

A revision of the Isle of Wight Ancient Woodland Inventory

Report and Inventory Maps

May 2014



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A project carried out by John Brownscombe (Rural, Environmental & Landscape Consultancy) and the Isle of Wight Local Records Centre on behalf of the Isle of Wight Biodiversity Partnership

Report by John Brownscombe, with contributions from Dr Colin Pope and Anne Marston (Isle of Wight Council) and Dr Vicky Basford (Archaeological consultant)

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Isle of Wight Council foreword

The Island's landscape is precious and woodland is an important component, covering around 10% on the land area of the county. Ancient semi-natural woodlands contain irreplaceable ecological and historic features and must be protected and managed so that their special character can be conserved for future generations.

Knowing where ancient woodlands are and understanding this resource is a fundamental requirement for securing their long term future and key to making the right policy decisions.

The survey accurately identifies all our ancient woodlands, providing a robust evidence base for planners and other decision makers, helping to identify threats to this vulnerable resource but also opportunities for good management.

As elsewhere in the country, proposed levels of new housing development on the Island represent a significant pressure for change. An important principle of Local Plans is that plan policies and planning decisions should be based on up to date information about the environmental characteristics of an area. The Revised Ancient Woodland Inventory can contribute towards the evidence base by providing improved information on the extent, location and value of all ancient woodland sites.

This survey forms part of similar work throughout the South East of England, highlighting the hugely important and precious ancient woodland resource that exists in this densely populated region.

A handwritten signature in blue ink, which appears to read "Jonathan Bacon".

Cllr. Jonathan Bacon

Cabinet member for Planning & Regulatory Matters



Forestry Commission foreword

The value of trees and woods is increasingly appreciated: they enhance our landscapes, supply timber and fuel, improve our health and support many of our native plants and animals. The 'crème de la crème' are our ancient woods, those woods which have remained woodland since at least 1600 AD and in most cases for much longer. They are irreplaceable and hence merit our protection and management to maintain and enhance their special character. Knowing where they are is therefore crucial.

The first inventory of ancient woodland was initiated in 1981 by the Nature Conservancy Council but only includes woodlands greater than 2 hectares. Over the last 10 years the ancient woodland inventory has been revised for most of South East England, and for the first time includes woods smaller than 2 ha. The Isle of Wight has 5,073 hectares of woodland (National Forest Inventory <http://www.forestry.gov.uk/inventory>) of which 32% is ancient (Isle of Wight AWI Revision 2014). The Forestry Commission commends all those on the Isle of Wight who have worked so hard in supporting and completing this revision. This will not only provide an invaluable tool to help us all protect and enhance this irreplaceable part of our heritage but will, we hope, provide added encouragement to all those working to enhance the many benefits trees and woods provide for us all.

We hope that having read this report you will help in:

- Preventing loss of ancient woodland;
- Creating new woodland to buffer and connect ancient woodland to establish more resilient woodland habitats for our native plants and animals and future generations;
- Restoring sensitive management to those woods which have been neglected for many years;
- Maintaining their unique characteristics; and
- Helping more people appreciate and enjoy them.

Matthew Woodcock

Forestry Commission

Partnerships & Expertise Manager, South East England

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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 region 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 revision of the Isle of Wight Ancient Woodland Inventory (AWI) was initiated in recognition of the increasingly important role of ancient woodlands and the potential to increase the accuracy of the existing AWI.

This report summarises the methodologies and findings of a two year project (running from October 2012 to March 2014) to revise the Ancient Woodland Inventory for the Isle of Wight. Commissioned by the Isle of Wight Biodiversity Action Plan Partnership and the Local Records Centre, the review seeks to provide a robust evidence base upon which to assign ancient woodland status.

The Nature Conservancy Council began looking at the woodland of the South of England from the mid 1970s. This consisted largely of field survey recording the woodland flora and woodland stand types. Evaluation was based on an analysis of this information identifying woodland of nature conservation value. In the 1980s, survey information on Island woods was poor. It was decided that the approach to overcome this lack of information was to adopt a blitz approach using scientific staff in the Nature Conservancy Council and any additional experts that could be persuaded to join. In the end, a high calibre team of twelve professional ecologists was drawn together including George Peterken, Dick Hornby, Bob Gibbons, Francis Rose, Colin Tubbs and Rod Stearn. This took place in early June and early July of 1981 and a total of 75 sites were visited. Recording resulted in a high quality data set. Conclusions were that the woodlands of the Isle of Wight were 'particularly floristically rich' when compared to other areas in the South of England. Analysis of findings led to six woodland sites being put forward for designation as Sites of Special Scientific Interest.

The first Ancient Woodland Inventory for the Isle of Wight was produced in 1987. This involved a detailed desk based study of historic maps and was informed by historical records/surveys. Records of ancient woodland indicator species were also considered. In line with national guidance at the time mostly woodland of two or more hectares in size was captured in this process. This survey resulted in 1594.39 hectares of ancient woodland being recorded.

The whole of the Isle of Wight ancient woodland resource has been re-examined as part of this review. The results of the review show a total ancient woodland area of 1602.43 hectares an increase of 8.04 hectares or 0.5%. This overall figure, although showing a very small increase in ancient woodland cover, belies the changes to the extent of individual ancient woodland sites and the capture of smaller ancient woodlands that are a direct result of this review. There has been an increase in identified ancient woodland parcels from 260 to 370. 236.68 hectares of original ancient woodland were removed from the inventory as a result of the review. This equates to 14.8% of the original ancient woodland area. The greatest change has been at Parkhurst Forest, with a recorded loss of 53.27 hectares of ancient woodland, (3.34% of the total original Isle of Wight Ancient Woodland Inventory area). 244.72 hectares of ancient woodland were added as a result of the review largely as a result of changes to the boundaries of existing ancient woodlands and the capture of new, small scale ancient woodland areas (below 2 hectares but more than 0.25 hectares in size). This represents a gain of 15.34% on the original Isle of Wight Ancient Woodland Inventory.

The revised Isle of Wight Ancient Woodland Inventory shows 4.06% of the Isle of Wight area as being ancient woodland.

The revised inventory will assist planners in making decisions about development within the Isle of Wight, ensuring that the effects of any development proposals on ancient woodlands can be properly assessed and considered. It will enable a better assessment of the extent and quality of the Island's ancient woodland resource, as well as being able to identify threats to that 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 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 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.

At the time, the compilation of the original inventories was an extremely valuable process, and a landmark achievement for the conservation of British woodland. However, new information and advances in technology mean that their omissions and inaccuracies can now be addressed. With pressure on land increasing year on year, these errors can cause significant problems for planning authorities. In addition, the exclusion of woodlands less than two hectares in size has undermined the protection afforded to these sites through the planning process. This is particularly the case in heavily wooded counties where small woodlands are a central part of the fabric of the countryside and make a significant contribution to the overall woodland resource. This inventory revision includes these small woodlands for the first time.

The original Ancient Woodland Inventory (AWI) for the Isle of Wight was first produced in 1987.² Originally, all of the county inventories were only available on printed maps, but between 1998 and 2000 they were digitally mapped (digitised) by the Forestry Commission. This first digitisation is the electronic version that most resembles the original printed inventories, which have a published methodology; although it does include some changes made since the paper versions were produced. This digital dataset was subsequently updated on a case-by-case basis by English Nature (now part of Natural England), the successor to the Nature Conservancy Council, and is now administered by Natural England. For this report, comparisons have been made with the first inventory which hereafter will be referred to as the 'original AWI'.

2.1.1 Isle of Wight Ancient Woodland revision

The Isle of Wight revision is part of a wider revision of ancient woodland inventories in the South East of England. It has been commissioned by the Isle of Wight Biodiversity Partnership and Local Records Centre.

The aim of the revision is to update the Ancient Woodland Inventory for the Island and for the first time include ancient woodlands of less than two hectares in size.

¹ Spencer and Kirby (1992)

² NCC (1987)

2.1.2 Historical and ecological overview of Isle of Wight woodland

The Domesday Survey provides an early record of the extent of woodland in the English landscape. For the Isle of Wight there are twelve entries for woodland paying swine rents and ten other woodland entries with less monetary value. This perhaps suggests a much smaller extent of woodland cover in the Isle of Wight than that in Hampshire.³ However, Parkhurst Forest (both its woodland areas and open lands) presumably was excluded, due to it being non taxable as royal land. It is difficult to be sure of the spatial distribution of woodland based on the information in the Domesday Survey. This is because details are recorded by individual manor many of which were located in the south or centre of the Isle of Wight with lands extending north of the central chalk ridge into the clay lands which are more readily associated with woodland cover. There is a particular lack of records for woodland in the Freshwater area perhaps indicating an early clearance of woodland in this part of the Island.⁴ There is also a lack of records of woodland in the north east part of the Isle of Wight in the Domesday Survey. This is perhaps surprising as this is the possibly the most well wooded part of the Island's landscape today.

The Isle of Wight Historic Landscape Characterisation⁵ states that based on an assumption of the foundations of the landscape being based on patterns established in the Anglo Saxon period an estimated 19% of the land cover of the Isle of Wight was wooded or royal forest in the Domesday period. This is significantly higher than the 6% suggested by Rackham.⁶ An assessment of the 1793 unpublished Ordnance Survey maps of the Isle of Wight would indicate a woodland cover of 6.3% with a further 2.7% being occupied by Parkhurst Forest.⁷ In her thesis 'Isle of Wight in the English Landscape: Medieval and Post-Medieval Rural Settlement and Land Use'⁸ Dr. Basford suggests that the extent of woodland outlined by the Historic Landscape Characterisation may be an over estimate. An analysis of woodland place names in addition to the Domesday Book suggests that the Isle of Wight may have been fairly well wooded and comparable with areas of the midlands and eastern counties but with individual woodlands being very small.⁹ It has also been suggested that only demesne woodland was recorded in the Domesday Survey which may account for some anomalies.¹⁰

The National Forest Inventory estimates a total area of 5073 hectares of woodland in the Isle of Wight. This includes woodland and assumed woodland just under 13% of the land-cover of the Isle of Wight. The extent of ancient woodland resulting from this review is 1602.4 hectares thus totaling 32% of all woodland. The remaining woodland will be of more recent origin either deliberately planted or secondary semi-natural woodland developing on previously unwooded sites such as abandoned fields, heaths and commons. During the 19th and 20th centuries significant areas of conifer plantations were established across the Island's landscape particularly on former heathland and on the central chalk downland ridge between Shalcombe and Shorwell (Brighstone Forest). Some historians contend that woodland cover in post Roman Britain was considerably less than thought by earlier scholars,¹¹ with some suggesting it was very similar to that of today's landscape.¹²

Before widespread human change much of the Island is thought to have been covered in woodland. Development of agricultural techniques in the New Stone Age and Bronze Age (some 5,000 years ago) led to the progressive clearance of woodlands. Evidence suggests that much of the Island was

³ Basford (2013)

⁴ Margham (1992)

⁵ Basford (2008)

⁶ Rackham (1986)

⁷ Basford (2008)

⁸ Basford (2013)

⁹ Roberts & Wrathwell (2002)

¹⁰ Lewis (1997a)

¹¹ Hill (1981)

¹² Gelling & Cole (2000)

settled with concentrations on the lighter chalk and Greensand soils, and along the coast. The largest areas of ancient woodland remaining in the landscape today are concentrated in areas seemingly unsettled in during the Bronze Age and still fairly sparsely populated today. The two principal areas being on the heavy clay soils of Parkhurst Forest and at the head of Wootton Creek. Other areas of ancient woodland are located on land which has proved difficult to cultivate due to steep slopes or heavy soil conditions.

The majority of the Island's ancient woodland is located north of the chalk on the heavy and difficult to work clay largely derived from Hamstead Beds and Bembridge Marls. These woodlands are mostly comprised of stands of oak, ash, and hazel with field maple occurring on the more calcareous clays and on the superficial sand and gravel deposits which cap many of the hills.

Pendunculate oak (*Quercus robur*) is the most predominant species of oak associated with clay woodlands. However in some strongly acidic clays such as those at Parkhurst Forest and Briddlesford Copse, Sessile oak (*Quercus petraea*) is found; this is thought to be a particularly strong indicator of historical continuity.¹³ The heavy clay soils in the north of the Island are also characterized by the presence of wild Service tree (*Sorbus terminalis*) and the rare narrow-leaved lungwort (*Pulmonaria longifolia*). Small-leaved lime (*Tilia cordata*) is found in two small copses in the West Wight, the last remnants perhaps of the once widespread in woodland as evidenced by pollen analysis of soils from the Bronze Age.

2.1.3 Project aims

The primary aim of the project was is to re-examine all available information and to present a revised AWI for the Isle of Wight. This will enable 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.

An additional aim of the project was:

- To document the location of ancient woodland sites within the civil parish 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.

2.1.4 Project funding

The revision of the Isle of Wight AWI was funded by the Local Records Centre (hosted by the Isle of Wight Council) and the Isle of Wight Biodiversity Partnership. The principal aim of the Isle of Wight Biodiversity Partnership is (in line with national guidance) to maintain, restore and, where feasible, re-create the nationally and locally important priority habitats and the species which depend upon them. The Isle of Wight Biodiversity Partnership consists of conservation bodies, statutory agencies, local government, landowners and other local groups.

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 pioneering research on the subject by George Peterken, Oliver Rackham and others in the 1970s.¹⁴ The distinction is now well established and a useful one and the concept of 'ancient woodland' is embedded in national forestry and nature conservation policy.

