)

⁵⁰ Hull (1973)

⁵¹ Hull (1988)

However, many larger woods are omitted. In areas where there was a high concentration of small woods in a pastoral landscape, such as in parts of the Low Weald, the map appears to show this as a schematic ‘generally wooded’ area.

The candidate polygons were not systematically checked against this source, but it was frequently used as a supplement to the evidence base particularly where other map sources were ambiguous as to the status of a site.

- **Estate maps**

There was an efflorescence of the production of detailed estate maps in Kent which began in the reign of Elizabeth I⁵². This was precipitated partly by an increasing interest in lay lands in the aftermath of the dissolution of the monasteries. Another significant factor in the development of map-making at this time was technological innovation. The use of the theodolite for triangulation from 1570 onwards (rather than the less satisfactory trigonometry produced by the ‘plane table’) resulted in increasingly accurate maps. Mediaeval cartographers had often relied on tradition, reputed area and local wisdom for their information. The introduction of a standard length chain in the early 17th century meant that units of measurement increasingly became standardised⁵³.

Kent and the borough of Ashford are blessed with a wealth of high quality estate maps belonging to the period of interest (before c.1800 when accurate and standardised county wide maps begin to appear – see above). These are of great value in determining the status of individual woods and the project has aimed to exploit this rich evidence source to refine the inventory where possible (see Figure 5). The majority of the material consulted is held at the Centre for Kentish Studies at Maidstone, but a small number of estate maps reproduced in secondary form elsewhere were also used. Pertaining, as they do, to a dispersed array of landholdings, some as small as ten or twenty acres, across the borough they do not give a complete coverage and their study is time consuming and not always fruitful. Whether a map is relevant to the woodland sites targeted for research is often not evident until it has been examined, sometimes at length. The maps naturally vary significantly in their quality and accuracy. Each map must be interpreted on its own merit and with an awareness of its possible original purpose.

In view of the limited time resources of the current project, research on estate maps was prioritised so that maps which it was thought might inform decision making on the potentially additional polygons in the indicative ancient woodland dataset (woods not already designated ancient by the, already considerable, researches of the original Ancient Woodland Inventory) were sought out in preference. The approach to this large body of information was to systematically comb the catalogues of estate maps⁵⁴ (and later supplements) produced by Kent Archives for references to the fifty or so historical parishes within the area of study. This search concentrated on maps dating from the period 1590-1800, given the fairly good information already available on the 19th century landscape described above. Occasionally, where the site under review was complicated or the material difficult to interpret, printed copies were made from digital versions of the estate maps at the Centre for Kentish Studies. These were then scanned and geo-referenced for GIS use.

⁵² Hull (1973)

⁵³ *ibid.*

⁵⁴ Kent Archives Office (1973)

Decisions on the status of 17% (314) of the total number of polygons in the indicative ancient woodland dataset could be supported in this way with reference to estate maps.

It should be noted that there are likely to be significant other historical documentary resources of relevance to the inventory of Ashford's ancient woodland resource. Estate papers describing woodland management, deeds, charters, leases etc have not been investigated due to the practical time constraints on production of the dataset. For the same reasons information in the privately held archives of landowners has not been used in the current project.



Figure 5. Example of a 17th century estate map: detail from 'A map and description of the manor of Calehill' by William Boycot, 1639. This particularly fine map depicts no fewer than seventeen woodland polygons extant today (and shown on 19th century maps) of which nine were designated ancient woodland on the original inventory. The detail shown is in the parish of Charing in an area now bisected by the M20 motorway. All that remains of Violet Wood, a wood of perhaps 10 ha centre right, is a triangular 0.25 ha fragment in a field corner by the motorway. Reproduced by kind permission of Kent Archives Service: Centre for Kentish Studies: U386 P1.

3.2.3 Other evidence sources

This revision of the Ancient Woodland Inventory was primarily a mapping exercise supported by research on historical maps and field survey (below) and evidence from these sources was given the greatest weight. However, there are important additional factors which are brought into interpretations of woodland status during the decision making process. These include:

- **Place names**

The attraction of historic place names is the link they speak of to features in a past landscape for which we have no description. Unfortunately place-name scholars often disagree as to the true meaning of a name, with some assigning quite different topographic associations to the same term. They can however, with caution, be used as a guide to help reconstruct the landscape⁵⁵. For example ‘leah’ or ‘ley’ refers to a woodland glade or clearing, ‘den’ to a woodland swine pasture and ‘hyrst’ or ‘hurst’ to a wood or a grove especially one on a hill⁵⁶. The disadvantage is that many topographic place names probably relate to features which were atypical, and therefore distinctive, rather than describing the general situation. Hence, when the term hurst, originally applied to a small and distinctive hilltop grove, is later transferred to the general area of the hill, it does not necessarily support ancient woodland status for sites in the vicinity.

Wood names can also help to identify non-ancient woods as non-ancient wood names are often readily obvious. ‘The plantation’ or ‘The Grove’ for example, may indicate more recently planted woodland particularly where the site is associated with a large house and/or on cultivable land. However, a large degree of caution should be exercised because names change over time and ‘The Plantation’ might well occupy the site of a pre-existing wood⁵⁷.

- **Woodland shape and situation in the landscape**

Larger ancient woodland sites often survive on parish boundaries or follow steep inaccessible topography such as the slopes down to a gill or the land surrounding old iron extraction pits. The boundaries of intact older woodlands are rarely straight and often follow natural features such as streams. Surviving fragments of historically larger woods, however, often do have straight margins where their modern boundaries have been chased back to the limits of viable cultivation by successive agricultural improvements.

3.2.4 Refining the dataset through field survey

On completion of the capture stage (3.2.1) and in tandem with historical research (3.2.2) a priority set of woodlands was identified for ground survey. These sites were selected in consultation with Ashford Borough Council and were generally situated in areas of potential growth and development or where other activities potentially impinged on woodland. Survey site selection was further informed by the emerging historical evidence for woodland status and sites were prioritised where this evidence was weak or ambiguous.

The field surveys were carried out in May and June 2007 and April, May and June 2008 in order to facilitate the recording of ancient woodland indicator plants. The survey aim was to make a quick assessment of each site recording the key information needed to aid in the identification of ancient woodland. The methodology was broadly in keeping with the ‘walk-about’ survey recommended by the Nature Conservancy Council for rapid assessment at the time of the original inventory work⁵⁸ whereby the boundaries of the site are walked and confirmed and the interior of the wood is traversed with the objective to ensure that all the major sources of variation likely to be on the site are seen (i.e. woods are not surveyed by quickly looking at just

⁵⁵ Brandon (2003)

⁵⁶ *ibid.*, and Rackham (2003)

⁵⁷ Isaac & Reid (1997)

⁵⁸ Kirby (1988)

part of them unless there is good reason to believe that the part selected is representative of the whole). Emphasis was placed on recording the following:

- A list vascular plant species.
- Living evidence relating to the past management of a wood, for example, coppice structure, aged coppice stools, veteran trees or pollards.
- Archaeological evidence relating to the past management of the site such as saw pits, charcoal hearths, drainage systems, old banks, mineral diggings, etc.
- Physical features indicating a previous agricultural land use, such as ridge and furrow plough markings and lynchets.
- Historical boundary features, such as wood banks, stubbed trees or outgrown laid hedges, delineating the wood.
- Current uses or factors causing disturbance or damage to the wood.
- Structural and habitat diversity, presence of dead wood and the presence of streams and ponds following natural courses and depressions.

These features can all provide evidence of past land use and so help determine ancient woodland status. For example:

Wood banks

Distinct wood banks are characteristic indicator features of lowland ancient woodlands. A wood bank consists of an earth bank, often though not always with an associated ditch, constructed at the boundary of woodland or of compartments within it. These banks, which were constructed to keep out both grazing animals and human intruders, would in most cases have been topped by a hedge or fence⁵⁹.

Ancient woodland indicator species

The presence of these vascular plant indicator species can aid in the identification of ancient woodland, and ancient woodland sites tend to be richer in terms of their species composition⁶⁰. However, care is required as other factors affect the presence and abundance of these species. These factors include the area of the wood, the time of year of the survey, the diversity of habitats within the wood, soil type, and the position of the woodland relative to other wooded areas. Current uses, including disturbance, damage or invasive species may also influence species diversity and the time spent surveying will affect the number and abundance of species recorded as well as the likelihood of other features being recorded.

Lists of vascular plant species strongly associated with ancient woodland sites known as ‘indicators’ have been compiled for different geographical areas of the British Isles. These lists

⁵⁹ Rackham (2003)

⁶⁰ Hornby & Rose (1986), Rose (1999) and Rackham (2006)

are based on the occurrence of species in known ancient woodland sites⁶¹. The South East list used in this revision is appended.

3.2.5 Deciding on ancient semi-natural or replanted ancient woodland status

The Forestry Commission's National Inventory of Woodland and Trees (NIWT)⁶² was used as the core dataset to redefine the boundaries of PAWS and ASNW. This dataset is based on interpretation of aerial photography; it classifies woodland into broad categories including broadleaved, coniferous and coppice woodlands. Boundaries were then further refined using aerial photography, the existing AWI boundaries, Ordnance Survey *MasterMap* boundaries and the results from survey work.

The reliance on aerial photography for identifying PAWS means that there are inevitably some inaccuracies in the classification, for example, in distinguishing between mature broadleaved plantations and stands of semi-natural woodland. Ancient Semi-Natural Woodland was used as the default classification where it was not possible to determine the woodland type. The extensive areas of sweet chestnut (*Castanea sativa*) coppice in Kent make this crop, as a broadleaved non-native species occurring in large stands present a particular issue. The approach to sweet chestnut taken in the survey is described below.

Sweet chestnut

Sweet chestnut (*Castanea sativa*) is a non-native species, widely planted in woods in Kent, Sussex, and Surrey. As such, the significant presence of sweet chestnut in an ancient woodland should lead to its definition as PAWS. However, Hutton, considering this issue in the 1990 report on the provisional Ancient Woodland Inventory for Kent, provided the following comments:⁶³

It is thought that sweet chestnut was introduced to Britain in Roman times (Rackham, 1980). Evidence that it persisted through the Dark Ages comes from the Anglo-Saxon's knowledge of the tree and from the nature and distribution of mediaeval records. By the 13th century many records specifically mention chestnut in woods which were well away from habitation. Records from the Forest of Dean and from Sittingbourne state that it was accompanied by oak and beech with which it can still be found in the same stand today, e.g. in Ellenden Wood near Canterbury. This association of chestnut with what were then the typical trees of very acid soils shows that it did not depend totally on where growers had put it.

On the basis of this historical 'naturalisation' of sweet chestnut in the woods of the county, and of the present character of known ancient woods in which sweet chestnut comprises a major component of the woodland community, some sweet chestnut coppices have been included in the semi-natural category of the inventory.

