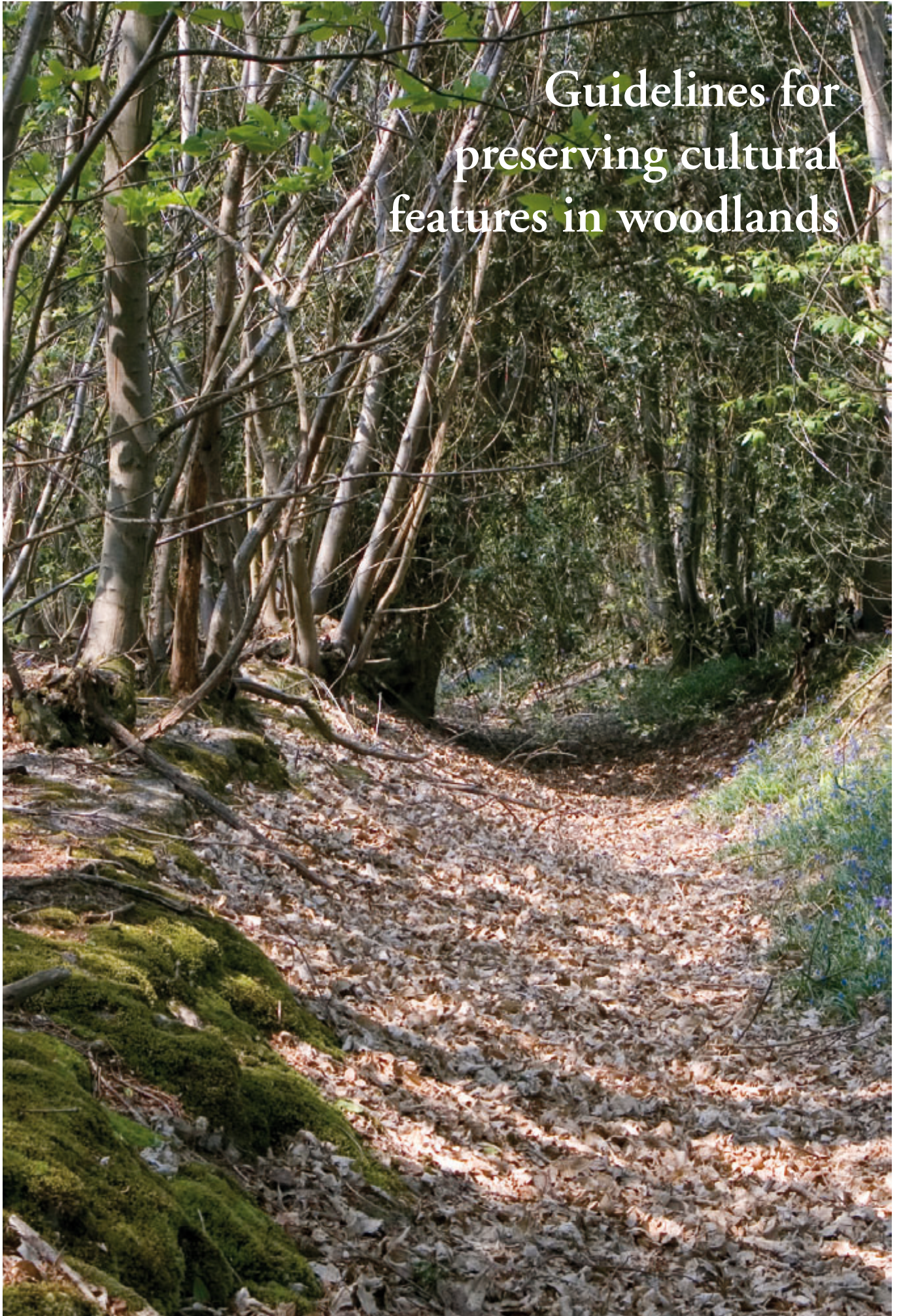


Guidelines for preserving cultural features in woodlands



Wood bank and ditch at Kilndown Wood, near Kilndown in the High Weald (Photo - PM)