¹³ Nature Conservancy Council (1987)

¹⁴ For example Peterken (1977), Rackham (1980)

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 a result of a cessation in land use management. 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 Natural England), as included in an English Nature guidance document on ancient woodland for local authorities.¹⁵ 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 classified 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 remained as woodland i.e. the coppice stools were re-grown or the stand has been replaced 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 Peterken,¹⁶ because it reflected a 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'.¹⁷ Other dates could be argued: 1650 was used by Peterken and Harding¹⁸ to distinguish between post-medieval woods in Rockingham Forest, as a detailed map for that area was produced at that time, while Rackham uses 1700.¹⁹ 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 woodland.

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 and 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*).

¹⁵ Kirby & Goldberg (2006)

¹⁶ Peterken (1977)

¹⁷ Evelyn (1664)

¹⁸ Peterken & Harding (1974)

¹⁹ Rackham (2003)

The division between semi-natural stands and plantations is not always easy to define, perhaps because there are intermediates, for example small clearings in 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 understory 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 purpose of this review, the following definitions have 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 woodland (at least 20% canopy 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 deer.²⁰ 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 AWI as ASNW where recognisable stands of trees evident on old maps remain unchanged. Parkland sites with trees widely spaced were omitted.²¹

3. Methodology and Sources

The guiding principles followed in this project are those used to compile the original inventory. The work, combining desk-based analysis, archive research and some site specific archaeological survey and boundary analysis follows the methodology set out by Natural England in their research report.²²

The revision represents a complete and systematic rebuilding of the Isle of Wight Ancient Woodland Inventory. It draws heavily on the established information contained in the original AWI but also reappraises this information in light of further evidence sources which may not have been readily available at that time. The availability of high precision digital mapping tools, aerial photography and large-scale historical map sources in digital format meant, that for the first time, small ancient woodlands (less than two hectares in size) could routinely be included in the revision. Whilst the methodology aims to be both systematic and robust, because of the size of the review the methods are relatively simple and quick, with more detailed historical and field surveys confined to a priority set of sites.

²⁰ Harding & Rose (1986)

²¹ Spencer & Kirby (1992)

²² NERR042 (2011)

3.1 Software

The mapping of woodland in this project and much of the map research undertaken to create 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. It also allows the editing of the dataset to a new standard of spatial precision which would have not been possible within the timeframe for the project without its use. The GIS software used was *ESRI ArcMap 9.3*.²³ The use of GIS also allows for the creation of a database giving detailed information on each of the sites which can be analysed to provide detailed reports.

3.2 Inventory revision

The approach used to map the ancient woodland in this project is deductive. A relatively large data set of woods is first captured from accurate and reliable relatively recent map evidence. This first dataset is then refined and filtered through the interpretation of further sources of historical, ecological and archaeological evidence. There are three main elements to the procedure to revise the AWI:

- Desk-based mapping – the capture of the dataset
- Research of historical maps and documents – refinement
- Field survey work – for specific sites to further refine the dataset

3.2.1 Desk-based mapping – capture of the dataset

The first stage of the process was to identify with increased spatial accuracy a sub-set of the present day woodland resource which has clear evidence as being long-established woodland, woods of late 19th century and 20th century origin being eliminated.

The capture of predominantly ancient woodland sites employed the use of the following mapping elements:

- The current Ordnance Survey MasterMap Topographic Layer
 - This is the modern vector dataset from which other current OS map products are derived. It is the recognised UK industry standard baseline for the creation of maps and geographic datasets. Surveyed at 1:2500 scale or greater.
- Recent geo-rectified aerial photography
 - ESRI Imagery – based on Getmapping 1m resolution imagery for Great Britain
 - Google Earth/Google Map
- Habitat Land Use data from the Isle of Wight Council
 - Woodland data from the Isle of Wight Habitat Land Use database
- Forestry Commission National Forest Inventory data
 - The national database of forests and woodland held by the Forestry Commission.
- Ordnance Survey First Edition County Series 25 inch to 1 mile.
 - This is the earliest very large scale mapping to give a complete, standardised and systematic national coverage. A partnership between Ordnance Survey and Landmark Solutions has geo-rectified the map into digital form to allow its direct use with GIS. Surveyed at 1:2500 scale or greater (allowing direct comparison with MasterMap).

The review started by the analysis of existing datasets to create a 'Contemporary Woodland Cover' dataset. This included information from Habitat Land-Use data from the Isle of Wight Council, the

²³ ESRI Inc (2008)

Forestry Commission's National Woodland Inventory, and Topographical Identifier (TOID) from attribute table of the Ordnance Survey MasterMap where the descriptive term (DescTerm) includes a woodland element.

Systematically working across the Isle of Wight from west to east, the resulting dataset was then compared with aerial photographs. Any areas which were not shown as established mature woodland, such as coastal scrub, recently planted new woodland strips or areas, or parkland were removed.

Working back across the Isle of Wight from east to west the refined dataset was then compared with the Ordnance Survey First Edition County Series 25 inch to 1 mile map: Isle of Wight 1860-1885 (most in the 1860s and 1870s). These maps are also referred to Epoch 1, a term used by historians. Each polygon (or part of) was then coded according to its presence or absence on the Epoch 1 map. For the purposes of this mapping, woodland was defined as land judged to have at least 20% canopy woodland over 80% of the site. Any continuous blocks of woodland were regarded as discrete sites with historical and ownership boundaries not taken into account; ponds and other open areas (of less than 1 hectare) within a wood were included. Surfaced roads, have been edited out of polygons. However, un-surfaced tracks, natural and semi-natural linear features such as small watercourses have been included in woodland polygons.

The resulting dataset consisted of contemporary woodland also present in the mid 19th century. At this stage no woodland was eliminated based on the nature of the contemporary stand (plantation woodland) as further examination in the process may then prove such sites to have deeper historical origins. In theory this first indicative ancient woodland dataset capturing all ancient woodland across the Isle of Wight and some woods with their origins in the 17th, 18th and 19th centuries.

3.2.2 Refining the dataset using research of historical maps and other documents

The next stage in the methodology consisted of checking this indicative dataset against evidence from a range of historical map sources held at the Isle of Wight Record Office, the Isle of Wight Archaeological Centre and also in digital form which could be subjected to GIS analysis.

The following is a list of the main sources of evidence used in the review:

The Ordnance Survey First Edition County Series 25 inch to 1 mile maps (produced for the Isle of Wight 1860-1885).

These maps are superbly detailed and contain a wealth of information about the woods under review beyond that of their existence in the 19th century. The engravers used different symbols to represent different types of woodland, and scrub vegetation including; simple coppice, coppice with standards; high forest, plantations- mixed and coniferous, osiers, pasture woodland, parkland etc. It is possible to discern from these maps which woods were enclosed and which were not, as well as to see features in the woods such as buildings and enclosures. This level of detail reflects the importance of woods and woodland products to the rural and wider economy at the time of their production.

Whilst an important historic resource and essential in the initial desk-mapping exercise set out in 3.2.1, the major disadvantage to these maps is their relatively recent date when seeking to ascertain woods in existence since 1600 AD. Because of the high level of accuracy of this source of evidence, absence of woods on these maps is considered highly significant. Whilst it could be inferred that

more woodland shown on the 1st Epoch maps of a more recent date has a more regularly shaped enclosure, has symbols that indicate a previously non-woodland use or shows recent planting, the map does not necessarily give the required evidence to eliminate such woodland sites from the dataset.

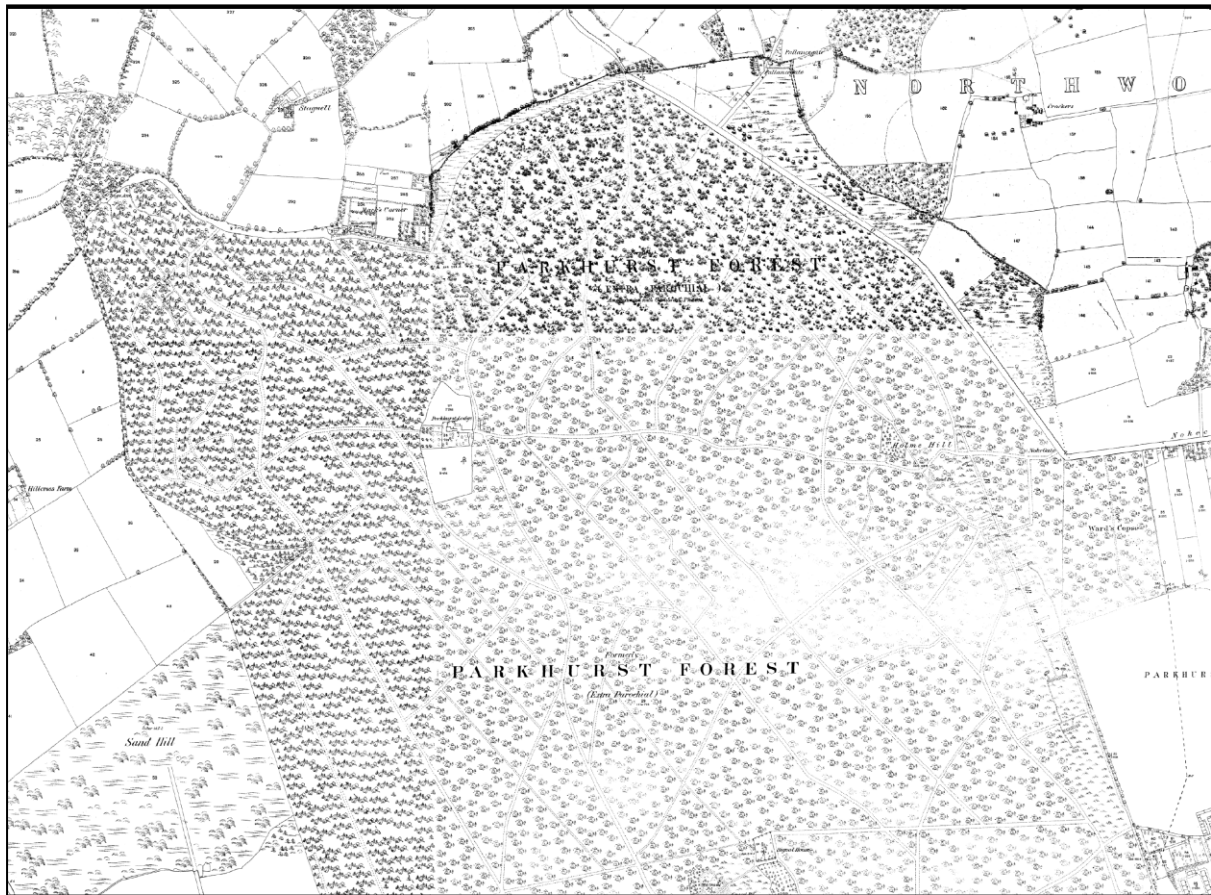


Figure 1: Epoch 1 Ordnance Survey Map showing Parkhurst Forest

Unpublished Ordnance Survey Drawings 6 inch to 1 mile (Produced 1793-1794), (also known as the Mudge maps named after William Mudge the surveyor).

The threat of potential Napoleonic invasion of England led to a concerted effort being made by the Board of Ordnance to complete detailed surveys of areas thought to have particular military significance. The Isle of Wight was one such area and nineteen sheets of early draft sketches are kept at the National Archives.²⁴

These were then used to create more detailed coloured versions described as unfinished (in that there is evidence of pencil markings and crossing out of place names) 'fair drawings' for the area. There are eight sheets of fair drawings held at the British Library²⁵ that cover the whole of the Isle of Wight. Drawn at a scale of 6 inch to 1 mile these provide detailed mapped information for the Island and are an important historic record of land use, enclosure and settlement pattern. The use of colour washes, coloured lines, symbols and hatching for relief provide great detail. Woodland is shown with a green wash and either by symbols drawn individually or by more vague representations of tree tops in a group. The scale of the survey for these drawings increases the confidence that we can have in them for the accurate portrayal of woodland cover at that time. There are a number of caveats to this in relation to woodland hangers (lynches) on steep sided

²⁴ National Archives (MR 1/489; WO 78/1648; MPH/1/776)

²⁵ British Library (BL OSD 67-74) surveyed 1793-4

downland slopes where the emphasis may have been on the recording of the terrain rather than the land cover; and areas that may have appeared to surveyors as non-woodland but where in fact were either coppiced or clear felled as part of their woodland management.

Recently, digital copies of the British Library maps have been geo-rectified to allow comparison using GIS. Despite the use of the then 'state of the art' theodolite and the national trigonometrical survey, technology has increased the accuracy of mapping meaning so that features on the fine drawings do not always completely align with MasterMap. Therefore their analysis requires a degree of interpretation and judgement.



Figure 2: Unpublished Ordnance Survey- 'Fine drawing' showing Parkhurst Forest. Note lack of woodland compared to the Epoch 1 map.

The indicative ancient woodland inventory was compared with the geo-rectified unpublished Ordnance Survey fine drawings and it was noted whether woodland was present at that date. This resulted in a further refinement to the dataset.

Isle of Wight Historic Landscape Characterisation (HLC) 2008

The technique of Historic Landscape Characterisation, usually referred to as HLC, is one of a range of mapping and characterisation techniques developed in the 1990s by agencies concerned with the natural and historic environment, primarily for the purpose of landscape management. HLC maps the historic dimensions of the present landscape which has been created from different processes of landscape change. The HLC technique involves identifying units of land with a specific historic landscape character. These land units are assigned first to a Broad HLC Type such as field patterns, woodland, settlement and then to one of numerous HLC Descriptive or Interpretative Sub-Types. HLC information relating to woodland was used to inform the analysis of map evidence.