Many formerly mixed coppice stands have been interplanted with sweet chestnut, and the stumps of existing native trees and shrubs treated and killed. This type of management results in a dense monoculture of sweet chestnut coppice which, in many cases, has the effect of suppressing the semi-natural flora. Where the later planting of sweet chestnut in ancient woods is known to have resulted in a marked suppression of the semi-natural underwood and ground flora, such woods have been recorded as replanted.

Even in these apparently uniform plantations, however, many sweet chestnut coppices continue to provide very important habitats for nightingales, nightjars and tree pipits, as well as certain rare

⁶¹ Kirby & Goldberg (2006)

⁶² Smith (2000)

⁶³ Hutton (1990)

lepidoptera, such as the heath fritillary in the Blean Woods. In addition, many of the species of semi-natural woodland, although often drastically reduced, may still persist in these highly modified sweet chestnut plantations. Although replanted, these woods are often of considerable wildlife value and retain features characteristic of their ancient origin. At a county and regional level, they represent a significant and extensive wildlife resource.

The information so far gathered in this inventory is insufficient to identify all sweet chestnut coppices where the semi-natural vegetation has been suppressed and the extent of ancient woodland in the county which should be recorded as replanted may, consequently, have been considerably underestimated.

Hutton's comments in the last paragraph above remain true for this survey. Sweet chestnut was only identified in the woods included in the field survey, and these only represented a small proportion of all the ancient woodlands in Ashford borough. Within the surveyed woods, a judgement was made on whether the presence of sweet chestnut meant that the wood should be considered as ancient replanted.

For the remainder of the ancient woodlands greater than two hectares, the definition of ancient replanted, or PAWS, was based on an analysis of the Forestry Commission's National Inventory of Woodland and Trees (NIWT), which defines all woodlands greater than two hectares into categories such as broadleaved, coniferous, mixed, and coppice⁶⁴. However, the NIWT is likely to include sweet chestnut predominantly in the coppice or broadleaved categories, so this analysis will not help identify sweet chestnut plantations as ancient replanted areas. For ancient woodlands less than two hectares, a judgement on ASNW or ancient replanted status was based on an interpretation of aerial photographs. This methodology also did not enable specific identification of sweet chestnut plantations. As a result of these factors, the area of ancient replanted woodland in this revision of the Ancient Woodland Inventory is likely to be an underestimate, as it is was in the original inventory report in 1990.

3.2.6 Minimum size of a wood to be included in the inventory revision

0.25 ha was generally the lowest size of woodland polygon considered for inclusion in the revised inventory, making it directly comparable with the Forestry Commission's NIWT. However, each wood is considered separately and factors such as the location and historical extent of the woodland mean that some woods under 0.25 ha may be included. This allows these woods to be considered when looking at the whole habitat matrix. Querying the GIS attribute table will allow a size restriction to be imposed if required.

3.2.7 Ancient woodland status

It is recognised that a desk based exercise will always be flawed and ideally ground survey work would be undertaken in every wood. Due to time and financial constraints this is clearly impractical. Therefore the decisions are based on available data. Thus, whilst every effort has been made to make this revision as accurate as possible, the inventory is still regarded as provisional.

⁶⁴ Smith (2000)

4. Results

The results of the Ancient Woodland Inventory revision are primarily stored in digital format. The final dataset showing the ancient woodland resource for Ashford borough will be incorporated by Natural England into the national Ancient Woodland Inventory. It will also be freely available to download from www.magic.gov.uk in due course. The revised map boundaries are also shown at the end of this report. Copies of the field survey data pertaining to individual sites will be held by Natural England and the High Weald AONB Unit. These data will also be lodged with the Kent and Medway Biological Records Centre, Maidstone, where they will be incorporated into the county dataset of biological records.

4.1 The ancient woodland resource

The total amount of all woodland (ancient and recent) within Ashford borough, as recorded in the Forestry Commission's National Inventory of Woodland and Trees (2000), is 7,362 ha (Table 1). This amounts to nearly 13% of the borough's area, and as such is well above the England average of 7.5%. In terms of absolute area, Ashford has the greatest amount of woodland of a local authority in Kent & Medway and the 14th greatest amount of woodland in a local authority area in the South East region⁶⁵.

4.1.1 Extent of ancient woodland

The original AWI contained 5,801 ha of ancient woodland, covering 9.99% of the borough's area. The revised inventory contains 6,155 ha of ancient woodland and now covers 10.60% of the borough's area, an increase of 0.61%. The woodland area lost from the original inventory amounts to 241 ha. The additions to the area of ancient woodland were greater in aggregate than the areas removed. The net gain in provisional ancient woodland area across the borough is 354 ha (see Table 1).

The 241 ha loss from the original inventory was due to a combination of inaccuracies in the initial mapping process, misattribution of some woods or parts of woods in the original inventory and conversion of ancient woodland to other land-uses since the original inventory was compiled. These areas were removed following re-alignment of boundaries with OS *MasterMap* and Epoch 1 maps and re-examination of the historic map evidence.

The revised ancient woodland area includes approximately 470 new woodland parcels, or 595 ha of woodland not previously on the inventory. The average size of the additional parcels of woodland was 1.27 ha. The average size of woodland parcel in the revised inventory is 7.95 ha. As would be expected, the majority of the additions to the inventory fall into the sub 2 ha size classes (Figure 6). There are also significantly more woods in the 2–5 ha size class in the revised inventory (Figure 6). Some of these are genuine additions but many have been formed by the breaking up of larger woods into smaller units with the more precise mapping of neighbouring but non-contiguous woodland parcels that use of *MasterMap* has brought to the inventory. This tendency can be illustrated with the example of the King's Wood (TR0350) woodland complex. Whereas this was represented by three parcels (although these contained contiguous subdivisions relating to internal differences in condition) of ancient woodland in the 2000 digitization of the original inventory the same area of woodland is represented by seven parcels in the revised inventory.

⁶⁵ Based on analysis of the Forestry Commission's National Inventory of Woodland and Trees (2000) by Patrick McKernan, Forestry Commission, and Philip Sansum, High Weald AONB Unit.

Table 1: Summary of the woodland area and number of separate woodland parcels from the National Inventory of Woodland and Trees (NIWT, Forestry Commission, 2000), the original AWI (digitized version, 2000), and the revised AWI (2007). All areas in ha.

	Area	% of the borough	Number of woodland parcels	Average area of woodland parcel
Ashford borough	58,062			
All woodlands (NIWT) >2 ha	7,362	12.68	420	17.53
Original AWI (woods >2ha)	5,801	9.99	311	18.65
Revised AWI (including woods <2ha)	6,155	10.60	774	7.95
Overall ancient woodland gain	354	0.61		

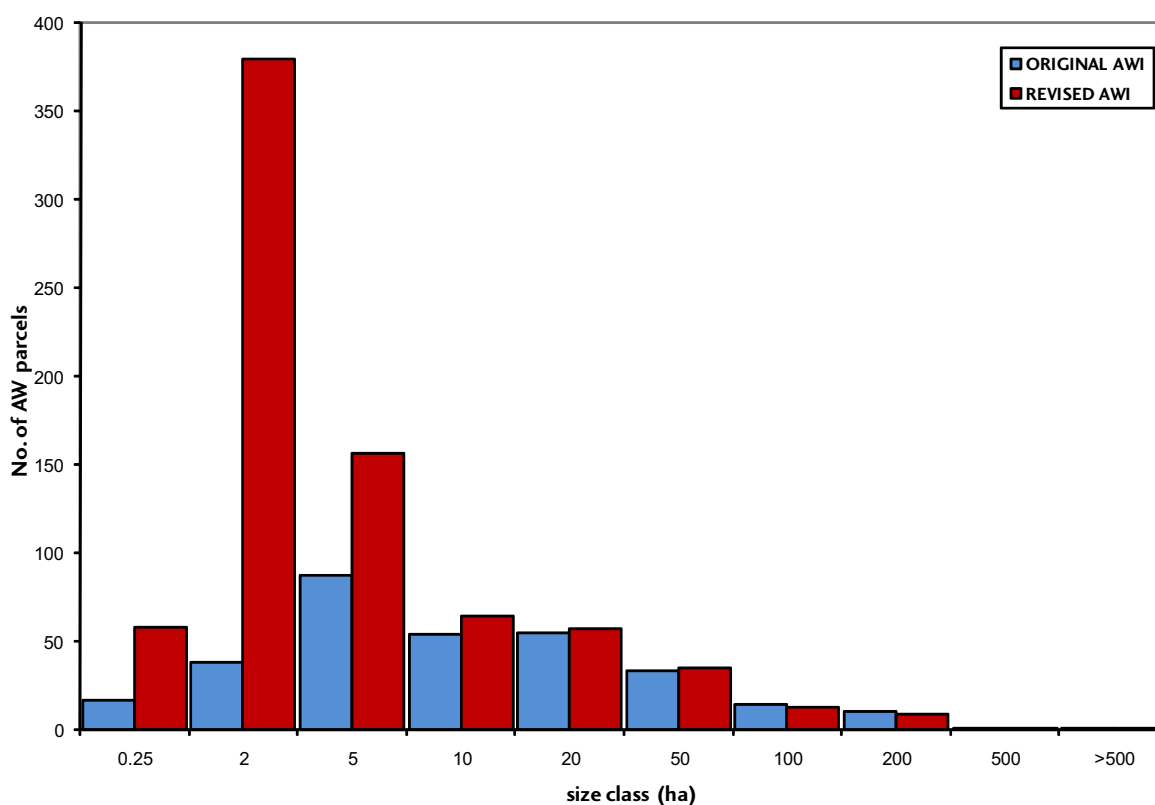


Figure 6. Histogram of the size class distribution for the original and the revised AWIs.

4.1.2 Plantations on Ancient Woodland Sites

In the revised inventory, 67% of the ancient woodland area is recorded as ancient semi-natural, with an area of 4,108 ha (Table 2). However, as discussed in section 3.2.5, the area of replanted ancient woodland, or PAWS, is likely to be an underestimate, given the difficulties in identifying areas of sweet chestnut plantation from map and aerial photograph analysis.

Table 2: Ancient woodland types (areas in hectares).

Ancient woodland type	Number of sites	Area	% of ancient woodland area
Revised AWI - ASNW	739	4,108	67
Revised AWI - PAWS	94	2,047	33
Totals:	833	6,155	100

4.2 Results from the woodland survey

A proportion of Ashford borough's woodlands were surveyed for this project. This was primarily for the purpose of refining the inventory by confirming the ancient status of some sites and eliminating others which proved to be of recent secondary origin. The surveys also allowed the collection of a small dataset giving information on the current character and condition of woods in the borough. It must be stressed that the woods surveyed do not constitute an unbiased sample of Ashford's woods and therefore the survey data reported on here are not necessarily representative of this wider resource. Most of the survey effort was on small woods in the Low Weald near to areas of potential development and growth though some large woods in the Low Weald were also surveyed as well as a small number of small woods in the High Weald, on the Greensand and on the Kent Downs.

