



High Weald AONB PAWS Project Report

Restoring Broadleaved Woodland on Plantations on Ancient Woodland Sites

FINAL REPORT 2008

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High Weald AONB Unit

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Landscape'





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1. Summary

Since December 2005, the High Weald Joint Advisory Committee, the Woodland Trust and the Forestry Commission have co-funded a European INTERREG IIIB project 'Landscape your Landscape', to restore unmanaged Plantations on Ancient Woodland Sites (PAWS) in the High Weald. The initial phase of the project was completed in March 2008.

In December 2005, a third of the total area of PAWS (2,821 ha) in the High Weald Area of Outstanding Natural Beauty (AONB) was considered to be outside of existing delivery mechanisms and therefore unmanaged. The focus of the PAWS project has been to develop proactive methods that target advice, promote best practice and initiate restoration projects in these unmanaged PAWS. The project has successfully developed these methods, and demonstrated the effectiveness of using GIS to identify priority sites followed up with specialist advice and practical demonstrations from a woodland advisor.

As a direct result of the PAWS Project 465ha of previously unmanaged PAWS are now being gradually restored to native broadleaved woodland. The landowners of a further 1,033ha of PAWS have received advice and input on gradual restoration. 854ha of PAWS have been surveyed and the condition of remnant ancient woodland features recorded. Woodland training events have been organised to inspect restoration works and promote the importance of ancient woodlands. Targeting and engaging a new audience of landowners has influenced the current condition and future management of a priority habitat. The working partnership of the three organisations has demonstrated best practice and an innovative approach. All of the partners are pleased with the results of the project to date and are keen to continue the initiative.

Using the methods developed has been successful, but a considerable proportion of unmanaged PAWS properties remain unmanaged and their biodiversity under threat. Using the approach developed during the project it would be possible to initiate contact immediately across a further 800ha of unmanaged PAWS. This area would be the focus of any future work.

This report outlines the project's background, approaches developed, and its achievements, limitations and findings, and sets out recommendations for a further phase of activity.

2. Introduction

2.1 Background and Organisation

The South East region contains some 40% of England's ancient woodland, and half of this lies within AONBs. The High Weald, falling within the counties of East and West Sussex, Kent, and Surrey, is the fourth largest AONB in the country, covering 146,000 hectares. It supports some 24,500 hectares of ancient woodland sites, more than double the area of ancient woodland in any other AONB, and representing 7% of the ancient woodland area in England (see map below).

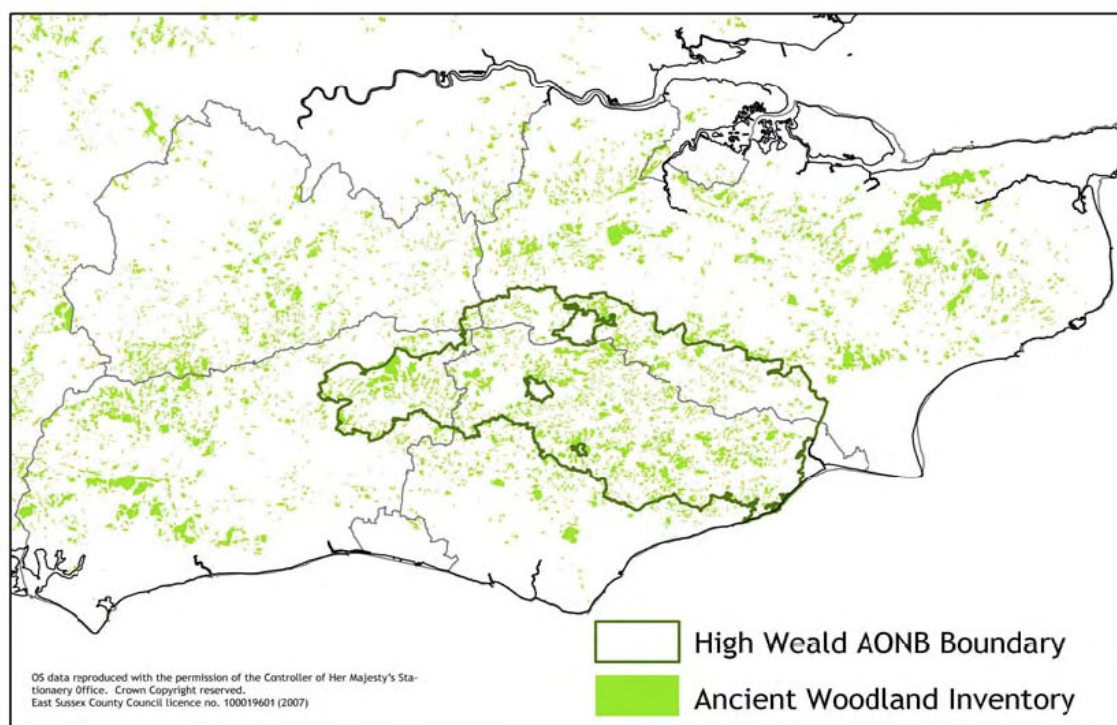


Figure 1. Ancient woodland sites in Surrey, Kent, East and West Sussex; the High Weald AONB contains 7% of all the ancient woodland in England.

Over a third of the ancient woodland resource in the AONB has been replanted with non-native species, predominantly conifers. In December 2005, about a third of the replanted area was considered to be largely unmanaged, principally because the woodlands were not within either a Woodland Grant Scheme or a SSSI or managed directly by the Forestry Commission.

2.1.1 Why was the project initiated?

The unmanaged area of PAWS was identified as needing a targeted approach to identify and advise woodland owners, and to help facilitate sensitive restoration of their ancient woodlands. A decision was taken

between the partner organisations to set up a PAWS project in the High Weald, in order to deliver specific actions from the 'Keepers of Time' Action Plan¹ and the High Weald Management Plan, a statement of government policy launched by Defra and the Forestry Commission in 2005.

A specific need was identified for a PAWS officer to gather together the necessary information on woodland owners, and provide specialist, targeted woodland management advice. By recording owners' attitudes towards PAWS restoration, and barriers they perceived to undertaking positive management, the project was also seen as providing a national pilot to help inform the targeting of PAWS restoration in other areas.

The project was set up and funded by a partnership of the High Weald AONB, the Woodland Trust, and the Forestry Commission, to run from December 2005 to March 2008. The project officer is based at the High Weald AONB Unit, near Flimwell in East Sussex.

2.1.2 Project aims; targeting unmanaged Plantations on Ancient Woodland Sites

Within the High Weald, plantations have been established on 8,734ha (36%) of the AONB's ancient woodland sites (see figure 2.). Of these PAWS, 2,821 hectares (32%) were outside of the existing delivery mechanisms for woodland management in December 2005 (see figure 3). Assessing threat and enabling restoration management on the area of currently unmanaged woodland is the principal aim of the PAWS project.

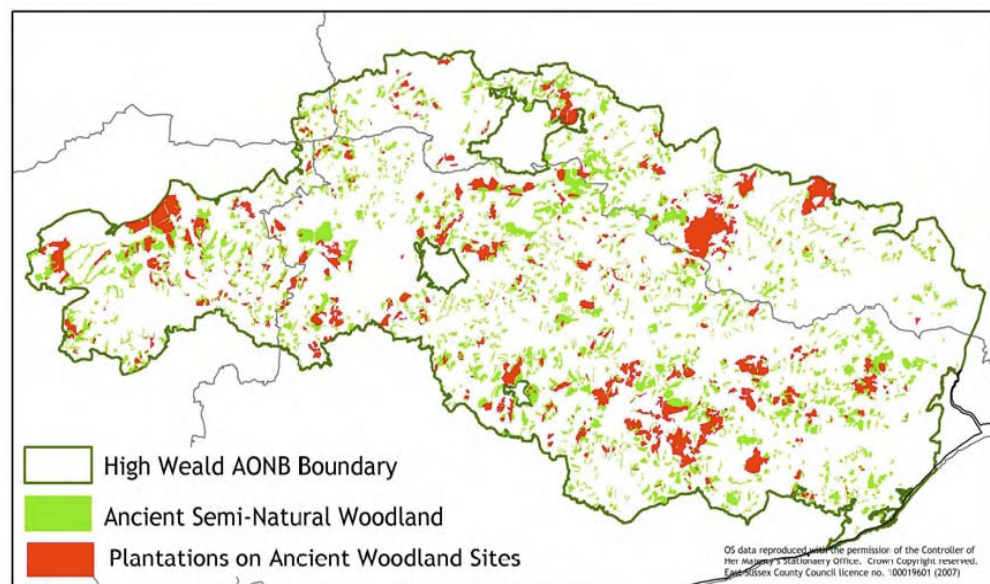


Figure 2. The Ancient Woodland Inventory of sites within the High Weald AONB. Ancient semi-natural woodlands represent 15,751 ha (64% of the ancient woodland), plantations on ancient woodland site 8,734ha.