First Edition Ordnance Survey map 1810-1811

These maps are often referred to as 'Old Series' and were based on the unpublished fine drawings undertaken in the late 18th century. They were simplified at a scale of 1 inch to 1 mile and produced in black and white these maps were the first to provide a complete standardised published map for the whole of England and Wales. These are now published as part of the Cassini Historical Map Old Series at a scale of 1:50000 with the addition of national grid lines enabling quick comparison with modern mapping.

Although this source of evidence was not used for a detailed assessment of the presence, absence or shape of woodland features (due to its simplification) it was checked against the indicative ancient woodland dataset and where woodland was shown it was recorded.

Greenwood Map 1826

The Greenwood Map (1826) is a hand coloured steel plate engraving of the County of Southampton (Hampshire and the Isle of Wight) at an approximate 1 inch to 1 mile scale. Produced by C and J Greenwood and N L Kentish and published by Greenwood, Pringle and Company, London. It has been digitised and placed online by the University of Portsmouth.²⁶ By downloading and geo-rectifying individual digital images of the map a direct comparison was possible with the indicative ancient woodland dataset using GIS, where woodland was recorded in the GIS database.

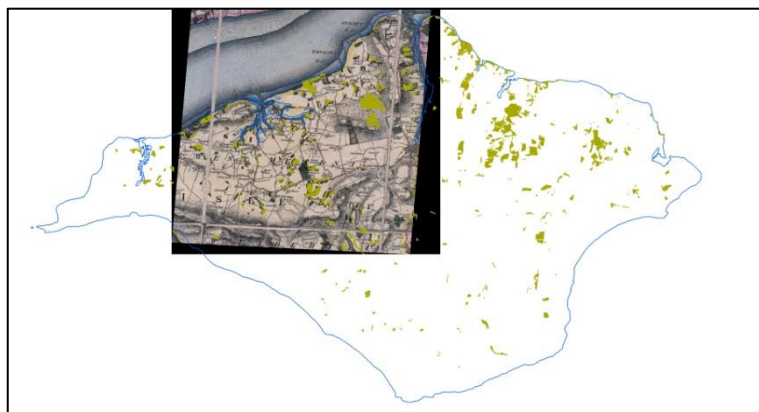


Figure 3: Example of Greenwood Map, digitised and geo rectified to be used as a layer for GIS analysis.

The tithe maps for the Isle of Wight

Tithe maps were produced as a result of the Tithe Commutation Act of 1836 when tithes in kind to the parish were replaced by payments of rental value. For this to be workable there was a need to have consensus on boundaries, extent of land ownership or land under lease and the type of cultivation being undertaken as this dictated the rate of tithe due. This was done through the production of tithe maps and apportionment ledgers. These were produced for much of the Isle of Wight with the exception of land under the influence of the Crown (such as Parkhurst Forest); some areas within the St Nicholas in Castro ecclesiastical parish (as part of Carisbrooke Castle lands) and some areas with historic links to Quarr Abbey. There were 30 ecclesiastical parishes in the mid 19th century many of which had detached areas across the Isle of Wight. The maps provide an invaluable record of land use in the 19th century at a local level in a similar way to that given in the Domesday Book in the 11th century.

²⁶ <http://www.geog.port.ac.uk/webmap/hantsmap/hantsmap/grnwood2/grnwood2.htm>

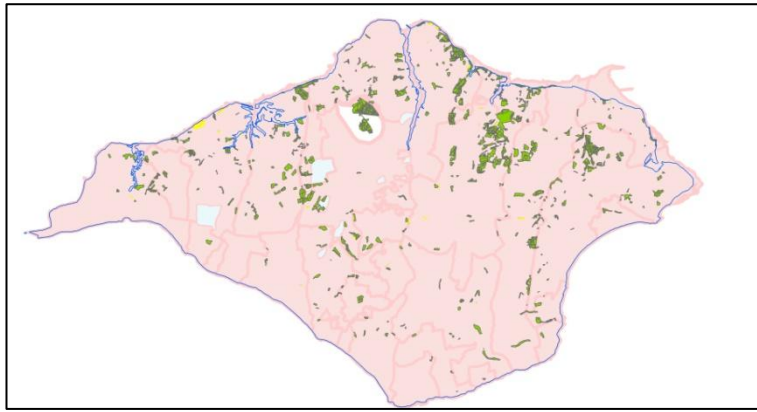


Figure 4: Results of tithe map analysis. Onshore pink areas were subject to tithe payments and have tithe maps and apportionments, blue areas have no tithe map (as royal land or land relating to St Nicholas in Castro (Carisbrooke Castle)), green areas are woodland areas also shown as woodland on tithe, yellow areas are woodland areas shown as another form of land use or land cover on the tithe.

Maps relating to parishes on the Isle of Wight were largely drawn up in the late 1830s through to the 1840s. Documentation for the alteration of tithe apportionments exists for some parishes as from as recently as the 1920s. The tithe maps show compartments of land together with a code, which is indexed and listed in a bound apportionment volume detailing the owner(s) and/or occupier(s), the name of each parcel of land, a description of its 'state of cultivation' and the associated rent charge calculation. Although it was the intention for there to be a national uniform standard for tithe maps, the cost of doing this led to great variability between parishes. The tithe maps for the Isle of Wight are held at the Isle of Wight Record Office with some transcribed copies also held by the Isle of Wight Archaeology Centre. These are all in paper form only and have not been digitised.

The whole of the indicative ancient woodland dataset, for which there was tithe coverage, was compared to the tithe maps and apportionments. This provided a further filter to the potential revisions as well as further verification and evidence to support ancient woodland status. Due to the lack of a digital format a degree of interpretation and judgement was required to identify the location of tithe woodland in relation to the indicative ancient woodland dataset.

The tithe maps pre date the Epoch 1 maps by a few decades and although their apportionment ledgers provide detail of land ownership and cultivation (including woodland) they lack the antiquity to fully identify which woodlands can be classed as ancient. Their creation corresponds with the beginning of a period of rapid change for woodlands in England during the early and mid Victorian period in terms of the approach taken to their management.

An analysis of the tithe maps further refined the indicative ancient woodland dataset as it enabled the removal of woodland clearly shown as arable, pasture, downland and common in the mid 19th century. It was also possible to amend some of the boundaries of woodland areas based upon those shown on the tithe.



Figure 5: Extract from Calbourne Tithe surveyed 1842 (not to scale) Isle of Wight Record Office JER/T/162

Estate maps

Increasing accuracy in maps was possible from 1570 onwards due to the use of the theodolite (rather than the less satisfactory trigonometry by the 'plane table'). Medieval cartographers had relied on local knowledge for their information. The introduction of a standard length chain in the early 17th century improved the accuracy and quality of survey even further.

Estate maps were drawn up to show the extent of ownership of land and buildings, boundaries and issues of ownership and land use. They may also include details of accounts, surveys and correspondence. Very often they were a status symbol and elaborately decorated and may give emphasis or underplay certain features. Because they were individually commissioned they vary in quality and accuracy.

The Isle of Wight Record Office holds a number of estate maps. The study of these can be very time consuming and not always beneficial. The extent of woodland is not always immediately obvious and in some cases may require detailed research. Each map needs to be looked at with its original purpose (if known) in mind. Within the time constraints of this project it was not possible to look at all the potential sources of historical information that is held by the Isle of Wight Record Office or in regional and national archives. However a number of larger estates were considered and map evidence considered. This included: Swainston (Barrington-Simeon); Binstead, Havenstreet, Combley and Haseley (Willis-Fleming); Shanklin (White-Popham) and Nunwell (Oglander) estates. A map of the extent of Parkhurst Forest was also viewed.



Figure 6: Extract from survey of Fleming Estates 1771 scanned from photocopy held at the Isle of Wight Historic Environment and Archaeological Centre.

It should be noted that there are likely to be other, significant historical resources of relevance to the inventory of the Isle of Wight's ancient woodland resource. Within the time constraints of this project, it was not possible to examine a greater amount of the likely resource available, although for a small number of sites where significant change was proposed more detailed historical and archaeological research was undertaken to refine the revised AWI.

3.2.3 Other evidence sources

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

Place names

The attraction of historic place names is the link they speak of 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 landscape. 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 grove especially one on a hill.²⁷ The disadvantage is that many place names probably relate to topographical features which are atypical and distinctive rather than describing the general situation. Hence when the name 'hurst', originally applied to a small and distinctive hilltop grove, is

²⁷ *ibid.*, Rackham (2003)

later transferred to a wider area it does not necessarily support ancient woodland status for all the sites in the area.

Wood names can also help to identify non ancient woodland. 'The plantation' and 'The Grove' for example, may indicate a more recently planted woodland particularly where the site is associated with a large house and/or cultivated land. However, caution is needed as names change over time and 'The Plantation' may well occupy the site of a pre-existing wood.

Woodland shape and situation in the landscape

Larger ancient woodland sites often survive on parish boundaries or follow steep inaccessible topography such as slopes down to a stream or land surrounding old chalk pits. The boundaries of intact ancient woodland 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 their limits of viable cultivation by successive agricultural improvements.

Archaeological features

Charcoal sites, kiln sites, and woodbanks are a characteristic indicator feature of lowland ancient woodlands. A wood bank consists of an earth bank, often but not always with an associated ditch, constructed at the boundary of a woodland or a compartment within it. These banks, which were constructed to keep out both grazing animals and human intruders, would in most cases be topped by a hedge or fence.²⁸ The Isle of Wight Historic Environment Record was consulted for evidence of such sites and structures in the woodland areas identified in the review.

However, for a number of sites where initial indications were a change to the extent of ancient woodland (either major losses or gains between the original AWI and the revised AWI) a more detailed historical assessment was undertaken in the form of a documentary evidence review and field survey. This included consideration of archaeological features and historic evidence and resulted in a refinement of the updated AWI as result. Sites chosen for these additional research reports were completed by Dr. Basford for: Appley; Combley; Dickson's Copse; Fleetlands Copse; Hoglease; Kellys Copse; Quarr; Ramscroft; and Walter's Copse. As a result of the more detailed study of these areas, further refinements were made to the extent of ancient woodland and its boundaries. Although no report was written for Parkhurst there were discussions relating to the proposed significant loss of ancient woodland in the area. Based on the lack of woodland on the unpublished Ordnance Survey fine drawings it was suggested that much of the north western part of the original AWI was removed along with some further areas in the south and north of the area. The rough drawings of the unpublished Ordnance Survey maps however, seemed to provide evidence of woodland cover in the north-west part of the area which was not shown on the 'fair drawings',²⁹ so this was added back into the revised AWI.

Ancient woodland indicator species

The presence of these vascular plant indicator species can aid the identification of ancient woodland, because ancient woodland sites tend to be richer in terms of their species composition.³⁰ However, caution is needed 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 in the wood, soil types, and the position of the woodland relative to other wooded areas. Current uses,

²⁸ Rackham (2003)

²⁹ Basford (2014)

³⁰ Hornby & Rose (1986), Rose (1999) and Rackham (2006)

including disturbance, damage or invasive species may also influence species diversity and the season and 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 are based on the occurrence of species in known ancient woodland sites.³¹ The South East England list includes 99 species of which 88 are found on the Isle of Wight and 30 are deemed to be strong local indicators of ancient woodland status. The average size of Isle of Wight woods is significantly smaller than on the mainland of central Southern England and a number of ancient woodland indicator species which are widespread in mainland woods do not occur or are extremely scarce. On the other hand, some woodland indicators are more frequent in Island woods than on the mainland. Appendix 1 sets out the detail of the South East England list highlighting those present and deemed to be strong indicators of ancient woodland status on the Isle of Wight. Maps 1 to 4 at the end of this report show the distribution of some of these key ancient woodland indicators across the Island.



Figure 7: Narrow-leaved Lungwort (Pulmonaria longifolia) is a rare plant nationally but is characteristic of ancient woodlands on clay soils on the north of the Isle of Wight.

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

The Forestry Commission’s National Forest Inventory (NFI) was used as the core dataset to redefine the boundaries of PAWS and ASNW. This dataset classifies woodlands into categories such as broadleaved, coniferous, mixed and coppice. For ancient woodland less than 2 hectares, a judgement on ASNW or ancient replanted status was based on an interpretation of aerial photography, existing AWI boundaries, and Ordnance Survey MasterMap boundaries.

³¹ Kirby & Goldberg (2006)

The reliance on aerial photography for identifying PAWS means that there were inevitably some inaccuracies in the classification, for example distinguishing between 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.

Sweet chestnut

Sweet chestnut (*Castanea sativa*) is a non-native species, but a very long established introduction. The species may occur as a naturalised element within the diversity of other woodland species in the woodland, but also occurs as densely planted coppice, known to have been established in the 19th century in other areas of the South East³². There is therefore a case for accepting sweet chestnut as a semi-natural element in some ancient woodland on the Isle of Wight, for example at Borthwood, as well as recording it as PAWS where the species is dominant to the exclusion of other components of semi-natural underwood as seen in areas of Parkhurst Forest.

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

In general only woodland larger than 0.25 hectares has been included in the revised inventory which makes it directly comparable with the Forestry Commission's NFI. However, each wood was considered separately and factors such as location and historic extent mean that individual woodland polygons may be grouped to fulfil the 0.25 hectare threshold where they are in close proximity to each other or other ancient woodland areas. GIS query will allow these areas to be highlighted if required.

3.2.6 Ancient Woodland status

It is recognised that a largely desk-based exercise will always be subject to flaws. Ideally each woodland area should be surveyed for ancient woodland indicators, but the resources and timeframe for this review did not allow for this to take place. However, there is a wealth of recorded botanical data for many areas and this has been considered as part of the review process. Whilst every effort has been made to make this revision as accurate as possible, the inventory is still regarded as provisional, as new evidence may come to light in the future which challenges the ancient woodland status of a site.