The sites surveyed comprised 111 polygons prior to further splitting and refinement based on differences in condition and status. This amounted to 363 ha of woodland (about 5% of the borough's total woodland resource). Of this area about three quarters were accepted as provisional ancient woodland on the basis of the field survey data interpreted alongside the other historical information available. 93 ha were judged to be of recent secondary origin or else too degraded to be defined as ancient woodland and thus eliminated from the inventory.

In addition to the formal survey, a further 90 sites amounting to 95 ha of woodland were visited during the course of the project, but outside of the optimum field survey season, for the purposes of rapid assessment to aid in the decision making process. These were dispersed across the borough and were mainly sites where the historical evidence was too poor to allow a decision to be made on ancient, or otherwise, status. 46% of these polygons or 47% of the area were eliminated from the inventory after consideration of the improved information provided by a rapid visual inspection. This exercise did not generate a dataset comparable to the core survey and analysis of these sites is not included here. Significant records of flora did arise from this work however and these which will be lodged with the Kent and Medway Biological Records centre along with the core survey dataset.

The survey methodology sought to establish a woodland plant list for each site, along with a record of a series of features that helped decide on the status of a site. These included Site damage, Woodland management and habitat features, and Archaeological and boundary features. The summary statistics for these features are given in Appendix 2.

4.2.1 Site damage

Site damage was taken to mean both direct physical damage, such as fly tipping or loss of woodland through garden extension, to biological factors including invasive species and overgrazing. 53% of the surveyed woodlands showed some sign of damage, with grazing damage (25% of sites) and rubbish dumping (20% of sites) being by far the most frequently encountered. The main types of site damage are discussed below.

Overgrazing

25% of the woods surveyed were judged to be overgrazed (see Photograph 1). This was a subjective judgment by the surveyor based on an appraisal of the vigour of the ground vegetation, the presence of poached ground within the wood, the distribution of preferentially grazed plant species and regenerating woody species on the site, examination of basal shoots on coppice stools and the proportion of bare ground at the woodland floor. Overgrazing was generally correlated with poor or non-existent livestock control at the woodland edge. Many of the waterlogged wooded pits of the Weald are used for drinking and shelter by cattle and sheep but only in some cases does this result in detriment to the woodland vegetation where this access is uncontrolled and/or stock densities are particularly high. There may be an issue of perception with this form of damage in that such sites are often not appreciated as semi-natural woodland resources. Because of their small size and central pit they are perceived to be ponds rather than woods.



Photograph 1. Old hornbeam coppice stools, perhaps 200 years old or more, occupy the fringes of this former mineral extraction pit in the Low Weald of Ashford borough. In recent decades the boundary of the wood has fallen into disrepair and the ground flora more or less destroyed by the hooves and teeth of sheltering livestock. The pit itself is partially filled with discarded metal and domestic appliances, many of them toxic to the soil (such as car batteries and refrigerators) and other waste including animal carcasses.

Rubbish dumping

In the Low Weald, where much of the survey work was concentrated, a large proportion of woods contain within them, or occupy the sites of, former mineral extraction pits. It is common for these to have been used in the past, to varying degrees, as dumps, both for domestic and farm waste but in particular for large, expensive- or difficult-to-dispose-of metal items. In the survey, 22 of the sites (20%) showed some form of rubbish dumping. This varied from the casual abandonment of a few degradable personal items to the long-term and purposeful use of the woodland site as a refuse tip. Similarly, those sites situated convenient to a lay-by had sometimes been used as fly tipping points.

Garden encroachment

Of the sites surveyed 7% had lost some of their area to the expansion of garden characteristics. These effects were not confined to sites with a residential boundary. They were also noticeable on sites with heavily divided ownership where there is an increased probability of at least one of the owners seeking to improve or augment the wood by the imposition of suburban garden features, either botanical, such as ornamental shrubs and herbaceous species or physical, such as seats, barbecues or altar fires, gazebos, sheds, caravans, etc. These features are sometimes accompanied by the excessive use of fencing within the wood. Some physical demarcation of

ownership boundaries within woodland is normal and traditional but multiple fences in very close proximity to one another can erode the historical and ecological integrity of a wood.

It is recognised, however, that although detrimental to woodland, such activities may be legitimate where the owner of a garden or residential property also owns adjacent woodland. Other forms of damage from gardens, which were recorded on 10% of the sites surveyed, included garden waste being dumped or the planting of horticultural species.

Non-native and invasive species

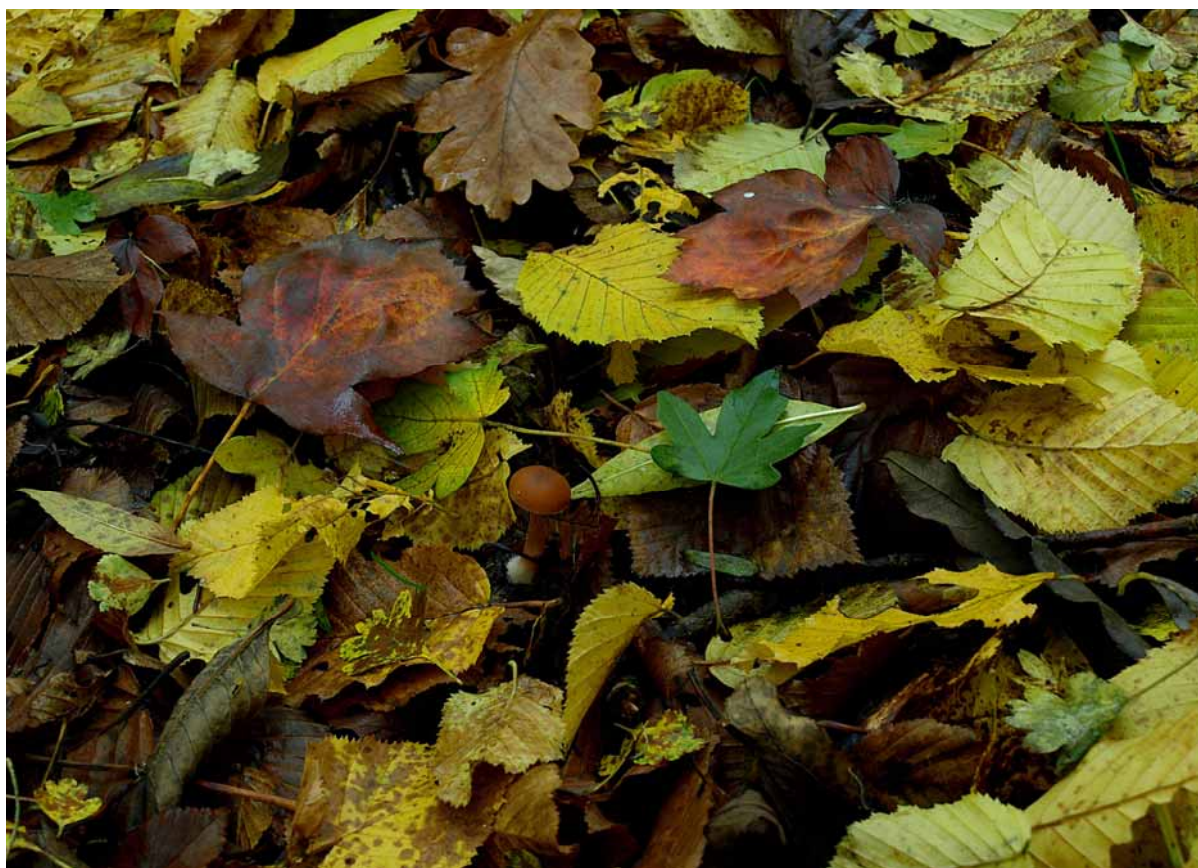
Forty four sites or 40% of the woods surveyed had non-native species recorded on them, but only on eight sites were these noted as constituting an invasive threat to the wood or judged to have already caused damage to the site. Sweet chestnut (*Castanea sativa*) was the most frequently recorded non-native species on 25% of sites. However, it was only abundant on four sites. Elsewhere it formed part of a mixed, and otherwise, native woodland composition. The status of this species is discussed in more detail in section 3.2.5 of this report. Similarly sycamore (*Acer pseudoplatanus*) was the next most frequently recorded non-native species on 24% of sites but it was only abundant on six of these. *Lamium galeobdolon* subsp. *argentatum*, *Prunus laurocerasus*, *Rhododendron ponticum* and *Quercus cerris* were the main other non-native species recorded within the woods surveyed, all on 5% of sites. The former three were prevalent where there was immediate contact with residential property and gardens at the wood boundary and doubtless this situation is typical of many more sites of this nature within the borough where soil type is suitable. Twenty one other species were recorded as not native to the sites under survey. In general these were garden escapes recorded at low cover and not behaving invasively.

Recreational activities

Recreational damage to the survey sites was not widespread but where it was encountered it could be severe. Four wheel drive vehicle use was evident on two sites and a third was so heavily used by walkers and children recreationally that significant damage to soils and vegetation had occurred locally.

4.2.2 Woodland management

Coppice of native species, generally dominated by hornbeam (*Carpinus betulus*) with varying admixtures of ash (*Fraxinus excelsior*), maple (*Acer campestre*) and hazel (*Corylus avellana*) and with or without standards of oak (*Quercus robur* and *Q. petraea*) was the most widespread type of woodland in the sites surveyed (> 70% of sites) (see Photograph 2). Coppiced alder woodland was a common feature within these woods on locally damp substrates but this was also a frequent site type in its own right – approximately 10% of the sites surveyed could be classed predominantly as alder coppices. Most of the coppice was ‘overstood’ and apparently disused and on many sites developing into a shady high forest structure so that the distinction between high forest and coppice was somewhat blurred. On 80% of sites there was no obvious recent or current management recorded during the survey and in the other sites management often constituted small scale planting or shooting related uses. Active coppice management was recorded on 5% of sites.



*Photograph 2. The November floor of a Woodchurch shaw. This tiny area of leaf litter reflects an arboreal species composition typical of many small woods in the Low Weald of Ashford borough. Leaves of field maple (*Acer campestre*), hornbeam (*Carpinus betulus*), midland or woodland hawthorn (*Crataegus laevigata*), wild service tree (*Sorbus torminalis*), oak (*Quercus robur*) and ash (*Fraxinus excelsior*) can be seen. The first four of these are 'ancient woodland indicator species'. Size is not always correlated with ecological diversity - this photograph was taken in a wood of less than half a hectare.*

This is in part a reflection of the state of the woodland industry as a whole, but is also likely to result from the small size of the surveyed sites. Owners of small woodlands may not have the skills to manage their woods, but even if they do they are likely to find it difficult to market their timber in small packages – often in woods without good extraction and access. Following years without management, the standing crop will tend to degenerate in quality and certainly in productivity. The longer the period of disuse the greater the problems of extracting and selling large stems become. Hence, the disuse of small coppices may lead to ever escalating neglect unless new incentives for landowners to manage them are found (see 2.1.3).