¹ Defra and Forestry Commission (2005)

The biodiversity associated with ancient semi-natural woodland deteriorates over time in unmanaged conifer plantations. This deterioration is associated with extended periods of low light levels and the build up of needle litter on the ground. By targeting unmanaged PAWS, limited resources can be efficiently channeled to those areas most in need of interventions.

In order to achieve this aim, the objectives for High Weald PAWS project were to:

- Develop a geographic database of unmanaged PAWS, the condition of the sites, and record ownership.
- Provide a specialist management advice service to landowners, land managers and woodland contractors on the appropriate restoration of plantations on ancient woodland sites.
- Develop and disseminate an 'inspirational' ancient woodland information pack and condition assessment. The site information is designed to inform owners, managers and contractors and can accompany applications for grants and felling licenses.
- Research and collate information on the attitudes and motivation of woodland owners.
- Organize PAWS restoration training events to raise awareness and promote the importance of ancient woodland within the High Weald.
- Inform the strategic targeting of woodland grant aid.
- Identify new approaches to management of plantations on ancient woodland sites.
- Increase understanding of the management requirements for PAWS.

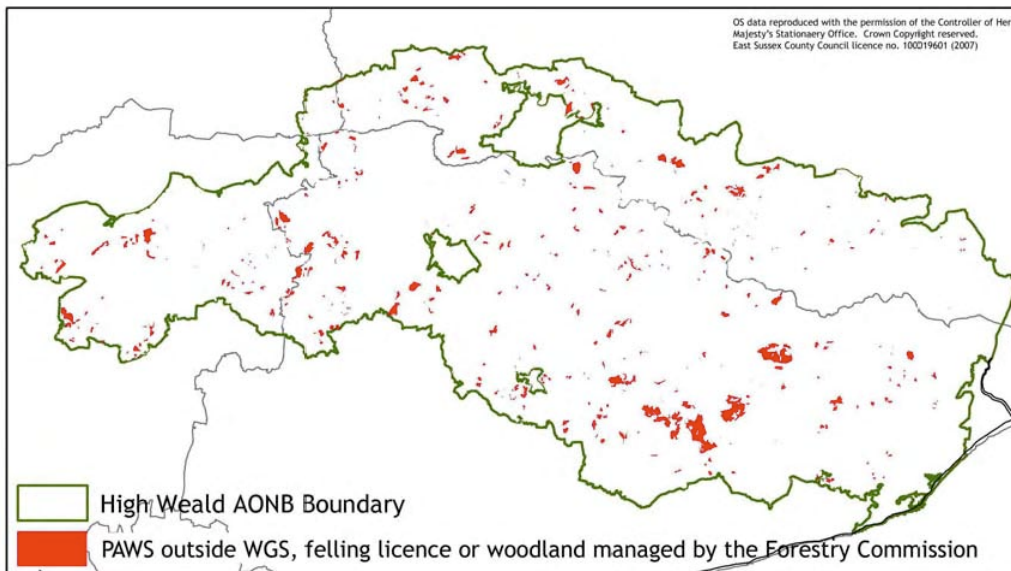


Figure 3. PAWS outside of existing delivery mechanisms (woodlands not managed directly by the Forestry Commission, not in a Woodland Grant Scheme or SSSI or without a felling license) within the High Weald AONB extended across 2,821ha (December 2005).



2.1.3 The Project Partnership

The project steering group includes representatives from the Woodland Trust, the Forestry Commission, and the High Weald AONB Unit, and meets quarterly. The steering group members have a broad range of knowledge and experience from the forestry and conservation sectors. In addition to individual steering group members, access to wider contacts through each of the organisations has been provided. The Woodland Trust is developing a number of PAWS initiatives across the country. Making and maintaining contact with these projects has been helpful when developing new approaches to condition assessment and mapping.

Working closely on schemes with Forestry Commission county Woodland Officers has also been particularly important in order to highlight opportunities for intervention and submit applications that deliver the shared objectives of the PAWS project partners.

2.1.4 INTERREG IIIB; Lifescape your Landscape

The project received funding through the Lifescape your Landscape INTERREG IIIB programme. The programme involved working with 14 partner organisations from five countries to share experience and see the different approaches being taken across north western Europe to increase the importance and value attached to cultural and natural assets. The Lifescape programme included a series of forums and visits to the partner countries. The results and outcomes of the project were presented to European ministers at a conference in Brussels in November 2007. The efforts of the High Weald AONB, the Woodland Trust and the Forestry Commission to protect ancient woodland were promoted throughout the 'Lifescape your Landscape' program. The work of the three partner organisations in the PAWS project has been presented on a European platform and the PAWS project features in the final Lifescape report².

2.2 Ancient Woodland in the High Weald

Ancient woodlands are defined by Natural England³ as 'those areas where there is believed to have been continuous woodland cover 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 pattern of ancient woods across the High Weald is an important component of a largely intact mediaeval landscape. Enhancing the ecological functioning of woodlands at a landscape scale is one of four specific objectives for woodland in the High Weald AONB Management Plan⁴ and the appropriate restoration of PAWS is one of four actions identified for achieving this.

² Lifescape your Landscape (2007)

³ Kirby & Goldberg (2006)

⁴ High Weald AONB (2004)



2.2.1 High Weald Woodland Types

The geology of the High Weald has strongly influenced both the natural woodland conditions and also the choice of plantation species in the past. Understanding the underlying geology and soils on PAWS provides a guide to the native woodland conditions that can be expected in the future. The underlying geology of the High Weald is formed from the Hastings Beds these consist of several massive sandstone layers interspersed with clay beds. The most predominant of these strata in the High Weald are the Ashdown Sandstone, the Wadhurst Clays and the Tunbridge Wells Sandstone⁵.

The major soil types formed from this geology are brown earths and podzols. In the seasonally waterlogged, flat ground and valley bottoms, surface water gleys also occur. The more permeable, well drained sandstones on the higher ground produce brown earths or podzols.

As National Vegetation Classification (NVC) plant communities⁶ are determined by particular soil types, the distinction between the freely draining sandstone and waterlogged clay broadly determines the woodland type. The NVC for woodlands on free draining, very acidic, nutrient poor sands tends towards W16 – Oak, Birch Wavy Hair Grass Woodland. On the base poor brown earths and surface water gleys with a range of textures the dominant NVC woodland type is W10 – Pedunculate Oak, Bracken Bramble Woodland. Small pockets of base rich W8 – Ash, Field Maple and Dogs Mercury Woodland are also present. These woodland types are covered by the Habitat Action Plan (HAP) for Lowland Mixed Deciduous Woodland.

In the steep-sided gills a more oceanic microclimate is created and results in vegetation types associated with a moister more humid Atlantic climate. Small areas of wet woodland (a priority habitat under the UK Biodiversity Action Plan) NVC types W1–7 occur in the valley and gill bottoms.

2.2.2 Special habitats and species on Ancient Woodland Sites

Ancient semi-natural woodlands are the most species rich habitats within the High Weald. Lowland broadleaved woodland is included in the UK Biodiversity Action Plan, and supports other priority habitats and species. In Sussex these include dormouse, the pearl bordered fritillary butterfly, and the black-headed cardinal beetle⁷. Special local features found within ancient woodland sites include gill woodlands and sandstone outcrops. Other BAP priority habitats in the High Weald include lowland heathland, lowland dry acid grassland and wood pasture and parkland. The extensive mosaic of woodland areas and these open habitats is a special feature of the Weald.