Such information, when provided to Natural England, will be considered and a decision taken on whether the site should be removed or added to the inventory. Nevertheless, although the review is described as provisional, the survey's thorough methodology, with the use of desk-based work supplemented with consideration of records from previously undertaken field work and the use of digital mapping technology, means that the project represents the most complete and detailed update of the inventory yet undertaken.

³² Bannister (2007)

4 Results

The results of the Ancient Woodland Inventory revision will be primarily stored in digital format. Natural England will incorporate the final dataset for the Isle of Wight in to the National Ancient Woodland Inventory. It will also be made available to download from www.magic.gov.uk in due course. The revised map boundaries are shown at the end of this report. Review data will be held by Natural England and incorporated into the biological records of the Isle of Wight Local Records Centre.

4.1 The ancient woodland resource

The total amount of all woodland (ancient and recent) in the Isle of Wight, as recorded in the Forestry Commission's National Forest Inventory is 5071.70 hectares. This amounts to 12.8% of the county's area, and is above the national average of 9.9% (provided as a national average by the Forestry Commission from NFI data in 2010).

4.1.1. Extent of ancient woodland

The original inventory recorded 1594.39 hectares of ancient woodland in the Isle of Wight, covering 4.03% of the county's area. This revised inventory contains 1602.43 hectares of ancient woodland and now covers 4.05% of the county's area an increase of 0.02%. The net gain in the revised provisional ancient woodland across the county, compared to the original is 8.04 hectares, a 0.5% increase in ancient woodland (see Table 1).

Table 1: Summary of woodland area and number of separate woodland parcels from the National Forest Inventory, Interpreted Forest Type (NFI), Forestry Commission 2002, the original Isle of Wight AWI (1987) and the revised Isle of Wight AWI (2014). All areas are in hectares.

	Area (ha)	% of the County	Number of woodland parcels	Average (mean) area of woodland parcel
Isle of Wight	39491.17			
All woodlands (NFI) >2ha	5071.70	12.8	1499	3.4
Original AWI (1987)	1594.39	4.03	260	6.1
Revised AWI (2014)	1602.43	4.05	370	4.3
Overall ancient woodland gain – compared to original AWI (1987)	8.04	0.02	110	

The woodland area removed from the original AWI amounts to 236.68 hectares a loss of 14.8% of the ancient woodland resource. This loss 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 boundary refinements. 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 additions to the area of ancient woodland were greater in aggregate than the areas removed totalling 244.72 hectares, a gain of 15.34% of the original ancient woodland resource. The average size of the individual parcels of woodland in the revised ancient woodland inventory is 4.3 hectares some 1.8 hectares smaller than the 6.1 hectares of the original ancient woodland inventory. (The

existence of polygons less than 2ha in area on the original AWI is a consequence of the digitisation process which enables finer details of woodland characteristics to be captured.)

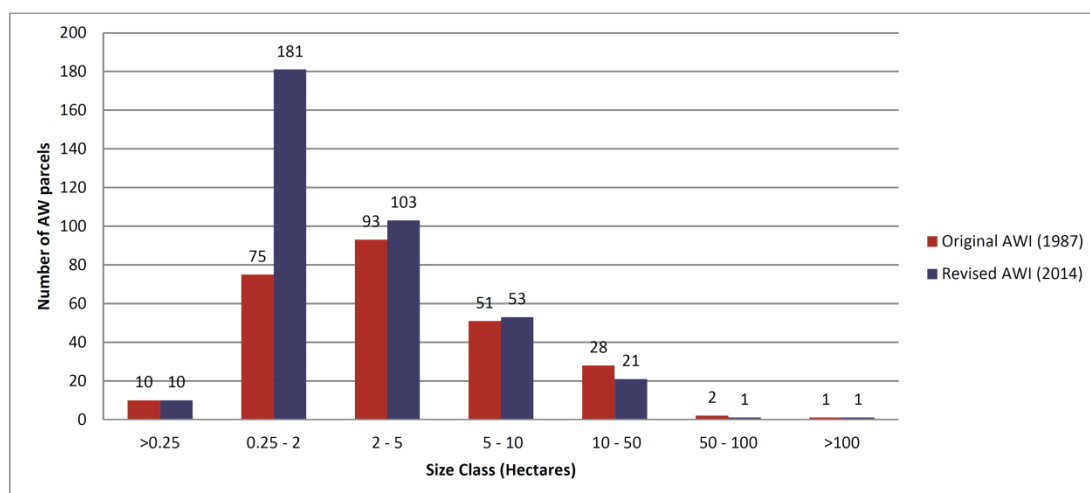


Figure 8: Histogram of the size class distribution for the original and the revised AWIs

Appendix 2 gives a similar analysis for each of the civil parishes in the Isle of Wight.

4.1.2 Plantations on Ancient Woodland Sites

In the revised inventory, 54.6% (875.14 hectares) of the ancient woodland area is recorded as ancient semi-natural woodland (ASNW), with the remainder, 727.29 hectares being classified as plantations on ancient woodland sites (PAWS) (see Table 2).

Table 2: Revised Inventory – Ancient woodland types

Ancient woodland type	Area (hectares)	% of the total ancient woodland area
Ancient Semi-Natural Woodland (ASNW)	875.14	54.6
Plantations on Ancient Woodland Sites (PAWS)	727.29	45.4
Total	1602.43	100

5 Outputs

Maps 8 - 12 at the end of this report show the revised AWI on an Ordnance Survey 1:10,000 scale map base. Due to the map scale, the volume of small woodlands added to inventory and the subtle changes to boundaries these maps should be treated as indicative only. The maps show the ancient woodland type (ASNW or PAWS) and also show the original AWI in the form of a red crosshatch to allow a comparison between the two. These maps represent a snap shot in time and will not show any subsequent revisions. Digital boundaries will be held by the Isle of Wight Local Records Centre and available to download online (www.magic.gov.uk) as part of the national AWI dataset administered by Natural England. Any changes to the inventory made on a case by case basis in the future by Natural England will be incorporated into the national dataset over time.

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.

The National Planning Policy Framework (NPPF) replaced former Planning Policy Statements (PPS) including PPS9 which dealt with biodiversity and geological conservation. With respect to ancient woodland NPPF states:

‘planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss.’

The evidence provided by the revised Isle of Wight Ancient Woodland Inventory will help to ensure that ancient woodland is afforded the protection and consideration needed to ensure the aims of NPPF are met. It also provides an important information base for informing the local authority’s planning policies and will enable planning decisions in relation to Isle of Wight woodlands to be made in light of an improved evidence base.

The revised inventory provides a more complete picture of the location of the county’s ancient woods within a habitat network and will help to identify areas of opportunity for environmental enhancement. It also has the potential to inform the more strategic distribution of funding woodland management programmes, such as the English Woodland Grant Scheme. The revised inventory will also inform the Isle of Wight Woodland Habitat Plan.

6 Discussion

The majority of sites identified for addition to the ancient woodland inventory were either small or a result of slight changes to the boundaries of ancient woodland areas in the original inventory. Figure 8 shows the overall average size of parcels of woodland in the original AWI (1987) and the revised AWI (2014). The overall number of individual parcels of ancient woodland has increased from 260 in AWI (1987) to 370 in AWI (2014). This represents an additional 110 parcels, a 42.3% increase in the number of individual parcels. However, the average size of individual parcels has decreased from 6.1 hectares in AWI (1987) to 4.3 hectares in AWI (2014). This represents an average decrease in size of 1.8 hectares, with the revised AWI (2014) parcels having an average which is 70.5% smaller than in the AWI (1987).

The original methodology for the first provisional AWI produced in 1987 excluded areas of woodland below 2 hectares in size (although as seen in figure 8 it did include 85 parcels of ancient woodland below the 2 hectare threshold). The revision has seen an increase in the number of small parcels of ancient woodland due to its increased accuracy through the use of technological advances (GIS) and the ease of comparison between digitised historic maps and modern mapping. The change of threshold down to >0.25 hectares has allowed many more small areas to be added to the inventory. Additions to the inventory have been largely due to the capture of these small additional areas of woodland and also subtle changes to the boundaries of ancient woodland already shown on the AWI (1987). In total 244.72 hectares of additional ancient woodland has been added to the revised ancient woodland inventory an increase of 15.34%.

However there has also been a loss of ancient woodland from the original AWI (1987) some 236.68 hectares in total a decrease in 14.8%. These losses have been a result of boundary changes, or the loss of areas previously identified as ancient woodland but for which there seems to be no or contrary historic map or documentary evidence.

For a number of individual key sites where significant changes (both losses and gains) were identified additional historic research was undertaken by Dr Basford (see above). As a result of this further changes were made and are now reflected in the final revised AWI (2014) and the statistical analysis above.

Map 7 shows the distribution of newly identified ancient woodland across the Isle of Wight. It can be seen that it widely distributed rather than concentrated in any particular area.

The tables below show the results of analysis of the change to the extent of ancient woodland as a percentage of each of the civil parishes of the Isle of Wight.

Table 3: Changes to ancient woodland inventory as a percentage of civil parish (ranked in decreasing order of % loss)

Parishes with losses of ancient woodland	% change in area of parish classified as ancient woodland	Parishes with losses of ancient woodland	% change in area of parish classified as ancient woodland
East Cowes	-2.54	Brading	-0.35
Newport	-1.04	Northwood	-0.21
Gurnard	-0.64	Wootton Bridge	-0.11
Fishbourne	-0.5	Ventnor	-0.1
Havenstreet & Ashey	-0.39	Sandown	-0.09
Gatcombe	-0.38	Whippingham	-0.05

Table 4: Civil parishes with no % change to the extent of ancient woodland

Parishes with no change to extent of ancient woodland	% change in area of parish classified as ancient woodland	Parishes with no change to extent of ancient woodland	% change in area of parish classified as ancient woodland
Cowes	0	Totland	0
Lake	0		

Table 5: Civil parishes with gains in ancient woodland ranked in increasing order

Parishes with gains in extent of ancient woodland	% change in area of parish classified as ancient woodland	Parishes with gains in extent of ancient woodland	% change in area of parish classified as ancient woodland
Wroxall	0.01	Bembridge	0.31
Brighstone	0.05	Shalfleet	0.4
Shorwell	0.05	Chale	0.51
Newchurch	0.1	Godshill	0.67
Niton & Whitwell	0.125	Calbourne	0.8
Arreton	0.13	Seaview & Nettlestone	0.89
Shanklin	0.13	Ryde	1.07
Yarmouth	0.22	St. Helens	1.31
Freshwater	0.3	Rookley	1.55

7. Acknowledgements

The project would like to thank everyone who has contributed to this revision of the Isle of Wight Ancient Woodland Inventory; including Dr Colin Pope, Anne Marston, Rebecca Loader and Richard Smout of the Isle of Wight Council and Dr Vicky Basford who completed the detailed historic environment research on a number of individual sites.

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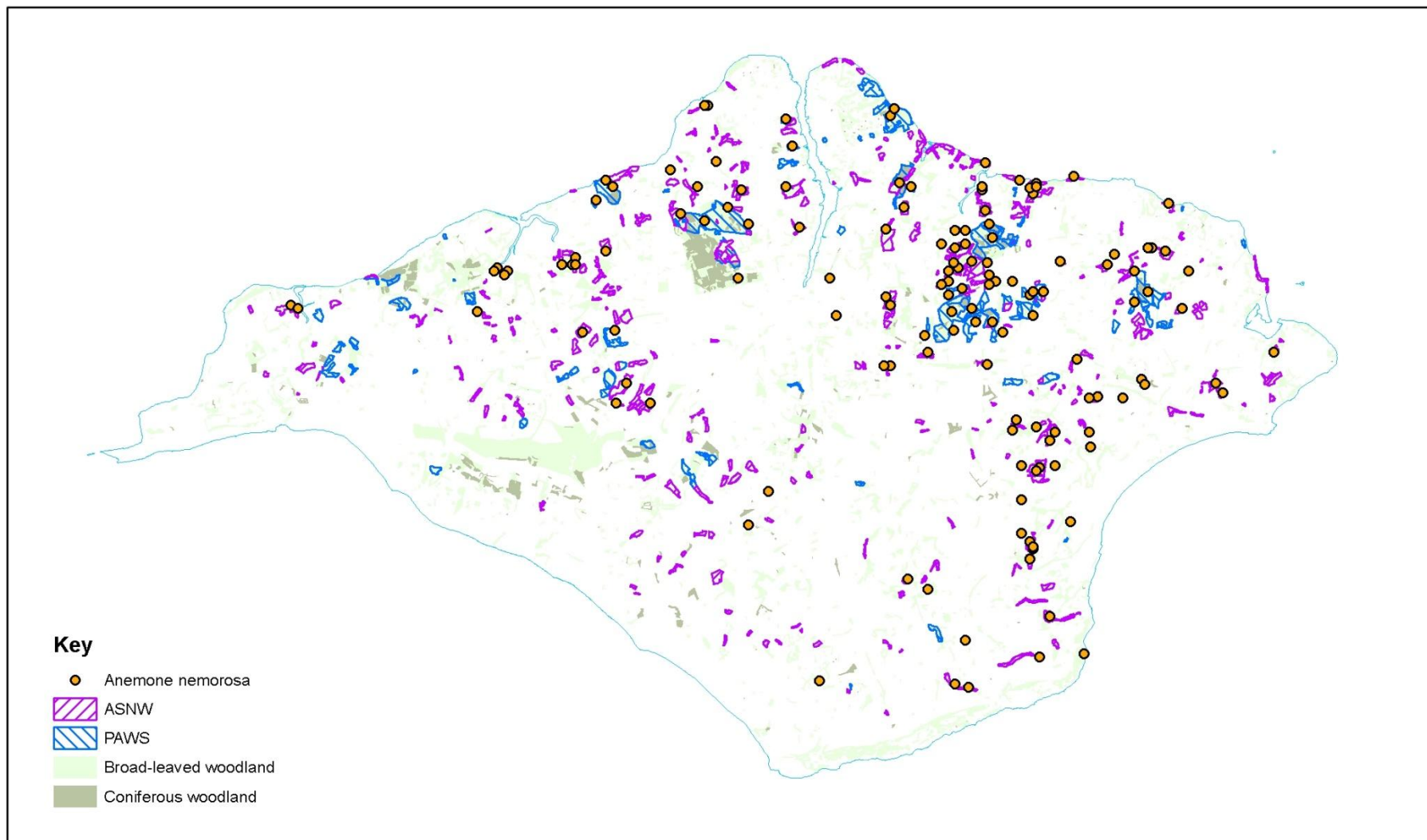
Appendix 1: Ancient woodland indicators

Species in NCC's South Region that are considered to be associated with ancient woodland and are typical components of botanically rich ancient woodland communities. Plants in **bold type** are strong indicators of Ancient Woodland on the Isle of Wight.