The survey included only a small sample of, generally small, woodlands within the borough. Therefore these observations are not necessarily indicative of a wider lack of woodland management, particularly in larger sites.

4.2.3 Habitat features

The mosaic of localised wet woodland and well drained slopes supporting native dryland woodland communities within the very small areas around pits, ponds and streams that many of the surveyed sites occupy was the most important habitat pattern observed. This intimate mix of woodland habitats is not uncommonly absent from much larger woods of more homogeneous character (both due to plantation management and underlying topography). The biodiversity

value of this type of woodland has an interesting convergence with the archaeological interest on many sites; often the environmental variation within these small woods is derived not solely from natural topography but from ancient human activities (e.g. the digging of stone, clay or marl). Doubtless the presence of semi-natural watercourses or water bodies has also helped to conserve many of the small woodlands in the more intensively managed, agricultural parts of the borough because of the difficulties of cultivating wet areas.

4.2.4 Ancient woodland indicator species data

Of the surveyed sites, 72% had at least 10 ancient woodland indicator species recorded, with 14% of sites having 20 or more. 8% of sites had five or less indicator species recorded, with the average number of indicators per site overall being 13 (minimum 1, maximum 35).

Bluebell (*Hyacinthoides non-scripta*), hornbeam (*Carpinus betulus*), field maple (*Acer campestre*), primrose (*Primula vulgaris*), holly (*Ilex aquifolium*) and pendulous sedge (*Carex pendula*), were the most frequent indicators, with all being present in 50% or more of the sites. Wood anemone (*Anemone nemorosa*) was recorded in 46% of sites. Wood anemone is known to be an ancient woodland specialist⁶⁶. It is very slow to colonise new areas, making it a good indicator of the antiquity of a wood, especially where it occurs in abundance. In total, 62 out of the 100 vascular plant indicator species thought to be indicative of ancient woodland in South East England were recorded at least once. The South East ancient woodland indicator species list is appended along with an indication of the proportion of woods surveyed in which each species were recorded.

In addition to aiding in building and verifying the inventory, the field survey work and supplementary site visits have yielded valuable information about woodland biodiversity in general for the study area. For instance, the nationally scarce woodland species, coralroot (*Cardamine bulbifera*), recorded in only three tetrads⁶⁷ in the borough, has been recorded in a fourth, on four separate sites, by the present survey. The same applies to pale sedge (*Carex pallescens*) a species with a local distribution in Kent⁶⁸. Thin-spiked wood sedge (*Carex strigosa*) has its current records in Ashford borough confined to a handful of sites on the upper greensand and gault and in woods over clay in the North Downs. During the course of the revision of the inventory for Ashford this plant has been recorded in High Weald gill woodland, low lying hornbeam coppice woodland in the Low Weald (where Philp⁶⁹ has published records from the 1980s) and in a number of small alder beds on the Lower Greensand. Hence, the distribution of this ancient woodland species may be more extensive than thought. This observation demonstrates the very significant role small ancient woods play in conserving networks of habitats for relict populations of specialist species.

4.2.5 Archaeological and boundary features

The woods of the Weald and Kent Downs are a repository of cultural heritage in the form of archaeological features associated not only with the former management of the woods themselves but also with preceding historic and prehistoric land-uses⁷⁰. This woodland archaeology is an

⁶⁶ Rackham (2003)

⁶⁷ the standardised 2km x 2km grid squares used by the Botanical Society of the British Isles to record and monitor the flora of Britain and Ireland. Current species distributions accessed, July 2008 at : <http://www.bsbimaps.org.uk/tetrads/main.php>

⁶⁸ Philp (1982)

⁶⁹ *ibid.*

⁷⁰ Bannister (2007)

under-recorded resource and unfortunately the survey did not have the time resources to record all the features present on every site surveyed. Those that were recorded are summarised in an appendix to this report and described briefly below.

A bank and ditch (wood bank) was recorded at the boundary of 43% of the sites surveyed. Often growing on these structures were boundary stubs (recorded on 21% of sites) or outgrown layered hornbeam hedges (8%). These features did not usually form an intact enclosure around the current extent of the sites where they were recorded, reflecting a degree of landscape change and adjustment of boundaries since the woodland resource was first enclosed. Similarly, it was not uncommon for ancient woodland vegetation (identifiable through the presence of the species communities mentioned above) to have no such boundary features or to have boundary features typical of the field pattern in the immediately surrounding landscape. Such sites probably represent the fragments of woods which were historically more extensive and small woods which have naturally colonised the less easily cultivable spots on farms such as pits (below), pond-sides and spring-lines in the historic past. Simple ditches were found along at least parts of the boundaries of 16% of the sites surveyed and simple low banks at 24%. These types of boundary features were also typical of woods on the 25% or so of the surveyed area judged to be recent woodland.

Internal ditches and internal banks (as separate features) were recorded within 17% and 14% of surveyed sites respectively. A small number of, usually larger, sites contained an internal bank and ditch (together) structure. Both boundary and internal wood banks were often used to mark parish and other administrative boundaries (see Photograph 3). Internal wood banks were also used to delineate woodland ownership, as well as mark management areas.

The most frequent feature of woodland archaeology recorded on the sites surveyed was a pit of some form. 47% of sites contained old mineral or stone extraction pits, ponds and water-filled hollows and depressions. As alluded to above, many of the small woods included in the revised inventory are probably predicated on the existence of these manmade features and wood names such as 'Marlpit Shaw' testify to their origins. This does not detract from their ecological value as ancient semi-natural woodland and often the form of the pit enhances biodiversity by providing a range of environmental conditions within a relatively small area. Not all such woods occupying former diggings are ancient of course. In the mediaeval Kentish Weald, marl (to enrich acid clay soils) was extensively extracted in association with stone for building. This practice declined after 1400⁷¹ and 200-year-old trees could be observed growing in marl-pits in the early 1600s⁷². However, there was a later revival of the technique so that some marl-pit woods are likely to have originated in the 17th and 18th centuries. It is highly probable that the relative richness of the flora in this special type of small wood is correlated with the time since its abandonment as an extraction site. The current ecology of these sites is affected by a complex of other factors including management, proximity to ancient woodland and the density of connective semi-natural habitat between them. Further study of the role of 'colonisation time' in these small woods would be interesting.

Other notable archaeological features recorded during the survey were a (apparently unscheduled) moat of probable Norman age and a narrow arched packhorse bridge over the River Beult made of slabs of Bethersden marble⁷³ of unknown age. A number of mounds and diggings of various dimensions were recorded but remain unidentified.

⁷¹ Brandon (2003)

⁷² Markham (1625)

⁷³ Also known as Sussex marble or Large Paludina limestone, this is a Cretaceous limestone found bedded in the Weald Clay and locally quarried for building and paving stone.



*Photograph 3. Earthworks dividing an area of ancient woodland along the boundary of Shadoxhurst and Woodchurch parishes. The immensity of these structures and the labour involved in their construction shows the great former value of the renewable resources they enclose. These woods were within cartable distance of Romney Marsh. In the mediaeval period the produce of these woods could have been cheaply transported by sea to other parts of Kent and beyond. The acid clay surface of the banks shown supports a range of ancient woodland species including common cow wheat (*Melampyrum pratense*), hairy woodrush (*Luzula pilosa*), goldenrod (*Solidago virgaurea*) and the moss, *Rhytidiadelphus loreus*. The latter, in conjunction with wild service tree (*Sorbus torminalis*), midland hawthorn (*Crataegus laevigata*) and sessile oak (*Quercus petraea*) in the adjacent hornbeam coppice woods, suggests that these features were built in an area with ecological connections to the natural forests formed in the current postglacial period; parts of the site may have been continuously wooded for thousands of years.*

5. Outputs

Maps 4 to 7 at the end of this report show the revised Ancient Woodland Inventory on an OS 1:50,000 base map. Due to the map scale and the volume of small woods added to the inventory this map should be used as indicative only. The paper maps also only represent a snapshot in time and will not show any subsequent revisions. Digital boundaries will be available to download online (www.magic.gov.uk) or alternatively printed copies can be obtained on request from Ashford Borough Council or from Natural England.

By its nature, the revised inventory is still provisional, but represents an important advance in establishing ancient woodland status using a wide range of evidence and making full use of advances in modern technology. There may however be facts that come to light in the future that could alter or reinforce the decisions taken in this survey. The database is set up in such a way as to incorporate any future modifications or additional information.

The revised inventory is an important information base on which to inform planning policy, and will enable planning decisions relating to wooded areas in Ashford borough to be made in the light of an improved evidence base.

Planning Policy Statement 9⁷⁴ strengthens the protection granted to areas of ancient woodland. The guidance requires local authorities to identify all areas of ancient woodland within their administrative area. The identification of 470 new ancient woodland parcels in Ashford borough not only affords these woodlands a higher degree of protection, but also emphasises the need for a review of the inventory in other well wooded areas.

The revised inventory provides a more complete picture of the location of the borough's ancient woods within a habitat network and will help to identify areas of opportunity for environmental enhancement, and inform more strategic distribution of funding for woodland management programmes, such as the English Woodland Grant Scheme (EWGS). The survey data and revised inventory will also be useful to inform the Kent woodland Habitat Action Plan (HAP) and Biodiversity Action Plans.

6. Discussion

Based upon an analysis of the original inventory for comparison purposes, Ashford borough has the ninth greatest percentage of ancient woodland land cover and the fifth greatest area of ancient woodland of the 67 local authorities in the South East.

As a result of this survey, ancient woodland has risen from just under 10% to 10.6% of the borough, with an additional 354 ha now added to the inventory. The net gain is ostensibly modest in terms of aggregate area and this is a consequence of the many large woods in the borough which dominate the Ashford ancient woodland resource. It is also testament to the high quality of the work undertaken to identify and record ancient woods greater than two hectares in size in the 1980s⁷⁵. Nevertheless, 354 ha is not an inconsiderable amount of woodland - roughly equivalent to three and a half times the area of the Hamstreet Woods National Nature Reserve for example. More important though is the distribution of this additional ancient woodland in the landscape. The revised inventory contains nearly two and a half times the number of individual parcels of ancient woodland as its predecessor. Almost every parish in the borough has some ancient woodland in it (except for some of the urban areas around Ashford itself) and

⁷⁴ Office of the Deputy Prime Minister (2005)

⁷⁵ Hutton (1990)

this has been mapped to the highest standards of precision possible. These statistics demonstrate that ancient woodland, both in the great swathes of Orlestone Forest and King's Wood and in the less regarded shaves, shaws and pits found across the borough from Newenden to Chilham, is an important ecological resource and landscape characteristic of the borough.