2.2.3 Cultural heritage on Ancient Woodland Sites

Ancient woodland sites contain a considerable number and range of cultural remains. Because most of these sites have never been cultivated, features such as wood banks,

⁵ Wooldridge, S. W. (1953)

⁶ Rodwell, J. (1991)

⁷ Sussex Biodiversity Partnership (2001)



ditches, charcoal hearths and earth works are preserved in situ. Evidence of human activities ranging from prehistory to the modern era can be found on ancient woodland sites. However, much of the historical record preserved within woodland is not documented. Of particular significance are the concentrations of Roman and medieval iron workings and associated industries found on ancient woodland sites in the Weald. In order to protect sensitive features from damage, careful surveying is necessary prior to undertaking work within woodland.

2.3 High Weald PAWS Resource

2.3.1 Plantation Forestry on Ancient Woodland Sites in the High Weald

The first extensive areas to be afforested with conifer plantations in the High Weald were established in the 19th Century on the areas of scrub and wooded heath that had previously been common land. Large Scots pine from the very first phase of plantation forestry can still be found. Evidence for the initial phase of afforestation is shown by the replacement of scrub and heath with conifers recorded between the Ordnance Survey drawings c.1800 (prepared as the basis for the First Edition map) and the Ordnance Survey First County Series c.1870s. Further planting followed as interest in plantation forestry developed, markets for traditional woodland products declined and emphasis on a national timber and forest reserve increased.

Following the formation of the Forestry Commission in 1919 a sustained programme of conifers plantation establishment followed. Unlike the upland areas selected for forestry in the north, the land available for planting in the High Weald was mostly existing broadleaved woodland and wooded heaths. This, and the wider trend towards plantation forestry on privately owned land, eventually resulted in the large area of PAWS in the High Weald. By 1953 plantation forestry was well established, and is recorded in the 'High Weald, New Naturalist' as follows; 'The economic demand for softwoods has been that softwood trees have have been widely planted on the claylands'⁸.

The most significant conversion of broadleaved woodland to conifer occurred in the 1950s and 60s with the introduction of mechanised woodland clearance. Following WWII many of the ancient woodland sites were in a neglected state and judged to be in an unproductive condition following the intensive exploitation and socio-economic changes brought about by two world wars. Grants and incentives were offered to private landowners for clearing broadleaved woodland, applying herbicide to the cut stumps and establishing conifer plantations.

The main conifer species planted in the High Weald were Corsican pine, Scots pine, Japanese and hybrid larch, Norway spruce, western hemlock and western red cedar. Broadleaved tree species were also planted but as a smaller component or in line mixtures these included beech, oak and poplar. The choice of plantation species was largely determined by soil type, and corresponding NVC types W16, W10 and small areas of W8. Pines and larches were mostly established on the sandy, free draining

⁸ Wooldridge, S. W. (1953)



soils previously supporting W16– Oak, Birch Wavy Hair Grass Woodland. Spruces, hemlock, cedar, Douglas fir and broadleaves were planted on the poorly draining clays that supported W10– Pedunculate Oak, Bracken Bramble Woodland and the base rich areas of W8– Ash, Field Maple and Dogs Mercury Woodland.

The introduction of the 1985 Broadleaves Policy recognised the importance of ancient woodland sites and marked a change away from the further conversion of broadleaved woodland to conifer. Recommendations for removing planted conifers began to be developed⁹. In 2005 the Government re-emphasised its commitment to improving and restoring PAWS, in its ancient woodland policy statement ‘Keepers of Time’¹⁰. The regional forestry framework in the South East¹¹ also identifies the gradual restoration of PAWS as an important issue to address in order to bring woodland habitat ‘into good ecological condition’.

2.3.2 Ownership and Management of High Weald PAWS

Forest Enterprise (FE) manages 2,674ha of PAWS within the AONB, and is committed to restoring the majority of this area to native woodland. Forest management companies manage many of the other larger PAWS in private ownership. In order to have felling licences approved and receive grant aid, forest management plans must be approved by the Forestry Commission. Woodlands over 30ha must be certified under the UK Woodland Assurance Standard¹² (UKWAS) in order to receive an annual management grant through the Forestry Commission’s Woodland Grant Scheme. This incentive encourages compliance with the standard. In order to meet the UKWAS, five specific requirements for the management of PAWS must be met.

UKWAS Requirement 6.3.2

a) Owners/managers shall identify action which will progressively improve the biodiversity, environmental and cultural values of plantations on ancient woodland sites (PAWS), considering the site, landscape context and management objectives.

b) Owners/managers shall maintain and enhance remnant features of ancient woodland on all PAWS sites. This process shall be achieved by:

- Undertaking field assessment and evaluation of the biodiversity, environmental and cultural values of PAWS to identify threats, ongoing declines and potential gains
- Prioritising action taking account of: Degree and immediacy of threat to remnant features and potential biodiversity gains at a site and landscape scale

c) Owners/managers shall identify management prescriptions that:

⁹ Peterken, G. F (1996)

¹⁰ DEFRA and Forestry Commission (2005)

¹¹ Ellis, J. (2004)

¹² UKWAS (2006)

- 
- Maintain ancient woodland features by addressing threats and ongoing decline on all PAWS
 - Secure potential gains identified as a priority
 - Adopt appropriate silvicultural systems that minimise negative impacts and have an emphasis on gradual change.

d) Owners/managers shall implement management prescriptions to ensure that:

 - Field assessments are carried out prior to planned operations to ensure remnant features are safeguarded
 - Operations are implemented in a manner that does not adversely impact the sites' values.

e) Owners/managers shall implement a monitoring plan that includes:

 - Monitoring and reviewing the condition and response of remnant ancient woodland features
 - Monitoring the status of threats
 - Monitoring the condition of cultural heritage features.

The UKWAS requirement for PAWS provides the agreed minimum standard for management of these areas. The Forestry Commission's licencing and grants procedures and the UKWAS provide the framework that determines the benchmark for appropriate management of plantation on ancient woodland sites.

For landowners who are not signed up to the various mechanisms for delivery of sustainable forest management outlined above, there is no obligation to address the threat to woodland biodiversity from unmanaged conifers.

2.3.3 Threats to the Condition of High Weald PAWS

Ancient semi-natural woodland ground flora survive in limited niches within non-native plantations, mostly along rides and watercourses, underneath pre-plantation trees, around the perimeter of woods and in areas where planting has failed or the canopy has been opened up. The limiting factor for vernal woodland ground flora appears to be light, as the year-round dark conditions created by conifer crops or under rhododendron preclude most vernal flowers. Unthinned stands of conifers, overgrown rides and dense rhododendron are the main threats to woodland ground flora. Rhododendron and cherry laurel regenerate freely and spread quickly. The spread of invasive non-native species is also a major threat to ancient woodland sites in the High Weald.

The historical record is well preserved in the undisturbed soil profile on ancient woodland sites and the majority of features are of an earthwork construction. The main threats to the preservation of earthworks are erosion and wear. Harvesting and forwarding machinery used in forestry operations pose a particular threat. 'Best



practice' guidelines have been published¹³ for the preservation of archaeological features in woodlands to help landowners prevent damage to the cultural heritage resource.

The amount and diversity of deadwood within plantations is limited when compared to that found in semi-natural woodland¹⁴. Preserving remnants and increasing the volume and number of standing and fallen deadwood, veteran trees, and future veterans is therefore a priority. Threats include removal and damage to deadwood during harvesting or thinning operations.

Rackham¹⁵ highlights deer browsing of ground flora, tree and shrubs seedlings and saplings as the greatest threat to ancient woodland condition, this is also largely the case in the High Weald. In woods with high deer numbers natural regeneration is limited, and restricted to the less palatable species, with subsequent effects on associated species.

A system of recording the level of threats to PAWS compartments visited was developed during the project and is described in section 3.3.4.

2.3.4 PAWS Restoration; Best Practice and Scientific Research

The aim of PAWS restoration is to retain remnant features of ancient semi-natural woodlands and restore sites to woodland of predominantly site native species. The Woodland Trust¹⁶ and the Forestry Commission¹⁷ have published PAWS restoration practice guides for woodland owners and managers. Both practice guides describe methods of site survey to identify remnant features within plantations and outline the operations required to secure and enhance these features.