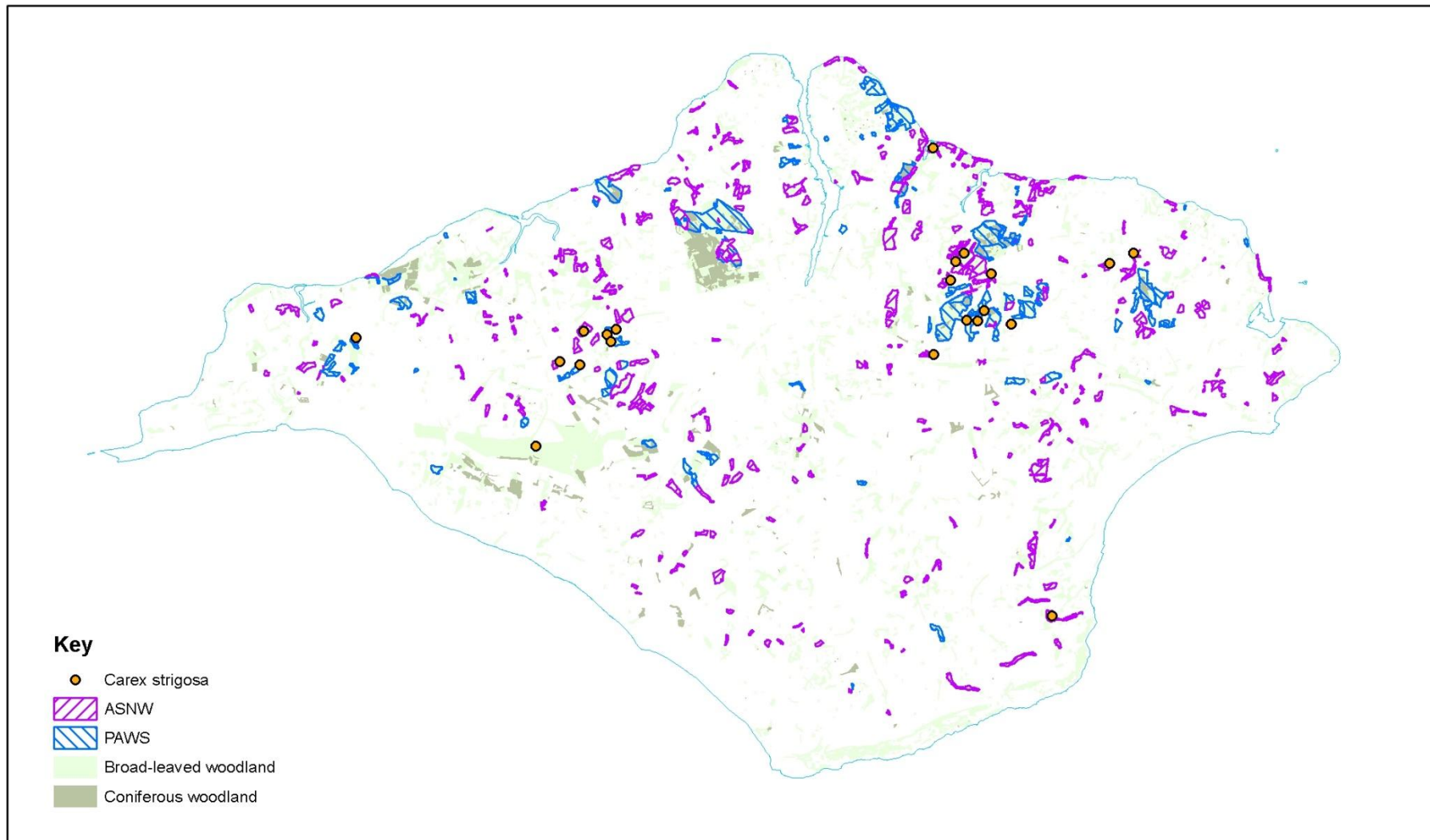
Latin	English	Strong indicator of Ancient Woodland in SE England	Native on Isle of Wight
<i>Acer campestre</i>	Field Maple*		Y
<i>Adoxa moschatellina</i>	Town hall clock	+	Y
<i>Allium ursinum</i>	Wild garlic	+	Y
Anemone nemorosa	Wood anemone	+	Y
<i>Aquilegia vulgaris</i>	Columbine*		Y
<i>Asplenium (Phyllitis) scolopendrium</i>	Hart's tongue Fern		Y
<i>Betonica (Stachys) officinalis</i>	Betony		Y
Blechnum spicant	Hard fern	+	Y
Bromopsis ramosa (Bromus ramosus)	Hairy-brome		Y
<i>Calamagrostis epigejos</i>	Wood small-reed		Y
<i>Campanula trachelium</i>	Nettle-leaved bellflower		Y
<i>Cardamine amara</i>	Large bittercress		
<i>Carex laevigata</i>	Smooth-stalked sedge	+	Y
Carex pallescens	Pale sedge		Y
<i>Carex pendula</i>	Pendulous sedge*		Y
<i>Carex remota</i>	Remote sedge		Y
Carex strigosa	Thin-spiked wood-sedge	+	Y
Carex sylvatica	Wood-sedge		Y
<i>Carpinus betulus</i>	Hornbeam*		
<i>Cephalanthera longifolia</i>	Narrow-leaved helleborine		
Chrysosplenium oppositifolium	Opposite-leaved golden saxifrage		Y
<i>Colchium autumnale</i>	Meadow saffron		
<i>Conopodium majus</i>	Pignut		Y
<i>Convallaria majalis</i>	Lily-of-the-valley*	+	
<i>Corydalis claviculata</i>	Climbing corydalis		Y
<i>Crataegus laevigata</i>	Midland hawthorn		
<i>Daphne laureola</i>	Spurge-laurel	+	Y
<i>Dipsacus pilosus</i>	Small teasel		
<i>Dryopteris affinis (pseudomonas)</i>	Scaly Male-fern	+	Y
<i>Dryopteris carthusiana</i>	Narrow buckler-fern	+	Y
<i>Elymus caninus (Agropyron caninum)</i>	Bearded Couch		
<i>Epipactis helleborine</i>	Broad-leaved helleborine		Y
<i>Epipactis leptochelyla</i>	Narrow-lipped helleborine		
Epipactis purpurata	Violet helleborine	+	Y
<i>Equisetum sylvaticum</i>	Wood horsetail		Y
<i>Euphorbia amygdaloides</i>	Wood spurge	+	Y
<i>Festuca gigantea</i>	Giant fescue		Y
<i>Frangula alnus</i>	Alder buckthorn		Y
Galium odoratum	Woodruff	+	Y
<i>Geum rivale</i>	Water avens		
Helleborus viridis	Green hellebore	+	Y
<i>Holcus mollis</i>	Creeping soft-grass		Y
<i>Hordelymus europaeus</i>	Wood barley	+	
<i>Hyacinthoides non-scripta</i>	Bluebell		Y
Hypericum androsaemum	Tutsan	+	Y
<i>Hypericum pulchrum</i>	Slender St-John's wort		Y
<i>Ilex aquifolium</i>	Holly		Y
<i>Iris foetidissima</i>	Stinking iris		Y
<i>Lamiastrum galeobdolon</i>	Yellow archangel		Y

<i>Lathraea squamaria</i>	Toothwort	+	Y
<i>Lathyrus linifolius (montanus)</i>	Bitter vetch		Y
<i>Lathyrus sylvestris</i>	Narrow-leaved everlasting pea		Y
<i>Luzula forsteri</i>	Southern wood-rush	+	Y
<i>Luzula pilosa</i>	Hairy wood-rush		Y
<i>Luzula sylvatica</i>	Great wood-rush	+	Y
<i>Lysimachia nemorum</i>	Yellow pimpernel		Y
<i>Malus sylvestris</i>	Crab apple*		Y
<i>Melampyrum pratense</i>	Common cow-wheat	+	Y
<i>Melica uniflora</i>	Wood melick		Y
<i>Milium effusum</i>	Wood millet	+	Y
<i>Moehringia trinerva</i>	Three-nerved sandwort		Y
<i>Narcissus pseudonarcissus</i>	Wild daffodil		Y
<i>Neottia nidus-avis</i>	Bird's-nest orchid		Y
<i>Orchis mascula</i>	Early-purple orchid		Y
<i>Oreopteris limbosperma</i> (<i>Thelypteris oreopteris</i>)	Lemon-scented fern	+	Y
<i>Oxalis acetosella</i>	Wood sorrel	+	Y
<i>Paris quadrifolia</i>	Herb Paris	+	Y
<i>Platanthera chloranthera</i>	Greater butterfly-orchid	+	Y
<i>Poa nemoralis</i>	Wood meadow-grass		Y
<i>Polygonatum multiflorum</i>	Common Solomon's seal	+	Y
<i>Polypodium vulgare</i>	Common polypody		Y
<i>Polystichum setiferum</i>	Soft shield fern	+	Y
<i>Populus tremula</i>	Aspen	+	Y
<i>Potentilla sterilis</i>	Barren strawberry		Y
<i>Primula vulgaris</i>	Primrose*		Y
<i>Prunus avium</i>	Wild cherry		Y
<i>Pulmonaria longifolia</i>	Narrow-leaved lungwort		Y
<i>Quercus petraea</i>	Sessile oak	+	Y
<i>Ranunculus auricomus</i>	Goldilocks buttercup	+	Y
<i>Ribes nigrum</i>	Black currant*		Y
<i>Ribes rubrum (sylvestre)</i>	Red currant*		Y
<i>Rosa arvensis</i>	Field rose		Y
<i>Ruscus aculeatus</i>	Butcher's -broom		Y
<i>Sanicula europaea</i>	Sanicle	+	Y
<i>Scirpus sylvaticus</i>	Wood club-rush		Y
<i>Sedum telephium</i>	Orpine		Y
<i>Serratula tinctoria</i>	Saw-wort		Y
<i>Solidago virgaurea</i>	Golden-rod		Y
<i>Sorbus torminalis</i>	Wild service tree	+	Y
<i>Tamus communis</i>	Black bryony		Y
<i>Tilia cordata</i>	Small-leaved lime*		Y
<i>Ulmus glabra</i>	Wych elm	+	Y
<i>Vaccinium myrtillus</i>	Bilberry	+	Y
<i>Veronica montana</i>	Wood speedwell	+	Y
<i>Viburnum opulus</i>	Guelder rose		Y
<i>Vicia sepium</i>	Bush vetch		Y
<i>Vicia sylvatica</i>	Wood vetch		Extinct
<i>Viola palustris</i>	Marsh violet		Y
<i>Viola reichenbachia</i>	Early dog-violet	+	Y