A survey of 111 woods, mostly falling within the potential growth areas of Ashford borough, was undertaken. As well as improving the evidence base for the revised inventory this provided an opportunity to increase our knowledge and understanding of Ashford's current woodland resource, its ecology, history and management and the factors affecting it.

The typical wood on the small sites surveyed was an unmanaged coppice composed predominantly of native species. Although the sites selected were not representative of the whole borough's resource, this fact serves to underline an important point. Whilst roughly one third (or perhaps significantly more) of the larger areas of ancient woodland are under a planted crop, usually of non-native species, the majority of the small sites reviewed in this study retain ancient semi-natural woodland characteristics (see Photograph 2). Small woods have not been subject to vicissitudes of fashion in the forestry industry to the same degree as large woods. Hundreds of ancient semi-natural shaw woodlands escaped both the conversion to chestnut monoculture that the Kentish hop trade brought to many larger ancient woods in the modern period⁷⁶ and the state sponsored 'coniferization' drive of the 20th century because the economy of scale was stacked against radical change in the management of such small resources. In an age where domestic and local demand for these resources is severely dented or non-existent, ironically, the same economy of scale which helped conserve this irreplaceable ancient semi-natural woodland resource, now threatens it. The management of small woods is rarely and barely viable and there are few economic advantages to owning one today. Management can be an expensive or time-consuming undertaking. Farm woods are often used solely as game bird-rearing sites, shelters for livestock or are spared simply out of a conservative regard for their antiquity as landscape features which have 'always been there'. Failing new incentives to resume the traditional management that conserved these woods down the centuries, many face, at best, a continuing slow decline. Some hope for future woodland management more generally has arrived in the form of renewed interest in the firewood market and the currently burgeoning interest in wood fuel as a heat source.

Future management issues aside, the predominantly semi-natural condition of the small ancient woodland resource coupled with its widespread distribution of sites has many positive implications for nature conservation in the borough. The accurate mapping of this resource provides important opportunities for understanding and improving connectivity of semi-natural habitats and biodiversity at the landscape scale. The standards of mapping used in this project mean that the revised Ancient Woodland Inventory dataset will be readily synthesised with a range of other compatible spatial datasets and inventories by researchers, conservationists, planners and policy makers addressing the complex landscape scale issues of the 21st century.

As alluded above, ancient replanted woodlands, or Plantations on Ancient Woodland Sites (PAWS) make up an estimated 33% of the total area of Ashford borough's ancient woodland resource. There has been an increasing focus in the forestry and conservation sector on the restoration of PAWS, particularly with the publishing in July 2005 of the joint Defra/Forestry Commission 'Keepers of Time' policy⁷⁷. Though reduced in their species diversity, many replanted ancient woods still retain a high conservation value, particularly in rides and clearings.

⁷⁶ Roberts (1998); Bannister (2007)

⁷⁷ DEFRA and the Forestry Commission (2005)

The revised inventory has remapped PAWS in Ashford borough, and this will help to identify key sites for restoration.

The importance of semi-natural ancient woodland is widely acknowledged⁷⁸. This resource is increasingly threatened by development pressures and lack of appropriate management. It is hoped that the work outlined here will make a useful contribution towards the long-term protection and appropriate management of this irreplaceable resource.

6.1 Limitations of the survey

The Ashford project built on the methods trialled in Wealden and Mid Sussex districts, and well established for use in the neighbouring borough of Tunbridge Wells⁷⁹. The solutions to problems encountered in these previous revisions have been fed into the procedure for mapping and identifying ancient woodland used in the Ashford project.

There will, however, always be limitations with the types of evidence used in assessing ancient woodland status and these need to be considered by all users of the dataset:

- The limitations and inaccuracies associated with early map sources were discussed in the relevant section of this document. No decision based on historical map evidence relating to woodland can be completely infallible and a project such as this must inevitably make many such decisions. This is especially true where woods of diverse historical character, which have been little studied in this way before, are concerned.
- Botanical evidence varies in its value as a guide to the antiquity of a wood. The use of such data is more problematic in heavily disturbed woods and PAWS sites where vascular plant floras are often poor. Similarly, ancient semi-natural woods managed traditionally as coppice over centuries can become less conspicuously diverse when the coppice structure becomes derelict and the ground flora enters a prolonged shade phase with suppression of some of the diagnostic elements of an ancient semi-natural ground flora. Sudden changes in management or disturbances can bring strong secondary elements to ancient woodland vegetation locally which can mask the presence of diagnostic specialist species. In large woods such an effect is more easily identified and understood but in small woods with high ratios of edge to area the effect of disturbance, where the whole site may be affected, can be to confuse the decision making process significantly.
- Woodland archaeological features, of considerable diagnostic value in interpreting the history of a site, are most conspicuous in the winter and early spring, but ground flora recording dictates that the bulk of field surveying is done in spring or early summer. Rarely are sufficient resources available to visit a site twice in order to form a more complete picture.

6.2 The future of the inventory

It is hoped to that this project will encourage a wider take-up of the survey with other local authorities in the South East. The Weald and Downs Ancient Woodland Survey is currently working in partnership with local authorities in Kent and Sussex to revise the inventory, and funding has now been secured to establish the Surrey Ancient Woodland Survey.

⁷⁸ English Nature (2002), Defra and the Forestry Commission (2005), Ellis (2004)

⁷⁹ Westaway, Grose & McKernan (2007b)

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Appendix 1a: Ancient woodland vascular plant ‘indicator species’ in the South East

The 100 species which in NCC’s South East Region are most strongly associated with ancient woodland and are typical components of botanically rich ancient woodland communities ⁸⁰.

Grasses, Sedges, Rushes and Ferns	Black bryony	Stinking iris	
Bearded couch	Bluebell	Three-nerved sandwort	
Common polypody	Broad-leaved helleborine	Toothwort	
Creeping soft-grass	Bush vetch	Tutsan	
Giant fescue	Chaffweed	Violet helleborine	
Great wood-rush	Columbine*	Wild daffodil*	
Hairy brome	Common Solomon’s-seal	Wood vetch	
Hairy wood-rush	Common cow-wheat	Wood spurge	
Hard shield fern	Early dog-violet	Wood speedwell	
Hard fern	Early-purple orchid	Wood anemone	
Hart’s-tongue fern*	Goldenrod	Wood-sorrel	
Hay-scented buckler fern	Goldilocks buttercup	Woodruff	
Lemon-scented fern	Greater butterfly orchid	Yellow archangel	
Narrow buckler fern	Greater burnet-saxifrage	Yellow pimpernel	
Pale sedge	Green hellebore	Trees and Shrubs	
Pendulous sedge*	Herb-paris	Alder buckthorn	
Remote sedge	Ivy-leaved bellflower	Aspen	
Scaly male fern	Lady orchid	Bilberry	
Smooth-stalked sedge	Large bitter-cress	Black currant*	
Soft shield fern	Lesser skullcap	Butcher’s-broom	
Southern wood-rush	Lily-of-the-valley*	Crab apple*	
Thin-spiked wood sedge	Marsh violet	Field maple*	
Wood melick	Moschatel	Field rose	
Wood meadow-grass	Narrow-leaved everlasting-pea	Guelder-rose	
Wood small-reed	Nettle-leaved bellflower	Holly	
Wood sedge	Opposite-leaved golden saxifrage	Hornbeam*	
Wood millet	Orpine	Midland hawthorn	
Wood club-rush	Pignut	Red currant*	
Wood horsetail	Primrose*	Sessile oak*	
Wild flowers	Ramsons	Small-leaved lime*	
Allseed	Sanicle	Wild cherry	
Barren strawberry	Saw-wort	Wild service tree	
Betony	Slender St John’s-wort	Wych elm	
Bird’s-nest orchid	Small teasel		
Bitter vetch	Spurge-laurel		

* Only where these species occur well within a wood and do not appear to have been planted.

⁸⁰ NCC’s South East region comprised Kent, Surrey, Sussex, London and Hertfordshire. See Hornby & Rose (1986).

Appendix 1b: Percentage occurrence in the Ashford borough sites surveyed of ancient woodland vascular plant ‘indicator species’ in the South East (111 separate sites were surveyed)

Latin Name	Common Name	No. sites	% of sites
<i>Hyacinthoides non-scripta</i>	bluebell	106	95
<i>Carpinus betulus</i>	hornbeam	97	87
<i>Acer campestre</i>	field maple	84	76
<i>Primula vulgaris</i>	primrose	80	72
<i>Ilex aquifolium</i>	holly	68	61
<i>Carex pendula</i>	pendulous sedge	55	50
<i>Anemone nemorosa</i>	wood anemone	51	46
<i>Carex sylvatica</i>	wood-sedge	51	46
<i>Carex remota</i>	remote sedge	43	39
<i>Veronica montana</i>	wood speedwell	43	39
<i>Crataegus laevigata</i>	midland hawthorn	41	37
<i>Lamiastrum galeobdolon</i>	yellow archangel	41	37
<i>Adoxa moschatellina</i>	moschatel	38	34
<i>Moehringia trinervia</i>	three-nerved sandwort	37	33
<i>Tamus communis</i>	black bryony	37	33
<i>Prunus avium</i>	wild cherry	29	26
<i>Melica uniflora</i>	wood melick	28	25
<i>Populus tremula</i>	aspen	24	22
<i>Potentilla sterilis</i>	barren strawberry	24	22
<i>Oxalis acetosella</i>	wood-sorrel	22	20
<i>Sorbus torminalis</i>	wild service-tree	21	19
<i>Allium ursinum</i>	ramsons	20	18
<i>Poa nemoralis</i>	wood meadow-grass	20	18
<i>Ranunculus auricomus</i>	goldilocks buttercup	18	16
<i>Viburnum opulus</i>	guelder-rose	18	16
<i>Chrysosplenium oppositifolium</i>	opposite-leaved golden-saxifrage	17	15
<i>Holcus mollis</i>	creeping soft-grass	17	15
<i>Orchis mascula</i>	early-purple orchid	16	14
<i>Dryopteris affinis</i>	scaly male fern	15	14
<i>Quercus petraea</i>	sessile oak	15	14
<i>Luzula pilosa</i>	hairy wood-rush	14	13
<i>Milium effusum</i>	wood millet	14	13
<i>Polystichum setiferum</i>	soft shield-fern	13	12
<i>Vicia sepium</i>	bush vetch	12	11
<i>Malus sylvestris</i>	crab apple	11	10
<i>Phyllitis scolopendrium</i>	hart's-tongue	11	10
<i>Lysimachia nemorum</i>	yellow pimpernel	10	9
<i>Rosa arvensis</i>	field rose	10	9
<i>Ribes nigrum</i>	black currant	9	8
<i>Conopodium majus</i>	pignut	7	6
<i>Hypericum pulchrum</i>	slender St. John's-wort	7	6
<i>Hypericum androsaemum</i>	tutsan	6	5
<i>Bromopsis ramosa</i>	hairy brome	5	5
<i>Cardamine bulbifera</i>	coralroot	5	5
<i>Viola reichenbachiana</i>	early dog-violet	5	5
<i>Campanula trachelium</i>	nettle-leaved bellflower	4	4