The Woodland Trust's approach is based on an assessment of the level of threat to remnant features and recommends prioritising action on the basis of addressing the greatest threats. The Forestry Commission's practice guide provides a framework for selection and prioritisation of sites based on their potential for restoration. Both guides stress that restoration is a long-term process and success will be influenced by the methods chosen and the care taken whilst carrying out operations.

Forest Research is undertaking a programme of research to investigate the effects of different silvicultural treatments on PAWS sites. Interim findings from their PAWS experimental plots have been published¹⁸ these include experimental plots in 35 year old Corsican pine at Wakehurst Place in the High Weald. A study of the development of woodlands that were blown down and cleared following the 1987 storm¹⁹ provides

¹³ Bannister (2007)

¹⁴ Woodland Trust (2005)

¹⁵ Rackham (2003)

¹⁶ Woodland Trust (2005)

¹⁷ Thompson, R.N., Humphrey, J.W., Harmer, R. and Ferris, R. (2003)

¹⁸ Harmer, R & Kiewitt, A. (2006)

¹⁹ Harmer, R. Tucker, N. and Nickerson, R. (2004)



an insight into the effect of a rapid change in canopy on tree species regeneration. The study found that the majority of storm damaged sites were successfully restocked by natural regeneration although the dominant species was different to the original crop. This has implications for restoring natural broadleaved woodland using natural regeneration in the South East.



3. Development and Implementation

3.1 Mapping Software

All mapping work was carried out using a Geographic Information System (GIS). Using GIS allowed the library of digital mapping layers held at the High Weald AONB to be accessed and for data collected to be shared electronically and presented against the range of map layers. The GIS software used for this work was ESRI ArcMap 8.3²⁰. This GIS database can be linked to external databases which hold more detailed site survey and archive data.

Where possible, Ordnance Survey (OS) MasterMap derived polygons were used to map property and compartment boundaries. Using these polygons produces reproducible boundaries and enables the plans generated to be used for grant applications to partner organisations.

3.2. Identifying Unmanaged PAWS and their Owners

PAWS not covered by a current WGS contract, SSSI status or by an existing felling licence were the areas identified for targeted management advice. A variety of methods were developed and used to identify these areas, determine their ownership and contact their owners.

3.2.1. Ancient Woodland Inventory

The Ancient Woodland Inventory (AWI) area and boundary records for replanted woodland provided the baseline for identifying PAWS. All ancient woodland sites larger than 2 hectares are recorded on the AWI held by Natural England; ancient woodland sites are categorized as either semi-natural woodland or as replanted woodland. No further information on the AWI covering species or site conditions on PAWS is included²¹. The Weald and Downs Ancient Woodland Survey is undertaking a revision of the original inventory in selected districts, and during the PAWS project period revised inventories were published for the districts of Wealden²², Mid Sussex²³ and Tunbridge Wells²⁴. The revised inventories are used as they become available but have not made great changes to the areas classified as PAWS. The most significant changes to the Inventory are to do with the inclusion of smaller, newly identified sites. These small woods are mostly in the less-than 3ha category; the average size of replanted sites in Wealden district is 12 hectares.

3.2.2. Forestry Commission Information

The High Weald AONB is licensed to use the Forestry Commission's Woodland Grant Scheme (WGS) and felling licence data. The WGS dataset contains ownership information and property details. In addition to the WGS dataset, the Forestry Commission Woodland Officers for East Sussex, West Sussex and Kent identified for the project a number of woodland owners from the Forestry Commission's records,

²⁰ ESRI (2002)

²¹ Pryor, S.N. & Smith, S. (2002)

²² Westaway, S. (2005)

²³ Westaway et al (2007)

²⁴ Westaway et al (2007)



previous enquiries and their own knowledge of the area. The detailed knowledge of sites and histories by the county woodland officers is a very rich source of information.

3.2.3. Land Registry Search

It is possible to request a holding number and ownership information about any area of land recorded on the land registry. The process followed was straightforward, and required an outline map of the land in question and a simple application form to be sent to the Land Registry. All of the holding numbers for the area requested and a map showing their boundaries are provided free of charge. Ownership details and title deeds can then be obtained for a small fee by entering the holding number on the land registry website. The online system has recently been updated and a land search can now be carried out directly using the 'Aerial Land Locator'²⁵. This new function will speed up future registry searches considerably.

3.2.4 Other Methods of developing contact with landowners

Further contacts have been developed through word of mouth, contractors, promotions, woodland events, and demonstration days. As the profile of the project increased, more contacts were made through requests for information to the project from woodland owners. Outreach through the Woodlots mailing list and the High Weald stand at the Woodfair proved particularly effective in generating interest in the initiative.

3.2.5 Initiating Contact

Once the ownership details of a particular land holding were determined, contact with private individuals was initiated with a formal letter setting out the purpose of the PAWS project, the reasons for interest in the land in question and an outline of what the project officer could provide. The letter included the offer of an initial site visit to inspect the property and discuss the owner's objectives for the woodland. To generate interest the letter was accompanied by annotated copies of aerial photos and historic maps, together with an outline of the grants available for management works from the Forestry Commission. Using all of the methods described above, contact was established with 64 woodland owners. In some cases there was no reply to correspondence; given the overall positive response these cases were not pursued after two letters had been sent. In only one instance was the offer of advice and assistance categorically declined; the owner felt that the existing level of control over his activities within the woodland was already excessive.

3.3 PAWS Survey and Restoration Package

A PAWS advice package was developed to provide landowners with specialist information about their woodland and its condition; it was designed to be in an accessible format that could be used as the basis for grant applications to the Forestry Commission.

²⁵ www.landregisteronline.gov.uk

3.3.1 Desk-based mapping

Prior to visiting the woodland, a series of historic and contemporary maps was prepared from the comprehensive range of digitized map layers. Making full use of the available mapping resource provides a large amount of information very quickly and gives an accurate picture of both current condition and historic features. The most important datasets used for the initial mapping process were:

The First County Series Ordnance Survey 25" to 1 mile maps (c.1873 for East Sussex)

The First County Series maps (map 1) provide the earliest accurate information for most woods; Oliver Rackham describes this series as 'the zenith of rural mapmaking in Britain and perhaps the world'²⁶. As well as the historic extent of woodland, the First County Series map sheets include details of tracks, woodbanks, quarries, earthworks, rough ground, woodland names and broadleaved or coniferous tree cover. These detailed illustrations of historic features provide a very useful guide for the woodland survey (figure 4).

- Modern and historic aerial photography (1954, 1999, 2001, 2006)



Figure 4. First County Series Ordnance Survey showing Lower Morgay Wood. The map outlines the extent of the woodland in 1873.

²⁶ Rackham, O. (1986)