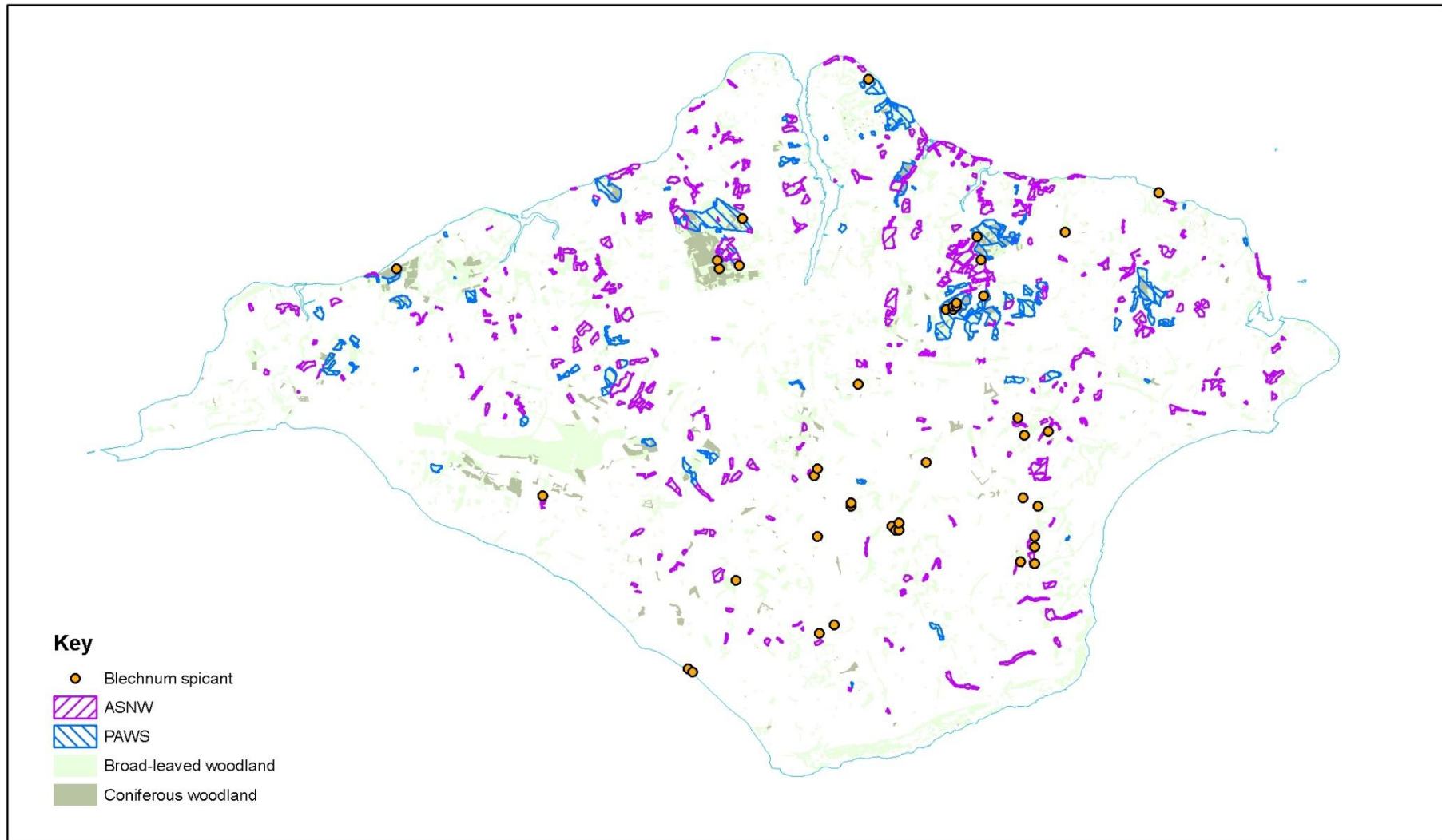
MAP 1



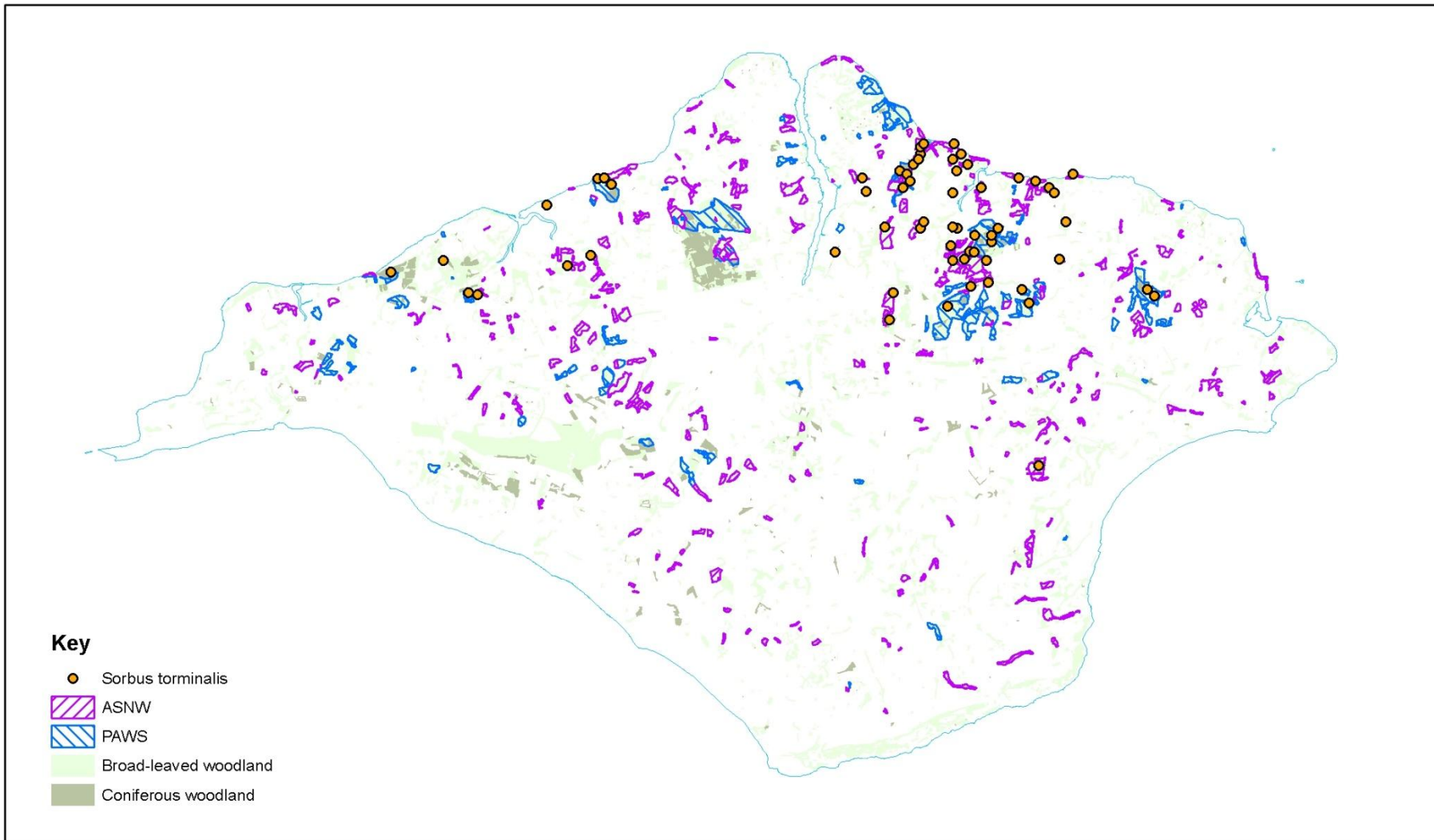
MAP 2



MAP 3



MAP 4



Appendix 2: Analysis of woodland by civil parish.

	Area (ha)	% of the Parish	Number of woodland parcels	Average (mean) area of woodland parcel
Arreton				
All woodlands (NFI) >2ha	90.98	4.7	69	1.31
Original AWI (1987)	8.20	0.42	4	2.05
Revised AWI (2014)	10.80	0.55	9	1.20
Overall ancient woodland gain – compared to original AWI (1987)	2.60	0.13	5	

	Area (ha)	% of the Parish	Number of woodland parcels	Average (mean) area of woodland parcel
Bembridge				
All woodlands (NFI) >2ha	78.68	7.34	36	2.18
Original AWI (1987)	23.07	2.15	7	3.29
Revised AWI (2014)	26.38	2.46	11	2.39
Overall ancient woodland gain – compared to original AWI (1987)	3.31	0.31	4	

	Area (ha)	% of the Parish	Number of woodland parcels	Average (mean) area of woodland parcel
Brading				
All woodlands (NFI) >2ha	185.91	13.03	65	2.86
Original AWI (1987)	120.47	8.44	19	6.34
Revised AWI (2014)	115.42	8.09	22	5.24
Overall ancient woodland gain – compared to original AWI (1987)	-5.05	-0.35	3	

	Area (ha)	% of the Parish	Number of woodland parcels	Average (mean) area of woodland parcel
Brighstone				
All woodlands (NFI) >2ha	265.13	13.2	82	3.23
Original AWI (1987)	5.60	0.27	1	5.60
Revised AWI (2014)	6.44	0.32	2	3.20
Overall ancient woodland gain – compared to original AWI (1987)	0.84	0.05	1	

	Area (ha)	% of the Parish	Number of woodland parcels	Average (mean) area of woodland parcel
Calbourne				
All woodlands (NFI) >2ha	592.40	17.7	120	4.9
Original AWI (1987)	179.20	5.3	41	4.4
Revised AWI (2014)	204.66	6.1	53	3.86
Overall ancient woodland gain – compared to original AWI (1987)	25.46	0.8	12	

	Area (ha)	% of the Parish	Number of woodland parcels	Average (mean) area of woodland parcel
Chale				
All woodlands (NFI) >2ha	41.55	4.6	28	1.48
Original AWI (1987)	2.01	0.22	1	2.01
Revised AWI (2014)	6.63	0.73	5	1.3
Overall ancient woodland gain – compared to original AWI (1987)	4.62	0.51	4	

	Area (ha)	% of the Parish	Number of woodland parcels	Average (mean) area of woodland parcel
Cowes				
All woodlands (NFI) >2ha	10.69	3.56	8	1.33
Original AWI (1987)	0.10	0.03	1	0.10
Revised AWI (2014)	0.11	0.03	1	0.11
Overall ancient woodland gain – compared to original AWI (1987)	0.01	0	0	

	Area (ha)	% of the Parish	Number of woodland parcels	Average (mean) area of woodland parcel
East Cowes				
All woodlands (NFI) >2ha	131.24	23.38	31	4.2
Original AWI (1987)	74.35	13.24	6	12.39
Revised AWI (2014)	60.09	10.7	6	10
Overall ancient woodland gain – compared to original AWI (1987)	-14.26	-2.54	0	

	Area (ha)	% of the Parish	Number of woodland parcels	Average (mean) area of woodland parcel
Fishbourne				
All woodlands (NFI) >2ha	37.91	16.13	16	2.36
Original AWI (1987)	19.98	8.5	6	3.3
Revised AWI (2014)	18.82	8	7	2.68
Overall ancient woodland gain – compared to original AWI (1987)	-1.16	-0.5	1	

	Area (ha)	% of the Parish	Number of woodland parcels	Average (mean) area of woodland parcel
Freshwater				
All woodlands (NFI) >2ha	133.18	8.76	54	3.31
Original AWI (1987)	23.78	1.6	6	3.96
Revised AWI (2014)	28.57	1.9	11	2.50
Overall ancient woodland gain – compared to original AWI (1987)	4.79	0.3	5	

	Area (ha)	% of the Parish	Number of woodland parcels	Average (mean) area of woodland parcel
Gatcombe				
All woodlands (NFI) >2ha	100.91	8.9	44	2.29
Original AWI (1987)	26.50	2.35	8	3.31
Revised AWI (2014)	22.17	1.97	8	2.77
Overall ancient woodland gain – compared to original AWI (1987)	-4.33	-0.38	0	

	Area (ha)	% of the Parish	Number of woodland parcels	Average (mean) area of woodland parcel
Godshill				
All woodlands (NFI) >2ha	136.45	6.89	74	1.84
Original AWI (1987)	10.03	0.5	8	1.25
Revised AWI (2014)	23.09	1.17	14	1.64
Overall ancient woodland gain – compared to original AWI (1987)	13.06	0.67	6	

	Area (ha)	% of the Parish	Number of woodland parcels	Average (mean) area of woodland parcel
Gurnard				
All woodlands (NFI) >2ha	40.44	9.58	11	3.67
Original AWI (1987)	14.25	3.38	4	3.56
Revised AWI (2014)	11.58	2.74	7	1.65
Overall ancient woodland gain – compared to original AWI (1987)	-2.67	-0.64	3	

	Area (ha)	% of the Parish	Number of woodland parcels	Average (mean) area of woodland parcel
Havenstreet & Ashey				
All woodlands (NFI) >2ha	436.38	21.9	105	4.15
Original AWI (1987)	293.10	14.71	40	7.3
Revised AWI (2014)	285.30	14.32	48	5.94
Overall ancient woodland gain – compared to original AWI (1987)	-7.80	-0.39	8	

	Area (ha)	% of the Parish	Number of woodland parcels	Average (mean) area of woodland parcel
Lake				
All woodlands (NFI) >2ha	19.47	7.7	11	1.77
Original AWI (1987)	0	0	0	0
Revised AWI (2014)	0	0	0	0
Overall ancient woodland gain – compared to original AWI (1987)	0	0	0	

	Area (ha)	% of the Parish	Number of woodland parcels	Average (mean) area of woodland parcel
Sandown				
All woodlands (NFI) >2ha	10.10	2.24	5	2.02
Original AWI (1987)	6.13	1.36	2	3.06
Revised AWI (2014)	5.70	1.27	2	2.85
Overall ancient woodland gain – compared to original AWI (1987)	-0.43	-0.09	0	

	Area (ha)	% of the Parish	Number of woodland parcels	Average (mean) area of woodland parcel
Seaview & Nettlestone				
All woodlands (NFI) >2ha	43.20	6.4	16	2.7
Original AWI (1987)	8.04	1.19	2	4.02
Revised AWI (2014)	13.89	2.06	8	1.73
Overall ancient woodland gain – compared to original AWI (1987)	5.85	0.89	6	

	Area (ha)	% of the Parish	Number of woodland parcels	Average (mean) area of woodland parcel
Shalfleet				
All woodlands (NFI) >2ha	265.13	13.2	82	3.23
Original AWI (1987)	5.60	0.27	1	5.60
Revised AWI (2014)	6.44	0.32	2	3.20
Overall ancient woodland gain – compared to original AWI (1987)	0.84	0.05	1	

	Area (ha)	% of the Parish	Number of woodland parcels	Average (mean) area of woodland parcel
Shanklin				
All woodlands (NFI) >2ha	265.13	13.2	82	3.23
Original AWI (1987)	5.60	0.27	1	5.60
Revised AWI (2014)	6.44	0.32	2	3.20
Overall ancient woodland gain – compared to original AWI (1987)	0.84	0.05	1	