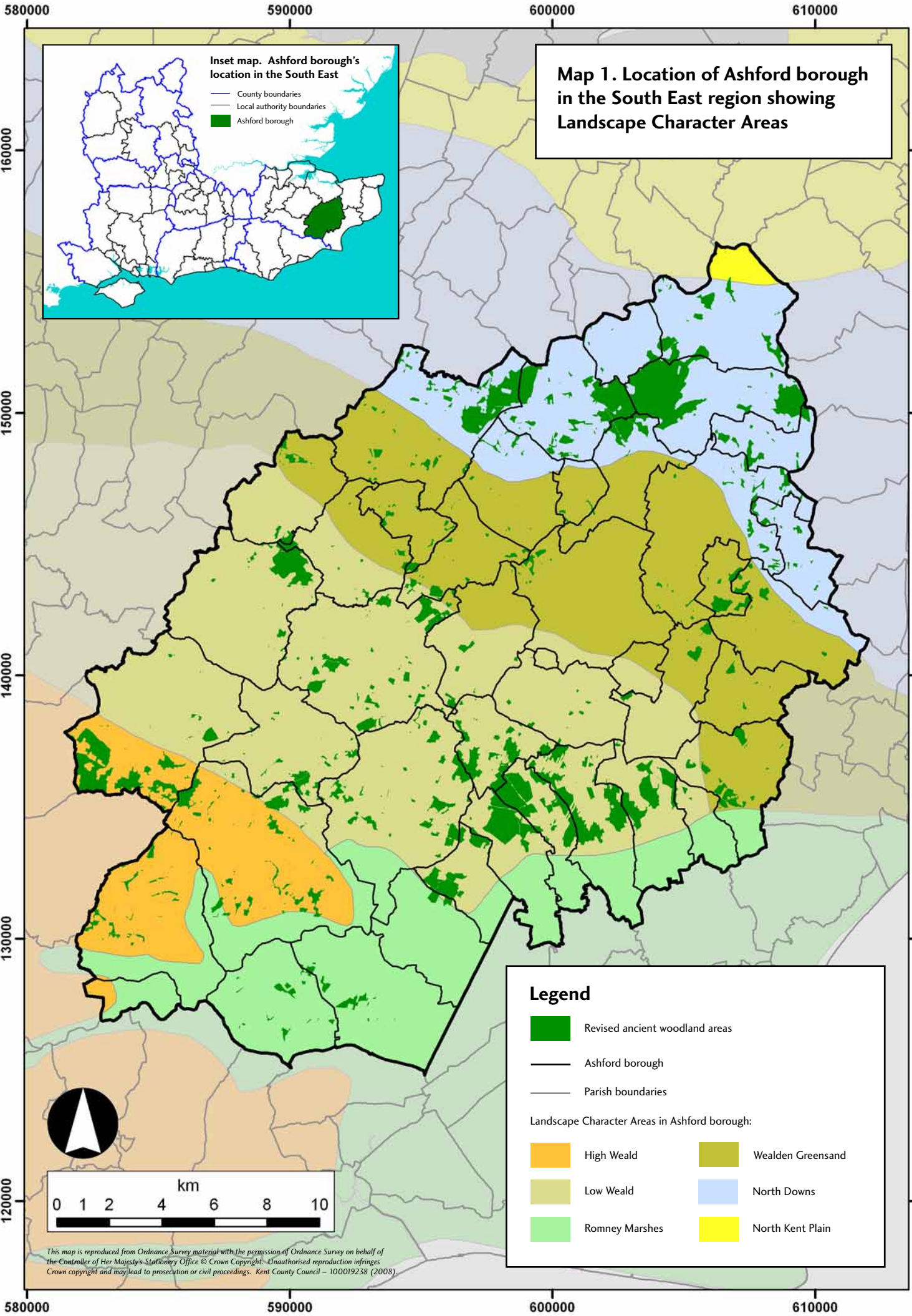
Latin Name	Common Name	No. sites	% of sites
<i>Iris foetidissima</i>	stinking iris	4	4
<i>Melampyrum pratense</i>	common cow-wheat	4	4
<i>Polystichum aculeatum</i>	hard shield-fern	4	4
<i>Ribes rubrum</i>	red currant	4	4
<i>Blechnum spicant</i>	hard-fern	3	3
<i>Stachys officinalis</i>	betony	3	3
<i>Polypodium vulgare agg.</i>	polypody	2	2
<i>Carex pallescens</i>	pale sedge	1	1
<i>Carex strigosa</i>	thin-spiked wood-sedge	1	1
<i>Dryopteris carthusiana</i>	narrow buckler-fern	1	1
<i>Festuca gigantea</i>	giant fescue	1	1
<i>Frangula alnus</i>	alder buckthorn	1	1
<i>Luzula forsteri</i>	southern wood-rush	1	1
<i>Luzula sylvatica</i>	great wood-rush	1	1
<i>Sanicula europaea</i>	sanicle	1	1
<i>Sedum telephium</i>	orpine	1	1

Appendix 2: Summary of findings from the woodland survey work

Feature type	% of sites
Damage	53
Grazing	25
Rubbish	20
Garden Waste/Planting	10
Significant presence of non-native and or invasive species	7
'Gardenization'	7
Poaching (by livestock)	3
Erosion of archaeological features through recreational use	3
Farm runoff/ eutrophication	2
Browsing	2
Excessive internal fencing	2
Physical boundary features	55
bank & ditch at boundary	43
bank without ditch at boundary	24
ditch at boundary	16
track at boundary	5
stream at boundary	2
Physical internal features	61
pits	47
internal ditch	17
internal bank	14
track running through wood	10
internal bank & ditch	4
mounds	3
Historic built structures	2
Living features	53
old coppice stools	41
boundary stubs	21
old outgrown hedges	8
pollards	2
other notable trees	2
Current management activities	20
pheasant rearing	13
recent planting in wood	7
active coppice management	5
recent felling	2
no obvious management activities recorded	80
Woodland Structure	100
coppice or coppice with standards	81
immature, scrub or no clear structure	10
high forest	9

Maps

- Map 1: Location of Ashford borough in the SE region showing Character Areas
- Map 2: Comparison of the Ancient Woodland Inventories for Ashford borough
- Map 3: The revised Ancient Woodland Inventory for Ashford borough – overview and index sheet
- Map 4: The revised Ancient Woodland Inventory for Ashford borough - SW sheet
- Map 5: The revised Ancient Woodland Inventory for Ashford borough - NW sheet
- Map 6: The revised Ancient Woodland Inventory for Ashford borough - NE sheet
- Map 7: The revised Ancient Woodland Inventory for Ashford borough - SE sheet



Map 1. Location of Ashford borough in the South East region showing Landscape Character Areas

Inset map. Ashford borough's location in the South East

- County boundaries
- Local authority boundaries
- Ashford borough

Legend

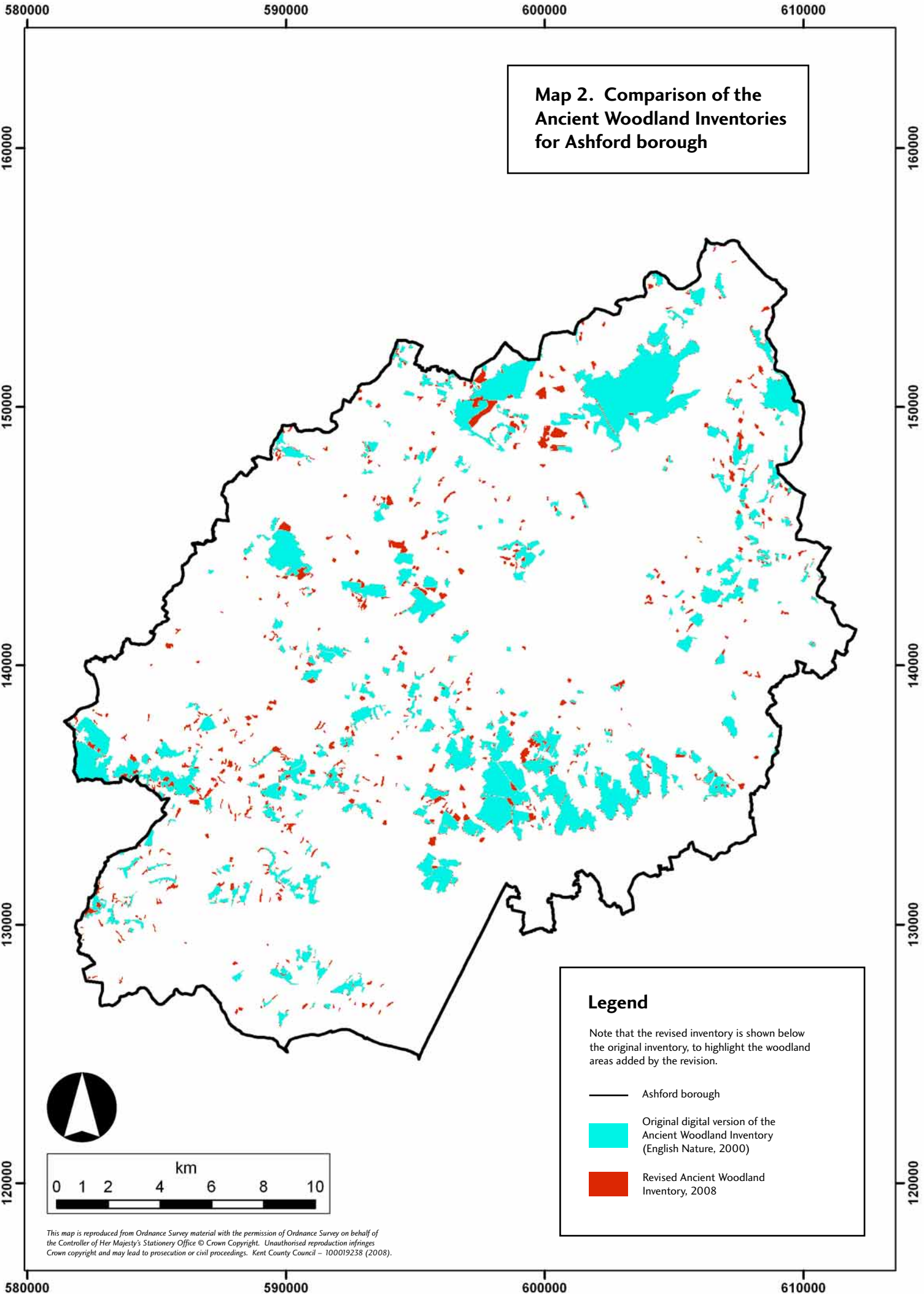
- Revised ancient woodland areas
- Ashford borough
- Parish boundaries