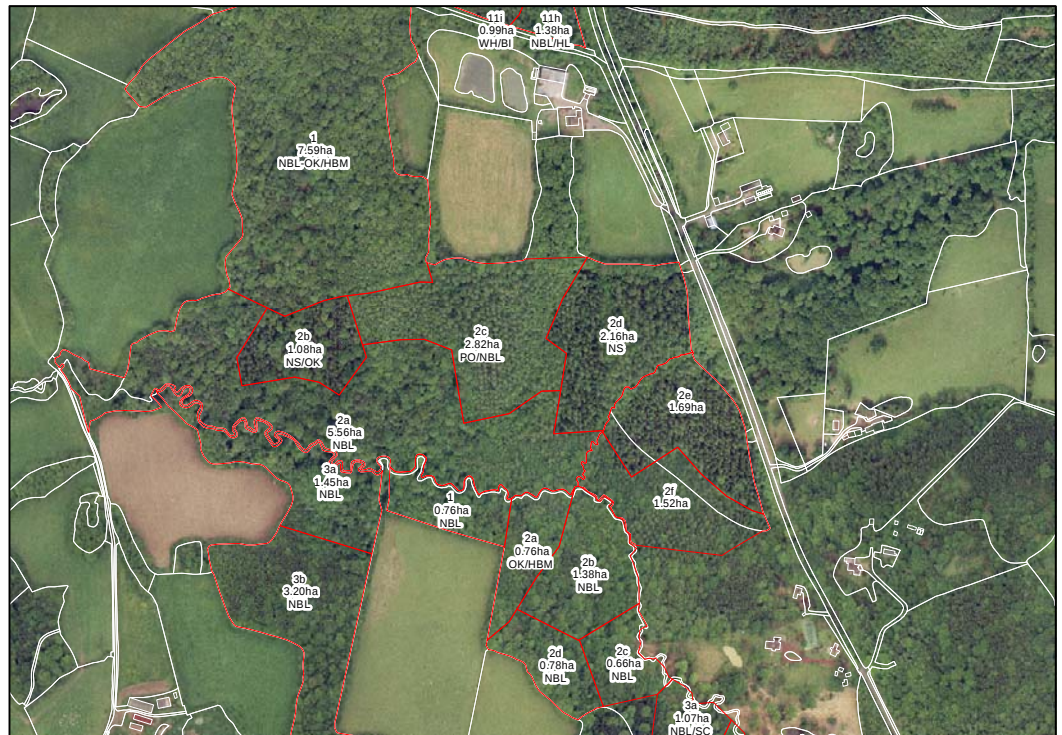


Figure 5. Digitised aerial photograph (2000) with the OS MasterMap layer and woodland compartment details at Lower Morgay Wood.

Digitised, geo-referenced aerial photographs were used to determine canopy composition and potential compartment boundaries. The aerial photos clearly show variations in tree species, thinning operations and tree cover and can be used to sub divide the wood into different compartments (figure 5). Aerial photos from 1954 were available for West Sussex.

- Ordnance Survey MasterMap

The OS MasterMap layer is the digital standard for land management in the UK. The polygons within this layer were used as the basis for recording areas. The MasterMap base layer and 100m OS grid are required for grant applications to the Forestry Commission.

Some earlier maps, including the Ordnance Survey drawings and earlier tithe maps were available for some areas. These maps provided additional evidence of land use and historic features. The digitized geological map of the British Isles was also used. All of the above layers could be overlain to build up a picture of historic land use.

3.3.2. Woodland Inspection

Ideally, the initial inspection of the woodland was made together with the owner. This was the best opportunity to find out what the owner wants to achieve on their



property and what aspects of a PAWS restoration project will be suitable for them. This informal discussion of objectives, opportunities and constraints was included in the report and formed a useful basis for making management prescriptions. Woodland inspections were undertaken with the aid of the various maps described above. Producing the maps outlined above, and referring to them whilst on site gave a clear picture of what the woodland looked like in the past. This was important when discussing how best to restore habitat to an earlier state. The maps also showed where to look for evidence of remnant features on the ground. A double sided, A3 size laminated copy of the most recent Aerial Photo and Ordnance Survey First County Series map was given to woodland owners and managers at the site meeting. The laminated map was straightforward to produce and very durable. Identifying features peculiar to ancient woodland during the initial visit was the best chance to demonstrate first hand what the woodland owner should be trying to protect and enhance on their property. Undertaking surveying visits in spring is favourable because many of the ancient woodland indicator species are in flower and can be easily located and identified. Using the presence or absence of woodland ground flora to explain the objective of restoration is a very visual way to encourage conservation works.

The rich archaeological record preserved in ancient woodlands also provides a vivid explanation of their history and cultural value. Very often, archaeological remains have not been recognized as such by the owner; simply pointing them out is a good start to enhancing their protection in the future. In one instance a substantial woodbank had been damaged by children who were using it as a mountain bike jump. The damage being caused was of little concern to the owner until the woodbank was pointed out; the biking route was subsequently realigned. Winter is generally the best time to survey for woodland archaeology²⁷, however unlike vernal plants, most earthworks can be identified year-round. This is useful, as discovering evidence of the past during the site visit can enthuse the owner and hopefully encourage greater protection in the future.

Taking photos during the visit is a useful way to record features of interest; the pictures can be included in a plan or report– adding a caption helps to explain particular conditions or features that have been observed.

3.3.3 Ancient Woodland Site Condition Report

To inform woodland owners about the condition of their property, and inspire positive action, a site-specific woodland report was developed (an example is included in appendix 1). The woodland report format is designed to address all of the issues identified in the Forestry Commission's 'Condition, Opportunity and Threat (COT) Assessment'. By following the format of the Forestry Commission's Woodland COT Assessment, the report can accompany an EWGS or felling licence application. It was decided to present the information in an inspirational and accessible format by including colour photos and maps. Technical forestry terms were kept to a minimum, and proposed operations were presented with reference to

²⁷ Bannister and Bartlett (2006)



the photos and maps.

All of the available maps of the site were included in the report. This provided the owner with a clear idea of the nature of their resource, differences in woodland types, features of interest and potential constraints. A compartment information map on a plain MasterMap base that could be copied and used for future management planning, site surveying and grant applications was also provided.

Where other resources are available it is possible to include these documents for reference. These might include: Scheduled Ancient Monument details, Site of Special Scientific Interest notification details, Site of Nature Conservation Interest notes, Forestry Commission compartment records, and previous forestry plans.

A clear compartment table of the woodland with tree species, and management code information was set out. Management recommendations for each compartment are presented together with an overview of possible income, grants and felling licence requirements. The report was sent together with a pack of woodland management information.

The format of the report evolved over the course of the project to contain a comprehensive account of the ancient woodland resource, an outline of the possible threats to the remnants of the ancient woodland and recommended action to address those threats. 22 reports were produced for PAWS, covering 555 hectare of ancient woodland.

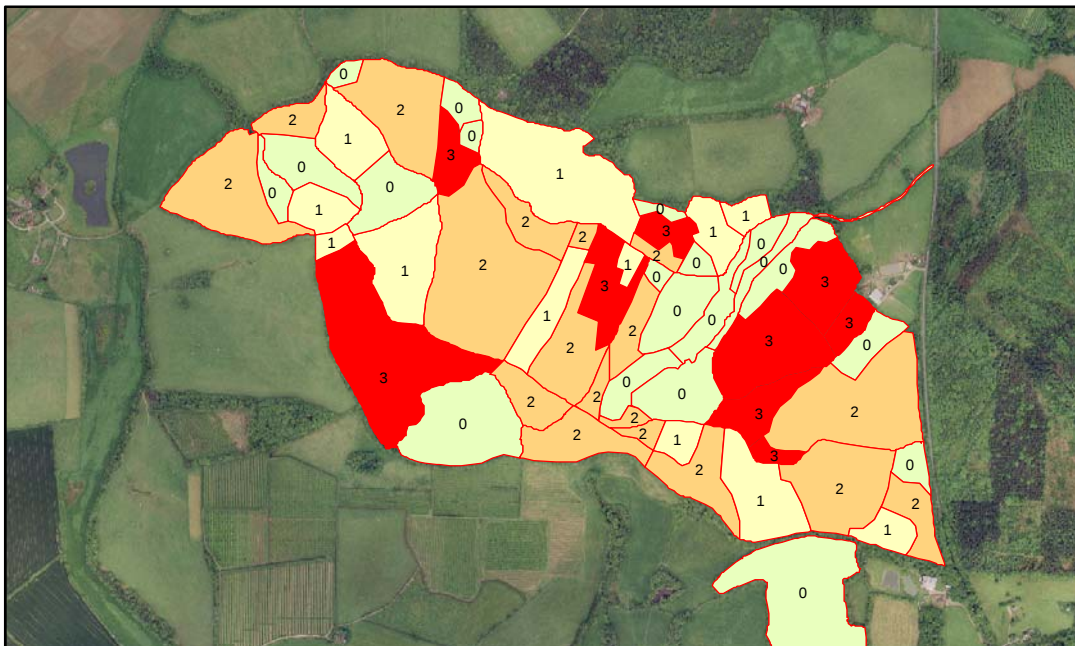
3.3.4 PAWS Threat Level and Semi-Naturalness Assessment

For each PAWS sub-compartment an assessment was made of the level of threat to the remnants of ancient woodland and the semi-naturalness of the woodland in the compartment.