Guidelines for Preserving Cultural Features in Woodlands

Introduction

There is a dichotomy between woodland and archaeology. On the one hand, trees, and in particular their roots, can damage archaeological features. On the other, woodlands can preserve archaeological features that would otherwise be damaged or destroyed through other land use activities. During and after the First and Second World Wars, many areas of ancient woodland, heathland and common were purchased by the Government and converted to plantation woodland, mostly coniferous. A consequence of this was that hundreds of archaeological sites become partly damaged and 'lost' within these new forests. Meanwhile, agrarian intensification in the 1960s and 1970s, combined with developments in infrastructure and the spread of suburbs resulted in hundreds more archaeological sites being completely destroyed. Today, the archaeological sites in woods and plantations are being rediscovered, and by comparison with other land use activities, are often fairly well preserved. Despite limited damage by tree roots, many barrows, for example, are still extant, whereas, if they had been in the adjacent farmland, they would probably have been ploughed out, surviving perhaps as only a faint crop mark in the soil.

The potential damage by tree roots and the preservation of archaeological sites in woodland is the dichotomy of understanding and conserving archaeological features and sites in this environment. Tree roots damage archaeological features, be they stratified deposits

preserved below the ground surface, built structures of wood, brick or stone, or earthworks. The damage takes place in several ways:

Physical Action of the roots growing through the substrate;

Chemical Action of the gaseous exchange during respiration and action of water on organic deposits;

Indirect Action by providing both food and when the roots are large enough, shelter for burrowing animals who dig in the substrate, disturbing deposits.

Trees themselves can seriously damage earthworks when they are wind blown, wrenching up huge plates of earth. Traditionally, the management of woodlands by coppicing involved cyclical periods of inactivity, followed by short bursts of intense management, which in itself had a low impact on the archaeology in the woods. Coppicing involved the regular cutting of underwood in 7 to 25-year cycles depending on the species being cut and the wood products required. Often the process of coppicing helped to preserve features, such as through the re-stubbing of marker trees and the cleaning out of wood boundary ditches. These are now recognized as archaeological features in their own right. Over the recent decades, the decline in active coppicing in many small woods in the South East has resulted in long periods of undisturbed growth which have preserved archaeological sites and features in situ. But this has also brought further problems, with trees growing on archaeological sites becoming over-mature and more liable to wind throw.

However, during the first half of the 20th century, when many ancient woodland sites were planted with commercial species, especially conifers, considerable disturbance took place to the archaeological resource preserved within the woods. The disturbance, though significant, was not as damaging as the changes taking place beyond the woods in the farmed land. Agricultural intensification led by European directives and subsidies has resulted in the loss of and significant damage to many hundreds of archaeological sites. Development - urban, suburban and industrial - with all of the associated infrastructure, has also had a significant impact on the survival of archaeological sites.

Fallen tree on a Late Neolithic or Bronze Age burial mound at Box Hill in the Surrey Hills, showing how easily archaeological features can be damaged in woodland (photo - PM)



Woodlands can provide a stable environment in which archaeological sites can be conserved. Where these sites are managed either as part of a regular programme of work or where active management is resumed after a period of cessation, then good planning is essential to avoid the risk of further damage to archaeological features and sites.

The following section firstly describes the potentially damaging operations and activities which can take place in woods and which may affect the archaeological resource. Secondly, guidance and recommendations are given as to the 'Best Practice' for managing archaeological sites within an actively managed woodland, be it ancient semi-natural, a replanted ancient site, or secondary or plantation woodland.

These guidelines also follow the UK Forestry Standard, the chief guide to the practice of sustainable forestry¹. The Forestry Commission has issued its own guidelines on Forestry and Archaeology², and these are also incorporated into the section below.

POTENTIAL DAMAGE CAUSED BY FOREST MANAGEMENT ACTIVITIES

Damage to archaeological features by active woodland management can take place through a number of activities. The main way is through disturbance to the ground surface, caused by:

Ground preparation ahead of tree planting

– ploughing, draining and general disturbance to the soils will damage all forms of archaeological features both

Farm rubbish dumped in a marl pit in Kent. Since the Agricultural Waste Regulations (2005), this practice is now illegal (photo - NB)



Demonstration of sympathetic felling and extraction techniques at a woodland management event in the High Weald (photo - PM)

above and below ground. Planting on archaeological sites not only results in initial physical damage to the feature - in the long term the root damage will be both physical and chemical.

Trimming and thinning of trees – brushing up generally may not be too damaging, although the long term damage by roots will continue. If unwanted trees are pulled up rather than cut down then further damage will occur.