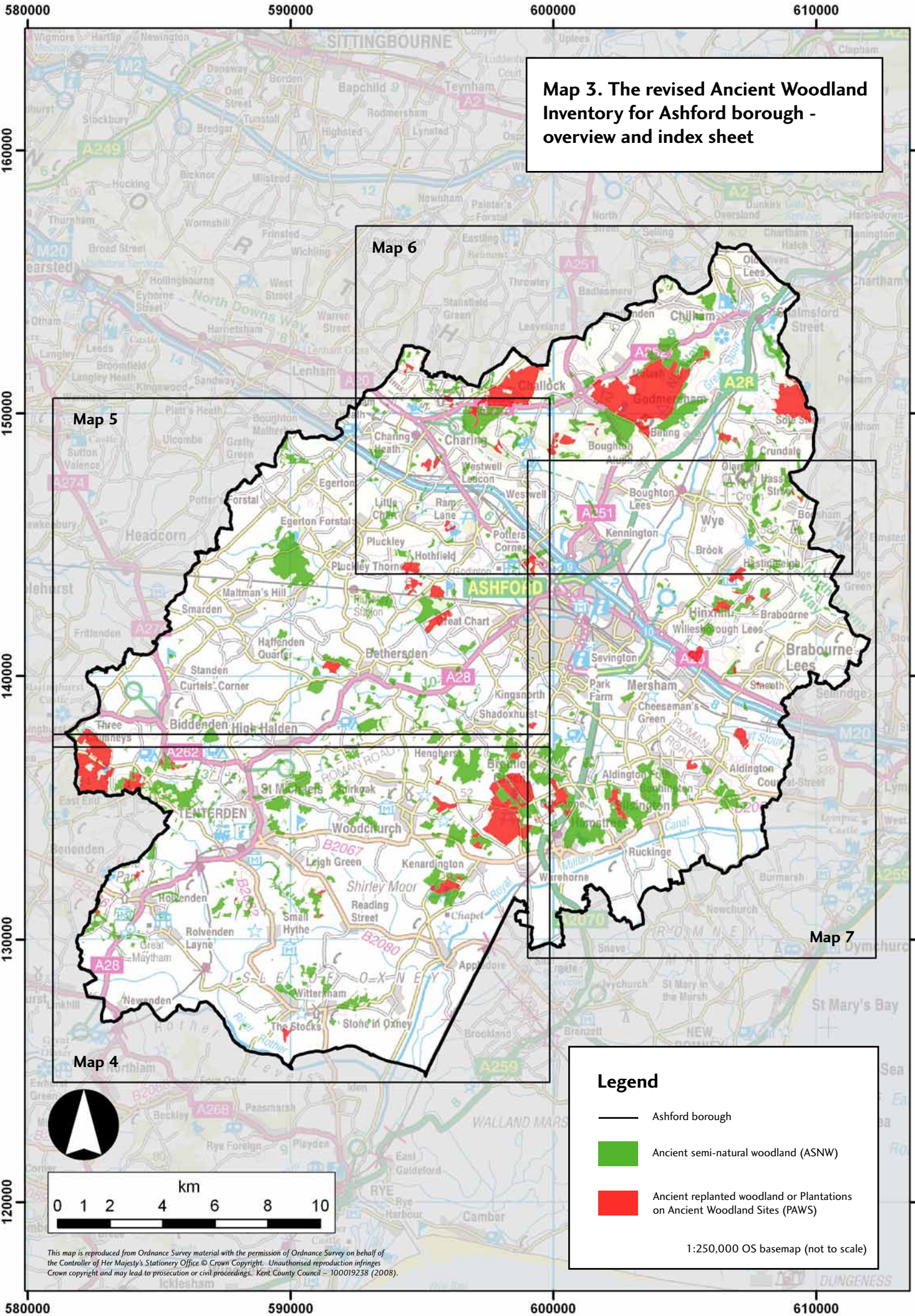
Landscape Character Areas in Ashford borough:

■ High Weald	■ Wealden Greensand
■ Low Weald	■ North Downs
■ Romney Marshes	■ North Kent Plain

0 1 2 4 6 8 10 km

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Map 3. The revised Ancient Woodland Inventory for Ashford borough - overview and index sheet




Map 6

Map 5

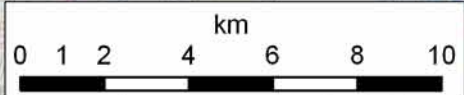
Map 7

Map 4

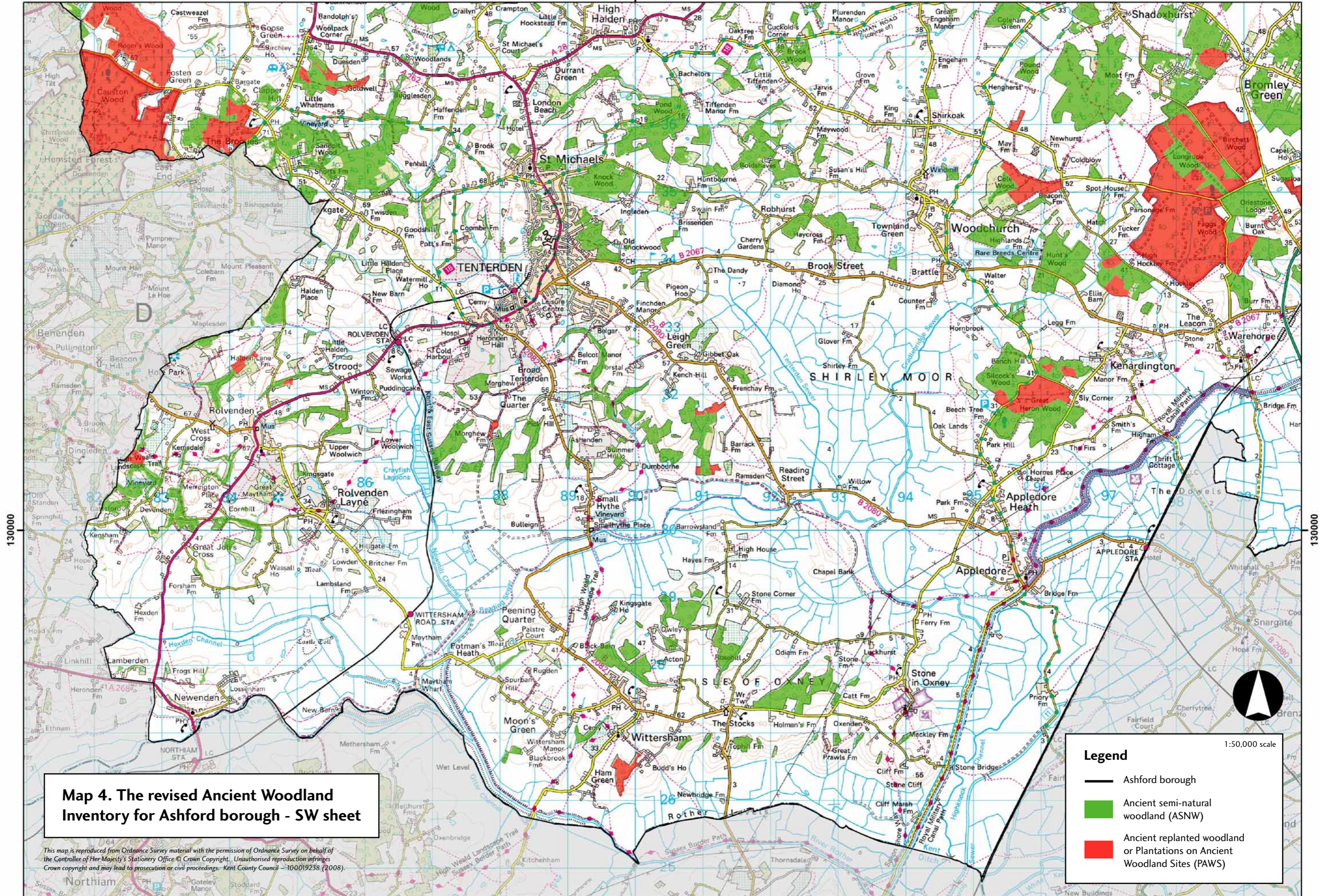
Legend

-  Ashford borough
-  Ancient semi-natural woodland (ASN)
-  Ancient replanted woodland or Plantations on Ancient Woodland Sites (PAWS)

1:250,000 OS basemap (not to scale)



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Map 4. The revised Ancient Woodland Inventory for Ashford borough - SW sheet

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Legend 1:50,000 scale




- Ashford borough
- Ancient semi-natural woodland (ASNW)
- Ancient replanted woodland or Plantations on Ancient Woodland Sites (PAWS)