Remnants commonly surviving in PAWS include 'deadwood, trees and understorey shrubs, archaeological features and woodland plants'²⁸. The threats to these include excessive shading in unthinned stands, unmanaged rides, invasive exotic species, shading out of remnants broadleaved trees and rapid clearance of conifers.

A 'threat level' to the remnant features was ascribed to each compartment and recorded using the four classes; no threat, secure, threatened, critical (figure 6). As well as providing a record of woodland condition, a map showing the threat level provided a rationale for prioritizing action for the landowner.

²⁸ Woodland Trust (2005)



KEY:

No Threat (0)

Includes ancient semi-natural woodland with no planted trees and no invasive plants.

Secure (1)

Likely to remain the same or improve given current conditions.

Threatened (2)

Unlikely to be lost in the short term, given current conditions, but long term survival is doubtful without intervention.

Critical (3)

Urgent action needed to avoid irreversible loss or serious deterioration.

Figure 6. Compartment records of 'threat level' at Lordship Wood, Robertsbridge.

A rating of the semi-naturalness of each compartment uses the four classes developed in the survey of the Forest Commission estate²⁹. The semi-natural classes used are as follows:

1. Semi-natural woodland

Includes native coppice woodland and high forest or site native plantation with a relatively high percentage of native self sown or coppice understorey. Sweet chestnut coppice was also included in this category.

2. Semi-natural woodland (Reasserting)

Plantation/ex-plantation with more than 50% site native species. Includes coppice regeneration and/or strong natural regeneration

3. Plantation - with 20-50% native trees

Includes plantations planted alongside existing native trees and/or

²⁹ Hutchby et al. (2000)



plantations with intruding native species

4. Plantation less than 20% intruding native species.

Includes plantations of beech, and non native broadleaves.

3.3.5 Unmanaged PAWS; Database Development

The High Weald PAWS GIS database was designed to collate and store details of ownership information, record contact on site and site condition. The GIS data is stored on two mapping layers. The PAWS database layer holds information on all those plantations on ancient woodland sites that were identified as ‘unmanaged’. Fields in the database include; PAWS id number, ownership details, woodland name, area (hectares), contact status, visit status, and condition assessment status). The PAWS database currently includes 259 woodlands across 3,691 hectares (appendix 1).

The PAWS compartment information holds compartment level information for PAWS that are surveyed. By inputting information in a number of fields the layer can be used to generate English Woodland Grant Scheme (EWGS) and felling licence maps and show current condition and semi-natural classes. Fields include PAWS iD, compartment number, Forestry Commission species code, Forestry Commission management code, Forest Enterprise semi-naturalness class³⁰, and a ‘Threat’ code.

Development of the database has been ongoing during the project, as owners are identified and contacted, sites are surveyed and compartment details and conditions are recorded.

³⁰ Hutchby et al. (2000).

4. Results

4.1. Woodland Restoration Projects

At the outset, 192 plantations on ancient woodland sites (2,400 hectares) were identified as sites without current management these sites were the initial focus of the project. This area was increased to 3,600 hectares in order to absorb PAWS around the perimeter of the AONB, include the areas of ASNW that are a part PAWS properties, and also areas with WGS requiring specific PAWS restoration input.

The results are presented in three categories;

1. 20 Restoration Projects initiated on 465ha
2. 27 Condition Surveys and Advice provided on 1033ha
3. 19 Contacts established and PAWS restoration promoted on 377ha

4.1.1. Restoration; Projects Initiated

Work to restore PAWS has been initiated on twenty properties (see map 3). The woodlands are diverse and include a range of different ownerships, areas and conditions. The input provided has varied depending on particular circumstances. On some properties the owner or their agent has been confident to take the condition assessment and implement recommendations with only limited further assistance. In these cases, providing the encouragement that restoration was a suitable objective, followed by advice on grants and suitable approaches was sufficient to see a scheme progress. On other properties more input was required, which has included liaison with the Forestry Commission Woodland Officer, preparation and submission of applications to the Woodland Grant Scheme, developing a work programme, and assistance in finding contractors and inspection of work.

Woodland Name	Woodland Area (ha)
1. Hayden Wood	29.75
2. Hundred Acre Wood	30.62
3. Sugarloaf Wood	13.11
4.. Furnace Wood	36.41
5. Broadgrove Wood	11.88
6. Causeway Wood	14.45
7. Church Wood	10.78
8. Moor Wood	27.12
9. Lordship Wood	105.67
10. Hatches Wood	8.65
11. Banky Wood	4.18
12. Hoth Wood	19.31
13. Holming Wood	8.93
14. Quarry Wood	14.73
15. Long Wood	5.93
16. Brick Kiln Wood	20.95
17. Tellis Coppice	40.37
18. Spring Wood	22.85
19. Lower Morgay Wood	29.41
20. Badland Wood	10.52
Total Area	465.62

Table 1. Previously unmanaged PAWS where restoration projects have been implemented during the project period.



Figure 7. Halo thinning Sitka spruce from around oaks at Hoth Wood, Rotherfield.

After the first year, £22,792 had been secured for woodland work to restore plantations on ancient woodland sites. The grant aid came mostly through the Forestry Commission's English Woodland Grant Scheme (£18,908), in the form of payments towards annual management costs and replanting costs. The High Weald Sustainable Development Fund provided funding of £3,884 towards works not covered by Forestry Commission Grant, including provision for volunteer work events and educational visits. Following the re-opening of the Woodland Grant Scheme and launch of the Rural Development Program for England (RDPE) in autumn 2007, further applications are now being prepared and submitted to the Forestry Commission.

4.1.2 Input; PAWS Condition Survey and Advice

A condition survey and advice on PAWS restoration were provided on 27 properties across 1,033 hectares (see map 4). At this level the condition survey was undertaken in order to supplement or inform future restoration planning on the property. Preparing a full condition assessment and restoration management plan was not considered appropriate, either because a woodland manager or agent was in place to undertake this work or a decision on whether to follow up the initial advice has not yet been taken.

In some instances the information from the condition survey supplemented existing information, in others the record was used to meet UKWAS requirements for certification. Many of the owners and managers visited have subsequently attended PAWS seminars to find out more about other work being undertaken.

Woodland Name	Woodland Area (ha)
1. Little Iwood	14.54
2. Southover Wood	19.71
3. Stumble Wood	0.97
4. Piping Wood	11.66
5. Newtye Hurst	22.62
6. Robins Land	17.55
7. Russel's Wood	31.65
8. Oaky Wood	6.83
9. Stock's Wood	35.24
10. Rawlinson Gill	3.73
11. Winsor Gill	1.08
12. Lodgefield Wood	11.79
13. Mill Wood (North)	5.15
14. Park Corner Heath	3.33
15. Sandpit Wood	34.88
16. Upper Vert Wood	73.77
17. Laughton Common Wood	43.47
18. Brickhurst Wood	20.39
19. Bodiam Wood	2.34
20. Broadwater Warren	112.78
21. Blackbrooks	69.39
22. Ringden Wood	5.37
23. Rounden Woods	108.40
24. Callice Wood	7.18
25. Five Hundred Acre	308.93
26. Brede High Woods	15.92
27. Jules Wood	44.39
Total Area	1033.06

Table 2. PAWS where input has been provided through condition survey and advice.

4.1.3 Contact; PAWS Restoration Promotion

Contact has been developed with owners and managers across 377 hectares (see map 5). On these properties information on the PAWS programme and information on available grants were provided, but a working relationship and commitment to gradual restoration of PAWS has yet to be developed.

Woodland Name	Woodland Area (ha)
1. Oxpasture Wood	42.23
2. Pookwell Wood	4.45
3. New Park Wood	26.75
4. Moor Wood	5.21
5. Park Wood	4.98
6. Beech Wood	7.07
7. Burrs Wood	10.28
8. Hazel Wood	4.31
9. Minepit's Wood	0.83

10.	Castlehill Wood	28.69
11.	Rowland Wood	31.67
12.	Mill Wood	9.18
13.	Heathfield House	69.89
14.	Barnsnap Wood	2.40
15.	Sippetts Wood	2.25
16.	Whorne Wood	54.01
17.	Flatropers Wood	35.04
18.	Batts Wood	25.32
19.	Dens Wood	12.88
Total Area		377.44

Table 3. PAWS where contact has been established and the project promoted.