	Area (ha)	% of the Parish	Number of woodland parcels	Average (mean) area of woodland parcel
Shorwell				
All woodlands (NFI) >2ha	265.13	13.2	82	3.23
Original AWI (1987)	5.60	0.27	1	5.60
Revised AWI (2014)	6.44	0.32	2	3.20
Overall ancient woodland gain – compared to original AWI (1987)	0.84	0.05	1	

	Area (ha)	% of the Parish	Number of woodland parcels	Average (mean) area of woodland parcel
St. Helens				
All woodlands (NFI) >2ha	265.13	13.2	82	3.23
Original AWI (1987)	5.60	0.27	1	5.60
Revised AWI (2014)	6.44	0.32	2	3.20
Overall ancient woodland gain – compared to original AWI (1987)	0.84	0.05	1	

	Area (ha)	% of the Parish	Number of woodland parcels	Average (mean) area of woodland parcel
Totland				
All woodlands (NFI) >2ha	66.48	12	14	4.7
Original AWI (1987)	0	0	0	0
Revised AWI (2014)	0	0	0	0
Overall ancient woodland gain – compared to original AWI (1987)	0	0	0	

	Area (ha)	% of the Parish	Number of woodland parcels	Average (mean) area of woodland parcel
Ventnor				
All woodlands (NFI) >2ha	148.96	17.3	44	3.38
Original AWI (1987)	9.06	1.05	3	3
Revised AWI (2014)	8.19	0.95	3	2.7
Overall ancient woodland gain – compared to original AWI (1987)	-0.87	-0.1	0	

	Area (ha)	% of the Parish	Number of woodland parcels	Average (mean) area of woodland parcel
Whippingham				
All woodlands (NFI) >2ha	95.80	14.24	33	2.9
Original AWI (1987)	61.42	9.13	8	7.6
Revised AWI (2014)	61.10	9.08	14	4.3
Overall ancient woodland gain – compared to original AWI (1987)	-0.32	-0.05	6	

	Area (ha)	% of the Parish	Number of woodland parcels	Average (mean) area of woodland parcel
Wootton Bridge				
All woodlands (NFI) >2ha	234.66	31.13	45	5.2
Original AWI (1987)	106.55	14.14	14	7.6
Revised AWI (2014)	105.79	14.03	20	5.28
Overall ancient woodland gain – compared to original AWI (1987)	-0.76	-0.11	6	

	Area (ha)	% of the Parish	Number of woodland parcels	Average (mean) area of woodland parcel
Wroxall				
All woodlands (NFI) >2ha	28.35	3.76	26	1.09
Original AWI (1987)	8.25	1.09	2	4.12
Revised AWI (2014)	8.30	1.1	3	2.76
Overall ancient woodland gain – compared to original AWI (1987)	0.05	0.01	1	

	Area (ha)	% of the Parish	Number of woodland parcels	Average (mean) area of woodland parcel
Yarmouth				
All woodlands (NFI) >2ha	76.00	10.9	39	1.94
Original AWI (1987)	25.84	3.7	9	2.8
Revised AWI (2014)	27.26	3.94	9	3
Overall ancient woodland gain – compared to original AWI (1987)	1.42	0.24	0	

Appendix 3: Technical notes relating to GIS layer

Status

The existing Ancient Woodland Inventory v2.1 (07/03/2013) file requires woodland parcels to be described as ASNW or PAWS.

Where areas have gone forward into the revised inventory the classification has been retained. For new areas the following strategy has been adopted

- 1) If the woodland is immediately adjacent to an area in the existing AWI the same status has been given to the new parcel.
- 2) This has been checked by reference to the most recent aerial photographs (2012)
- 3) For other areas reference has been made to the aerial photographs to look for evidence of trees in rows and/or trees which appear to be conifers

THEMEID

These numbers have been taken from the Ancient Woodland Inventory v2.1 (07/03/2013) and where there is evidence for inclusion of areas immediately adjacent to existing larger parcels of woodland, these have been given the same number as the larger parcel.

Areas newly assessed as being ancient woodland have not been given THEMEID numbers as this is done by the Natural England GIS team

Assignment of names

Small fragments immediately adjacent to existing named larger parcels of woodland have been given the same name as the larger parcel.

Other names have been taken from OS Mastermap, but there are areas for which a name has not been found.

Inclusion/exclusion of areas.

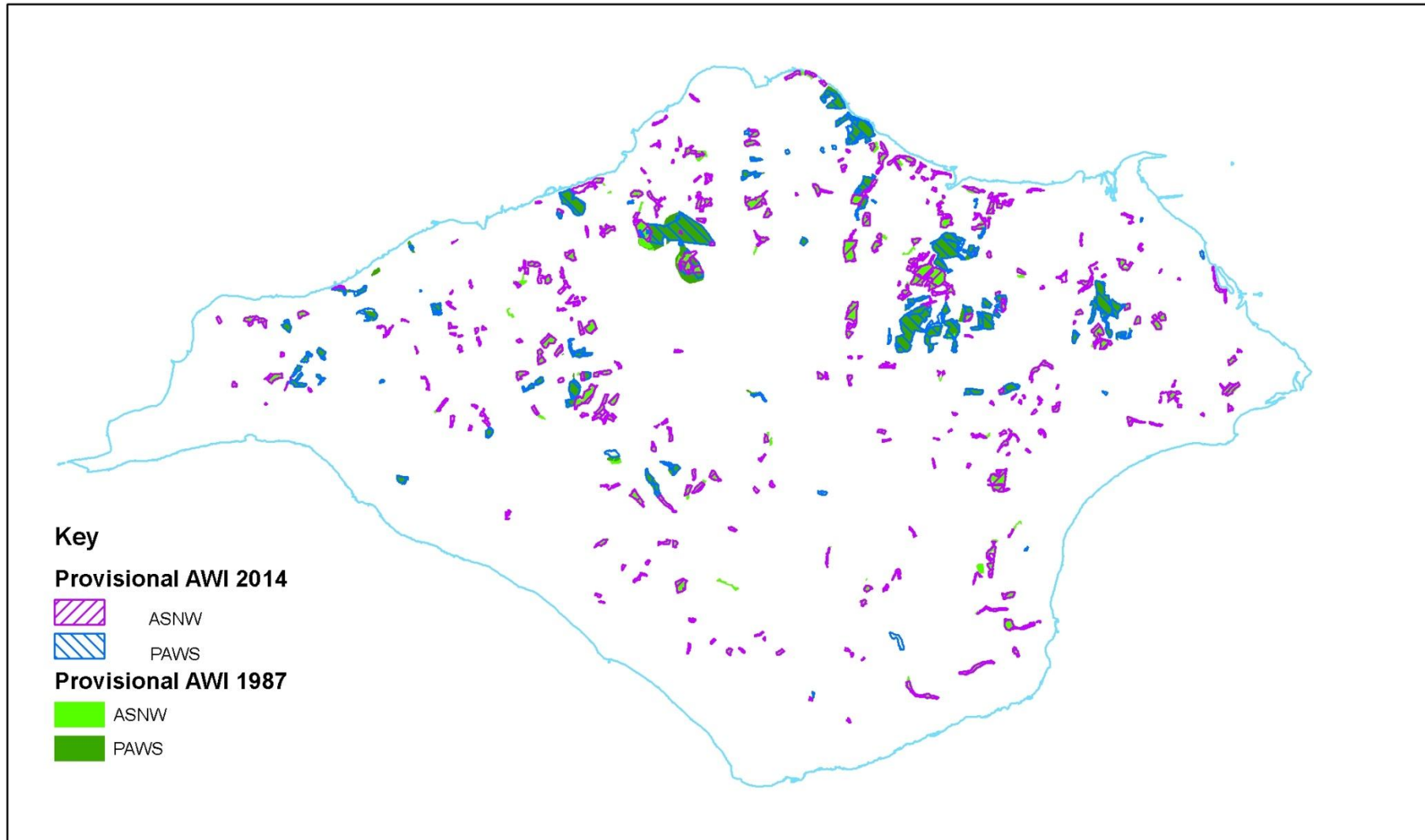
Built development, including cycleways, roads and railways has been excluded

Wayleaves, glades, rides and ponds have been included in the woodland area.

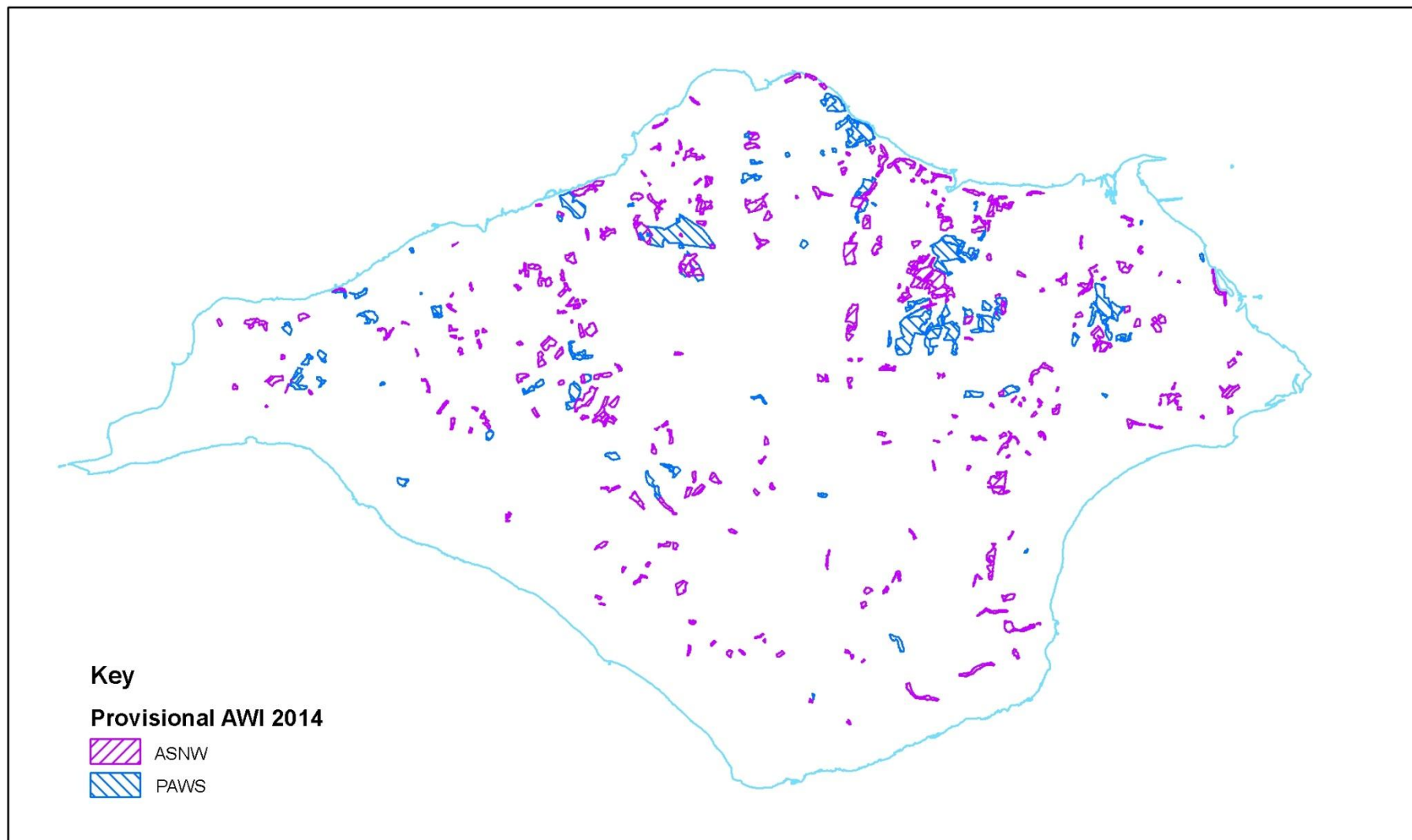
Map evidence

Each polygon has attributes attached, giving the level of map evidence available to support its inclusion. Where tithe anomalies were noted, each polygon was reviewed individually. Where there was considered to be insufficient or conflicting evidence, the polygons were not included in the provisional AWI.