Map 5. The revised Ancient Woodland Inventory for Ashford borough - NW sheet

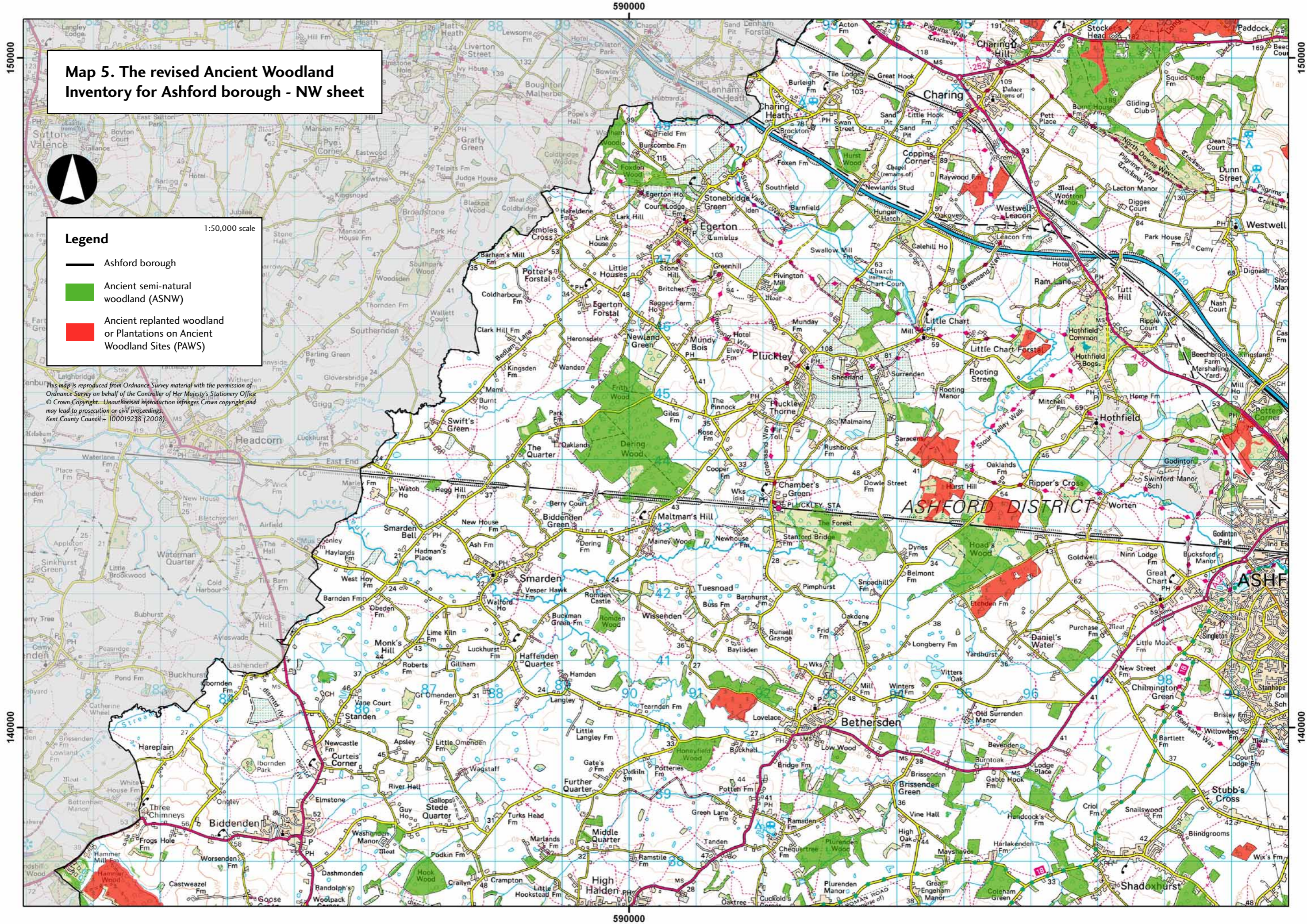


Legend

1:50,000 scale

-  Ashford borough
-  Ancient semi-natural woodland (ASNW)
-  Ancient replanted woodland or Plantations on Ancient Woodland Sites (PAWS)




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Map 6. The revised Ancient Woodland Inventory for Ashford borough - NE sheet

Legend

1:50,000 scale

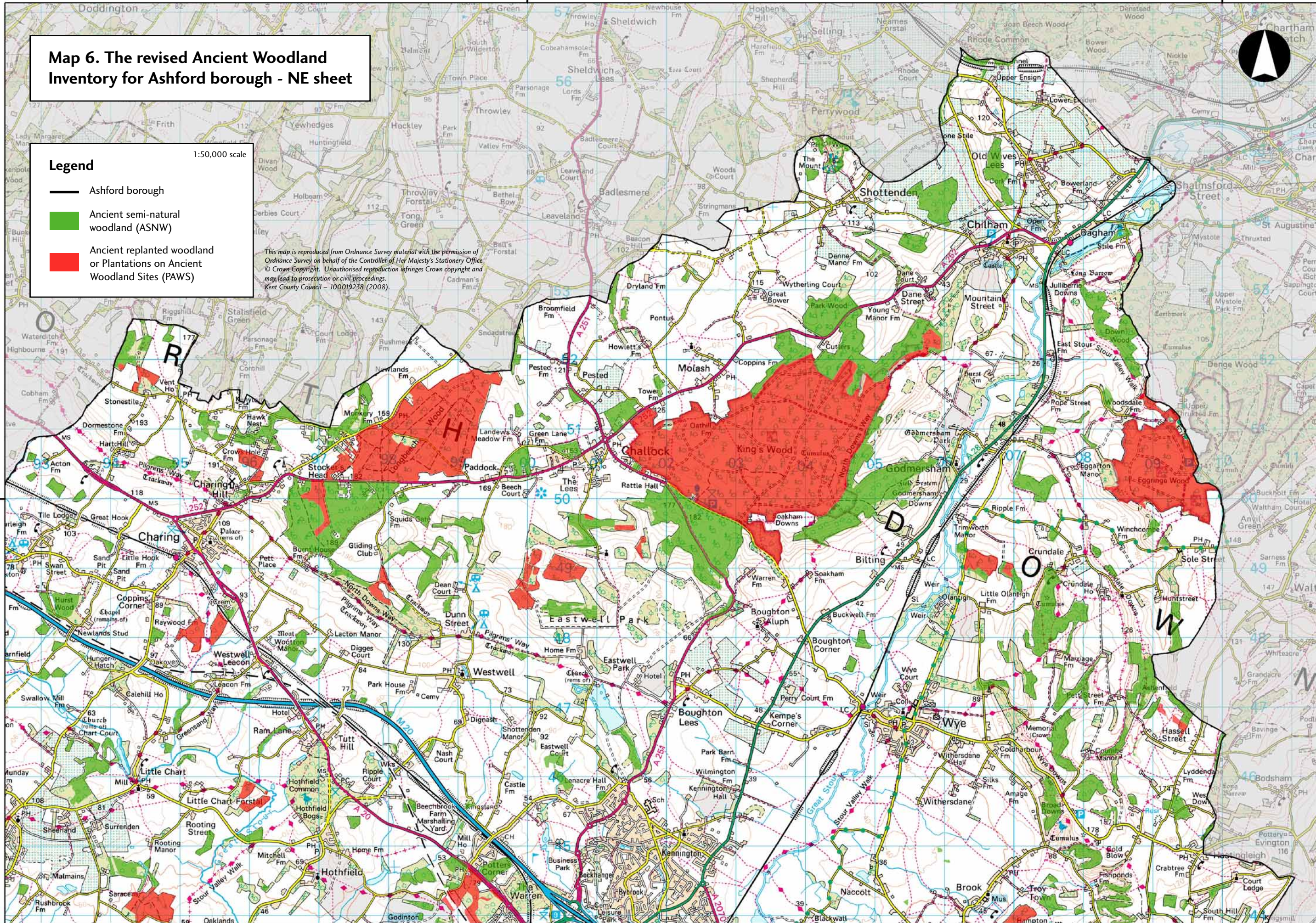
-  Ashford borough
-  Ancient semi-natural woodland (ASNW)
-  Ancient replanted woodland or Plantations on Ancient Woodland Sites (PAWS)

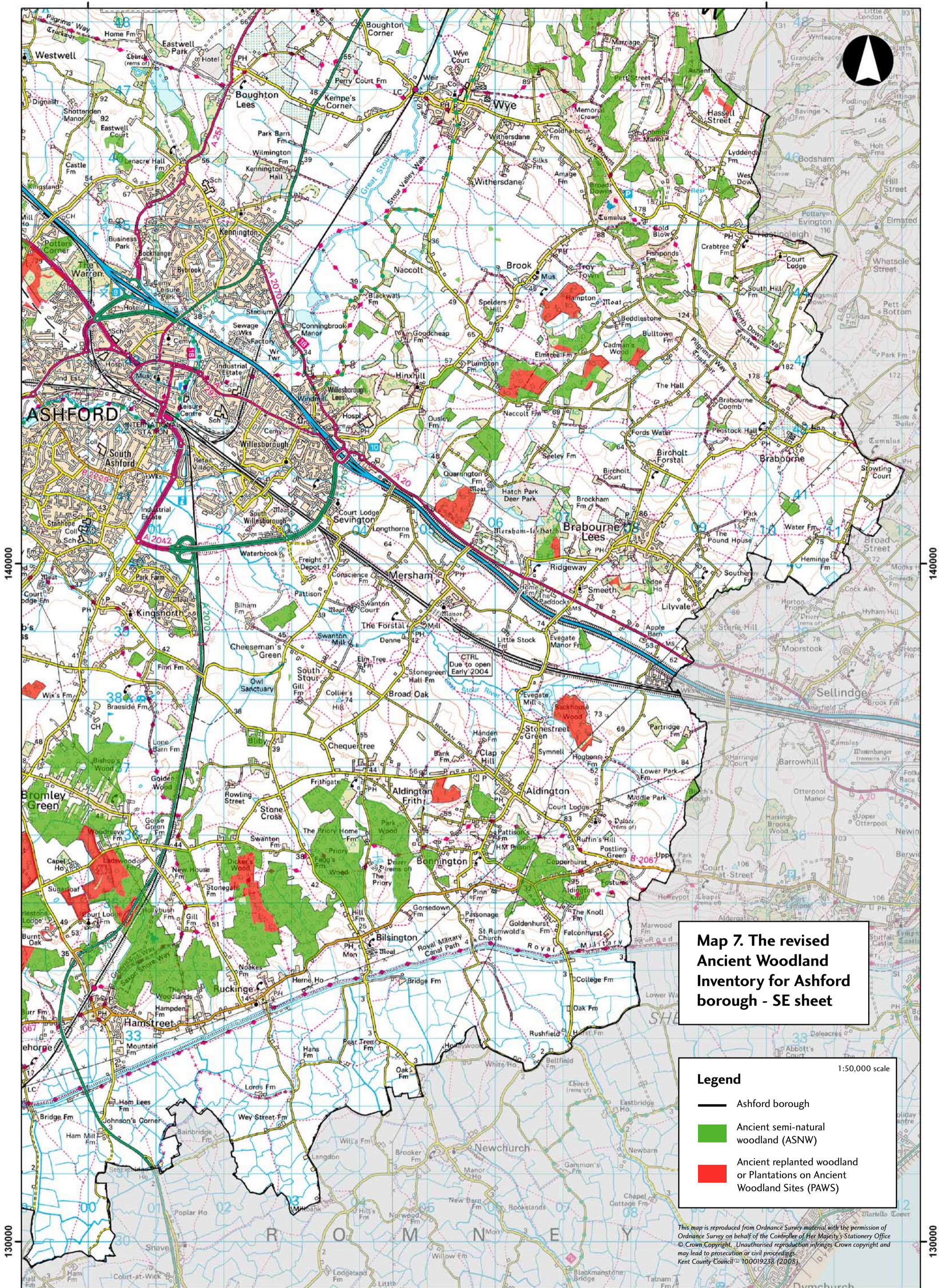
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150000

150000





140000

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130000

130000

Map 7. The revised Ancient Woodland Inventory for Ashford borough - SE sheet

1:50,000 scale

Legend

-  Ashford borough
-  Ancient semi-natural woodland (ASNW)
-  Ancient replanted woodland or Plantations on Ancient Woodland Sites (PAWS)

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WEALD AND DOWNS
ANCIENT WOODLAND SURVEY

Project carried out by the Weald and Downs
Ancient Woodland Survey for East Sussex and Kent
November 2006 to March 2009

With additional field surveys by Kate Ryland,
Dolphin Ecological Services

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