4.1.4 Remaining 'Unmanaged' PAWS

A further 1,600 hectares of unmanaged PAWS have yet to be surveyed or receive information and advice on appropriate management of the woodlands directly from the project. Assessing the condition of these woods, and then targeting those under greatest threat would be the focus for a further phase of activity (see section 6).

4.1.5 Condition Survey

The condition of PAWS has been surveyed across 854 hectares (see map 2). Three quarters of the PAWS area assessed was recorded as in a 'threatened' or 'critical' condition. The two main threats identified on sites were unthinned canopy and rhododendron. Table 4. shows an output of threat level recorded in the PAWS compartment records.

Threat Level	Number of Units	Area (ha)
3-Critical	110	280
2-Threatened	138	362
1-Secure	105	212
TOTAL	353	854ha

Table 4. Threat Level records from the PAWS Compartment database.

4.2. Case Study; PAWS Restoration at Warbleton

Church Wood (14.5 hectares) and Causeway Wood (11 hectares) are small ancient woodland sites in Warbleton parish on the southern edge of the High Weald. Contact was established with the owners as both of the woods were outside of grant schemes and both contained areas of unmanaged conifer plantation. Both owners were keen to consider options for future management of their woodlands and were interested in the restoration of conifers to broadleaved woodland.

4.2.1 Owner Objectives

The primary objective of management for both owners was to restore their conifer plantations to native broadleaved woodland. Making financial returns from their woodland was not the main consideration. Neither owner had capital set aside to

invest in operations but both were prepared to commit their own time to undertake some tasks; other operations were required to be cost neutral.

4.2.2 Woodland Condition and Remnant Features

Conifer plantations were established in both woods in the 1960's by the Forestry Commission. The woods came into private ownership in 1986 and both suffered areas of windblow in the 1987 storm. Fallen trees were cleared in both woods and these areas were then replanted with a mixture of broadleaved trees and shrubs.

The greatest threat to ancient woodland remnants in the remaining PAWS on each woodland was from excessive shading in unthinned stands (figure 7). In the areas of unthinned conifers, ground flora was only present where trees had been blown over or on the outer perimeter of the woodland.



Figure 8. Causeway Wood, Warbleton (April 2006). A 0.69ha stand of unthinned Norway spruce on an ancient woodland site. No ground flora, broadleaved trees or shrubs were present in the stand. Semi-natural class- 4, threat level- 3.

Both woods contain a number of previously unrecorded historical features, including medieval woodbanks, charcoal hearths, roman bell pits, marl pits, trackways and a WWII bomb crater. Forestry operations have had to be planned carefully to avoid damage and protect these features.



4.2.3 Management Planning and Grants

In each wood a condition assessment was prepared and management recommendations were made that included opening up rides, felling and restocking small coupes and thinning conifers.

The combination of woodland regeneration grants and timber sales receipts will allow for a positive return for both owners. Through contact with BTCV and with a grant from the High Weald Sustainable Development fund, a work party undertook a project to thin conifers from around one of the ponds at Church Wood. Further ride opening has been undertaken by a contractor who wanted to stack and dry the wood in situ as part of a wood fuel enterprise.

4.2.4 Harvesting and Replanting Arrangements

By combining the harvesting operations in both properties the owners were able to market their timber more profitably. Natural regeneration is anticipated on both sites and any restocking costs will be further reduced because the owners can order planting materials and tree protection in bulk.

4.2.5 Discussion

Both owners were very keen to restore their woods and both had experience of woodland management. Nevertheless, restoration work was not being carried out. Encouragement, advice, and assistance with grant applications and harvesting planning were required in order to initiate work within the woodlands. The condition of both woods has been dramatically improved and both are being restored to broadleaved woodland. By cultivating the owners' interest and increasing their confidence, a more proactive approach to forest operations is now being taken. Both owners are now aware of the sensitive features within their woodlands and are actively enhancing the nature conservation value of their properties with grant aid through EWGS contracts.



Figure 9. Church Wood, Warbleton in January 2007. An unthinned Norway spruce plantation on an ancient woodland site (photograph: Graham Reeves).



Figure 10. Church Wood Warbleton in May 2007. Work to open up the ride and encourage re-emergence of ground flora has been initiated. (photograph: Graham Reeves).

4.3 PAWS Promotion

4.3.1 Practical Demonstration Seminars

To increase understanding of the management requirements for PAWS two demonstration events were organised for private woodland owners, contractors, advisers and managers. The aim of the events was to share the Forestry Commission's, Woodland Trust's and High Weald AONB's vision for the restoration of Plantations on Ancient Woodland Sites. A practical, on-site demonstration of the machines and methods being used to restore ancient woodland, and how to mitigate impacts on the woodland environment has been an excellent way to inform woodland owners and managers. The events have inspired and encouraged landowners and managers towards active stewardship of their woodlands. By sharing and discussing the lessons learned from restoring plantations, we have been able to develop a better understanding of the best approach.



Figure 11. PAWS Demonstration Day (October 2006). Woodland owners and managers learning about horse logging and woodland restoration at Hundred Acre Wood (photograph: Patrick McKernan).

4.3.2 Woodland Seminar: A Quick Clearfell and a Gradual Thin

An ancient woodland site was selected for the seminar that contained both a large clearfelled area and conifer stands that were being thinned. The sharp contrast between the two areas provided an excellent example of the effects of different approaches to management on woodland flora and fauna. In September 2007, forty delegates attended an afternoon woodland visit that included presentations from

Forestry Commission officials, forest contractors, archaeologists and forest scientists. The opportunity to inspect the effects of the different forestry operations first hand and discuss the practicalities, costs and impact in the field was particularly valuable. There was considerable interest in the cultural features on the site that included the remains of a brick kiln. The popularity and importance of these events for promoting best practice and sharing experience should not be underestimated; for many of the individuals this was the only woodland information session they would attend during the year. Despite canceling an earlier date on account of the foot and mouth outbreak the second date was quickly booked out.

4.3.3 Woodland Events

The Weald Woodfair is the largest woodland show of its kind in the South East of England. For two years running the PAWS project has been successfully promoted at the



Figure 12. PAWS Seminar, Brick Kiln Wood (October 2007). A group of forty woodland owners and managers visited a High Weald PAWS to see approaches to restoration.

event, with a set of information posters and leaflets produced each year for display on both the High Weald AONB Unit's and the Forestry Commission's stands. The Woodfair is well attended by a wide range of woodland organisations and businesses



from across the South East and the event provided a valuable platform to engage with woodland owners and the general public. Making presentations, speaking at woodland seminars and attending a range of events during the project have also provided an opportunity to raise the profile of the project.

4.3.4 Internet and Email Promotions

A PAWS page has been produced and can be found on the High Weald AONB website³¹. The website provides an outline of the project and contact details together with examples of the work being carried out and advisory service provided. Further promotion has been undertaken through the Woodlots publication and the email bulletins for the forestry sector sent out by the Forestry Commission, the Royal Forestry Society, and Woodnet.

4.4 Woodland Owner Attitude

Private woodland owners have a diverse range of objectives, motivations and management regimes for their properties. A questionnaire survey was undertaken to investigate and obtain information about what woodland owners in the High Weald want from their woodland, what they do with their woodland and get from woodland ownership, what prevents them doing more, and what might help them overcome such barriers. The purpose of the questionnaire survey was to investigate the reasons why some woodlands remain unmanaged in spite of existing grants and incentives, and also to discover what would encourage owners to initiate positive action.

4.4.1 Owner Attitude Survey

The woodland owner attitude questionnaire (appendix 2.) has been sent out to all the PAWS contacts since September 2006. A major difficulty was compelling contacts to participate in the survey and as a result insufficient survey forms were completed and returned to allow rigorous analysis. Other studies to consider disengaged woodland owner's attitudes³² have also encountered difficulties in generating a response. Although the sample was too small to provide statistically significant results, some messages came out strongly across the survey.