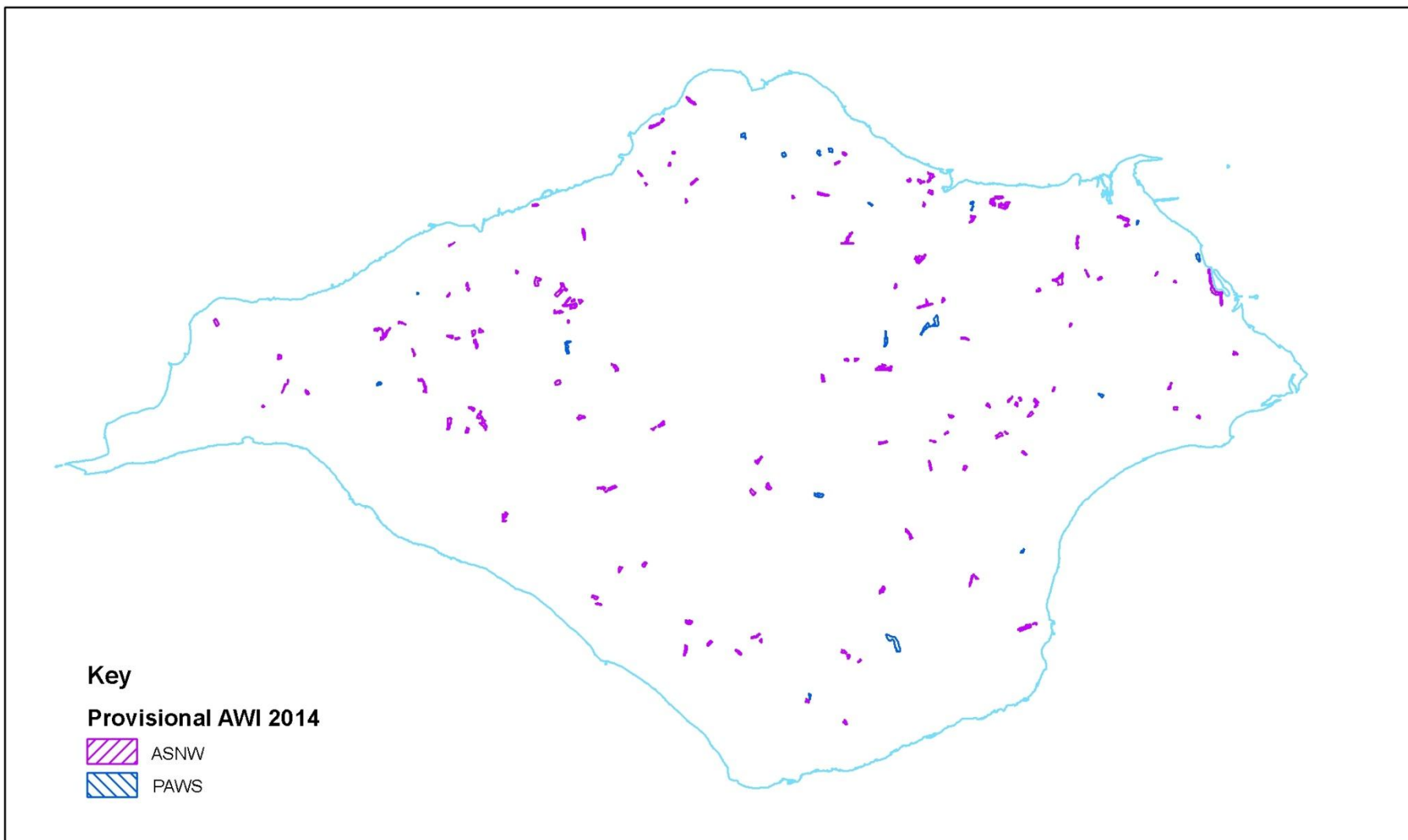
MAP 5



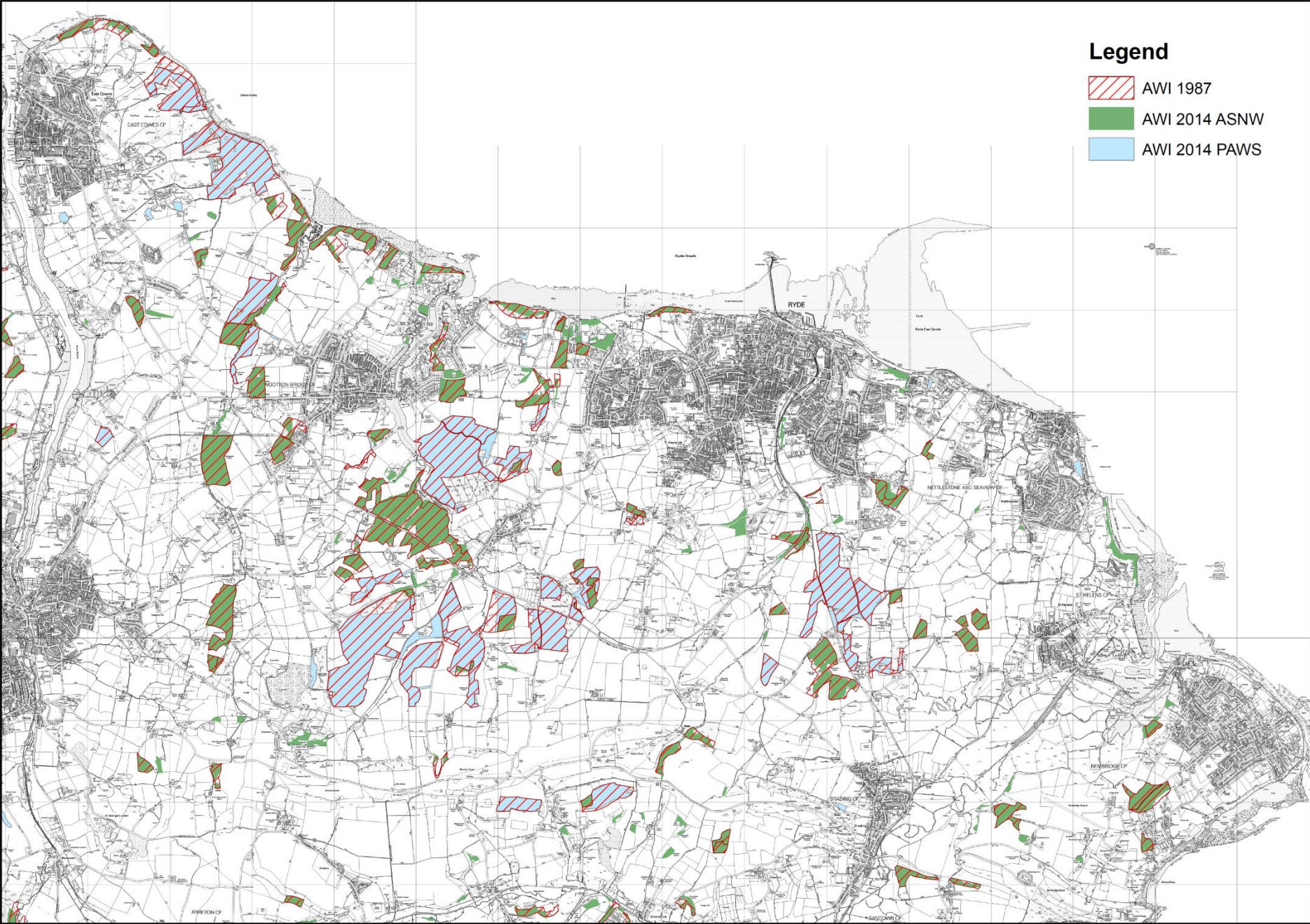
MAP 6



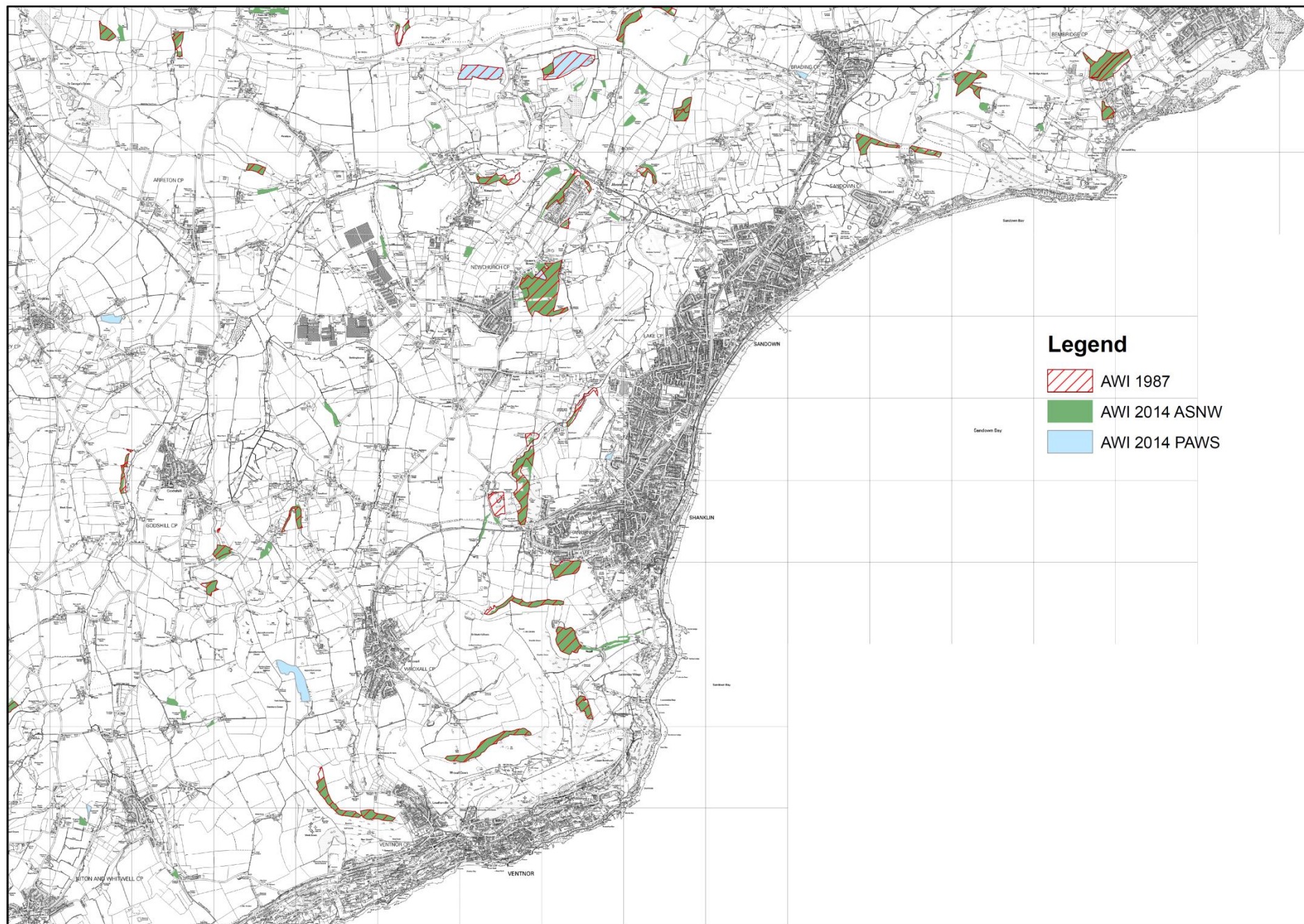
MAP 7



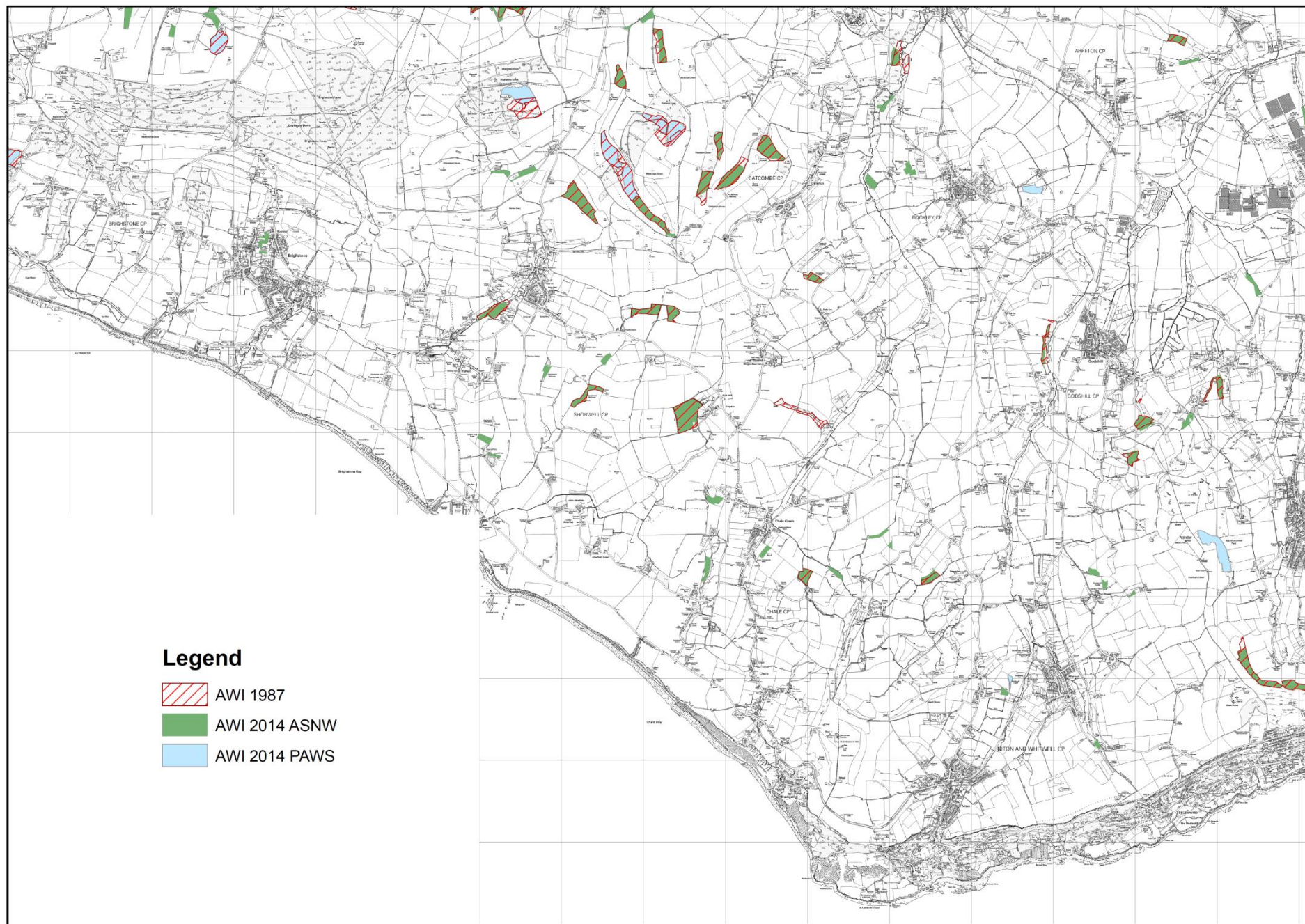
MAP 8



MAP 9



MAP 10



MAP 11