4.4.2 Motivation and Incentives

Making money from forestry was not the primary motivation for the woodland owners that participated. All respondents selected 'encouraging wildlife and protecting ancient woodland' as a high priority. All respondents also rated the statement 'I have no interest in the management of my woodland' as 'not applying at all' to their circumstances. The Forestry Commission's Woodland Officer and specialist woodland publications were the most cited sources of woodland information and no respondents felt that they had insufficient information about what they should do with their woodland. The majority of the woodland owners questioned had searched for information on their woodland on the internet.

³¹ <http://www.highweald.org/text.asp?PageId=224>

³² Harder, M. (2006)



During discussions with woodland owners about woodland management, other barriers included identifying the areas that required attention, finding suitable contractors for particular jobs, struggling to do the work themselves and unfamiliarity with the process of applying for a felling licence.

Another unexpected finding was the huge level of interest from woodland owners in the archaeological features found on ancient woodland sites, and their desire to research and protect this resource. On one property a medieval woodbank and hedge are being completely restored as a result of the interest generated in the woodland's history. Another sentiment that was echoed by many owners was the enjoyment gained from protecting nature. The following quote is from a letter of thanks received from a woodland owner after attending a PAWS restoration seminar;

'I know that we will never earn a great deal of money through Pipins Wood, but when I walk through the bluebells and wood anemone in spring, see the leaves green up and watch the butterflies in early summer, hear the birdsong, walk among the toadstools and fungi, or even just look at the sunlight on frosty branches I then know that my woodlands mean more than money. I am just a caretaker looking after the land and I feel we all must learn and adapt for the good of our woodlands'.

In order to generate a larger and more quantifiable data set, a PhD student has been encouraged to use the High Weald as a sample area in part of a larger study³³ into woodland owner attitude. This study is now underway and the researcher is currently undertaking a rigorous survey using a method that ascertains attitude towards ownership by ranking a series of statements according to importance. The PAWS project officer was able to help the student to contact woodland owners and develop questions that will provide useful information about woodland owners in the High Weald. The initial findings will improve understanding of woodland owners' motivation, knowledge base, constraints and behaviour.

³³ Urquart, J. (pers. com)



5. Discussion

Progress has been made towards bringing unmanaged PAWS into active management and restoring broadleaved woodland. However, the area of PAWS under threat within the High Weald is still substantial. The PAWS project has established methods to encourage restoration works and achieved positive results. A detailed database has been built up that now enables work plans and grant applications for sites to be generated efficiently. Using the methodology outlined above, a work program can be developed quickly that assists owners with applications for targeted grant. Bringing forward restoration schemes on the remaining area of unmanaged PAWS should be the main priority of any further work.

By providing practical demonstrations of the results of sensitive conifer removal, landowners can be encouraged and inspired to undertake work. Developing and maintaining a profile within the sector means that seminars are popular and well attended and recommendations are received with interest.

5.1 Developing and promoting supply chains for biomass heating installations

There is a major opportunity for woodland owners to meet the increasing demand for fuel from woodfuel boilers currently being installed in and around the AONB. The wood chip market is suitable for much of the lower quality softwood found on unmanaged PAWS. The increasing number of wood fuel boiler installations will create an opportunity to link woodland conservation, and provide renewable energy production and rural income generation. At the Environment Agency's depot in Rye, a supply chain is being organised that aims to ensure that all of the woodfuel used in the Agency's biomass boilers comes from local woodlands undertaking work to restore PAWS and conserve butterflies.

Tunbridge Wells Borough Council worked with the PAWS project to arrange a woodfuel information day to outline the use and uptake biomass heating technology in the borough. The day included a visit to a wood chipping facility and the Crowborough Beacon School 1MW wood fuel boiler. There is massive interest in woodfuel; seminars that include a site visit to the woodland producing the fuel by restoring broadleaved woodland on a PAWS will continue to attract considerable attention.

5.2 UK Woodland Assurance Scheme PAWS Assessments

The potential exists to provide a structured input into the ancient woodland site condition assessments undertaken as part of the UKWAS certification scheme. The revised UKWAS Scheme includes a number of requirements relating to ancient woodland sites. Requirement 6.3.2. of UKWAS states that 'owners and managers shall identify action which will progressively improve the biodiversity, environmental and cultural value of PAWS, considering, site, landscape context and management objectives'³⁴ On ancient woodland sites in the High Weald AONB the survey and mapping methods developed during the PAWS project can be used to meet the

³⁴ UKWAS (2006)



UKWAS requirements. This approach could be disseminated to the wider forest industry.

5.3 Networking between PAWS work and other woodland initiatives

Linking up and working with other woodland initiatives in the region has created useful connections between organisations and individuals. Piloting of a new Woodland Improvement Grant at Vert Wood in East Sussex has demonstrated a useful model of a working partnership between the Forestry Commission, the PAWS project and Butterfly Conservation in developing contacts, mapping areas and completing EWGS applications. The Rother Woods Butterfly Conservation project, focusing on part of Rother District, started in November 2007. Information from the PAWS database is being used to target the initial properties for butterfly habitat creation and surveying work.

5.4 Developing records and protecting cultural heritage on ancient woodland sites

There is considerable interest and expertise in woodland archaeology within the High Weald AONB. The historic record in ancient woodland sites is particularly rich and as such the High Weald contains a huge resource of this information. 'The cultural heritage of woodlands in the South East'³⁵ was published to promote greater understanding of the issues involved. There has also been the initiation of a specialist forum on the subject within the region and an outline for a European funding bid to research the heritage of wooded landscapes in the High Weald.

The PAWS project found that for many landowners, once archaeological features were identified, their protection became a priority. Providing maps of cultural heritage features to woodland managers and owners is an effective way to ensure that these features are properly protected.

Informing private woodland owners about the importance and sensitivity of cultural features is particularly important when forestry operations are planned. Recording the type and extent of woodland archaeology found on private land and sending records to the Historic Environment Record will become an increasingly important element of planning operations and managing ancient woodland sites. The Forestry Commission has begun to develop assessment and recording methods together with the archaeologists and community archaeology groups³⁶, and their approach is attracting increasing attention.

5.5 Limitations of the targeted approach

Making contact and subsequently developing a positive working relationship with woodland owners previously not engaged with forest and woodland management is a challenge and takes time. In order to initiate management and encourage positive works some form of grant aid is usually required to offset costs. Management over

³⁵ Bannister (2007)

³⁶ Bannister, N. R. & Bartlett, D. (2006)



the longer term is most likely to be maintained where woodland grant schemes have been put in place for an agreed programme of work. The launch of the Rural Development Programme for England should result in a greater degree of stability in grant availability and subsequently increase confidence from woodland owners. Cautious landowners are inclined to defer decision making, and a funding hiatus compounds this effect.



6. PAWS Phase II

From the list of unmanaged PAWS within the High Weald, 35 woods have been selected for a further phase of targeted action. Using the approaches developed for contacting landowners, providing woodland information and encouraging gradual restoration, the intention is to record and then undertake work to reduce the threat to remnants of ancient woodland on these sites. A work programme for 2008 to 2009 to initiate contact and restoration on these sites is being developed. As in the first phase of the project this will be supplemented with woodland seminars to demonstrate and disseminate best practice.

The programme for recording the levels of threat across unmanaged PAWS will continue. This dataset will be used as a record of the condition of PAWS and will provide a rationale for targeting grant aid and advice where required in the future.

7. Acknowledgements

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9. Appendices

Appendix 1: Woodland Condition Assessment Hundred Acre Wood

Appendix 2: Woodland Owner Attitude Survey recording Sheet

Appendix 3: High Weald PAWS Database (2008)

Appendix 4: 'A Quick Clearfell and a Gentle Thin' PAWS Seminar
information sheet

Appendix 5: Table of PAWS Phase II Target Sites





10. Maps

Map 1: Ordnance Survey First Edition cc. 1880 with PAWS compartments

Map 2: Record of Threat Level to PAWS in the High Weald AONB

Map 3: PAWS Restoration; Projects Initiated

Map 4: PAWS Input; Condition Survey and Advice

Map 5: PAWS Restoration Promotion

Map 6: PAWS Phase II Sites (2008–2009)