Harvesting and extraction of timber – clear felling can be by far one of the most damaging operations where the ground is churned up by the passage of machinery and the hauling of felled trunks. Bonfire sites where brush is burnt will cause chemical and physical damage to below-ground stratigraphy. Creation of timber storage areas, where the topsoil is stripped back to solid sub-soil can total eradicate an archaeological site.

In the past, such activities made a significant contribution to the damage of archaeological sites in woods. Today, however, steps and checks are in place through the Forestry Commission's English Woodland Grant Scheme (EWGS) to identify, record and take necessary action to conserve features. The UK Forestry Standard³ also sets out the guidance for 'best practice' when working in woods. However, positive and sympathetic management does rely on good communications and understanding between those undertaking the recording and those actually carrying out the woodland and forestry work. In addition, the preparation of a Woodland Plan,⁴ which

sets out the environmental issues together with the management objectives for the wood in question, will establish a baseline of knowledge for the site.

POTENTIAL DAMAGE CAUSED BY RECREATION ACTIVITIES

Opportunities for quiet recreation generally do not cause significant damage to the cultural resource within a wood. However, visitor pressure along footpaths during periods of wet ground conditions can lead to loss of ground cover and erosion of any earthworks, and/or buried sites over which the route passes. This, combined with inadequate drainage of paths, can lead to extensive poaching.

Mountain bikes and horse riding can also be damaging to earthworks, especially boundary banks, which can offer opportunities for 'jumping' and 'rough terrain riding', which in turn cause wear, poaching and erosion. Intensive use of woodland for organised activities such as 'war games' and 'motor-X' can again result in severe erosion and poaching as well as disturbance to wildlife.

POTENTIAL DAMAGE CAUSED BY FRAGMENTATION IN OWNERSHIP

There is an increasing public demand to own a wood or piece of wood. There are a number of companies who buy up whole woods and offer them for resale in small, 1 to 5 acre parcels. Whilst many owners of small woodlands may be aware of the history and archaeological potential of their site and undertake good conservation management⁵, there are situations where owners of small blocks may not be aware of the duty of care needed to manage and look after their woods. Fragmentation in ownership will also result in differing types of management taking place within a small area and also at varying levels of intensity within a single wood, which in turn will impact on the preservation of the archaeological resource.

Cattle grazing in woodland (Photo - PM)



Mountain bike damage to Iron Age hillfort ramparts at Holmbury Hill in the Surrey Hills (Photo - PM)

'Gardenification and Horsiculture'

Where woodlands, especially ancient sites, lie adjacent to domestic settlement, there is a danger/ threat to the woodland habitat, structure, and features from the extension of gardens and more formal landscaping into the woods. This may involve the planting of non-native species, the controlled invasion of vigorous non-natives into the wood, and the construction of hard landscaping in the form of fences, etc., which may damage earthworks and below-ground features.

Woods adjacent to settlement are often used as alternative 'compost disposal' areas where grass cuttings and other garden rubbish are dumped. This material not only enriches the soils but also can introduce vigorous alien plants into the woodland flora. Where woods lie next to industrial sites, they often become a convenient dumping ground for rubbish, with all its inherent problems. Small woods and shaws can be severely damaged by grazing livestock and in particular horses. The trees provide shade and equestrian owners can allow these areas to become overgrazed, poached and the trees badly chewed. Any boundary earthworks associated with the wood are also damaged by poaching and by the erection of fences.

‘Best Practice’ - Guidelines for the Preservation of Archaeological Features in Woodland

There are three stages in managing the cultural heritage within woodlands:

1. Identification and location of archaeological features

The important first stage in managing archaeological features is to walk the woodland, marking the sites of archaeological interest on a Ordnance Survey base map at either 1:10,000 or 1:2500 scale. The importance of surveying and recording woodland features is recognised in the Forestry Commission’s English Woodland Grant Scheme (EWGS). There are two grants available, one for assessment and one for the preparation of a Whole Woodland Plan.

There are a series of guidelines, drawn up by Archaeological organisations, which set out the detail and method of undertaking archaeological assessments of a given site. Level 1 is a basic desktop evaluation using known records, whilst Level 4 is a very detailed geophysical and measured survey, combined with evaluation trenching. The most useful approach for woodland assessments is a modified Level 2, where more emphasis is placed on the field recording at 1:2500 scale (or 1:10,000 depending on the size of the wood), than the archive research⁶. When any archaeological assessment or survey is being proposed, advice and guidance should be sought from a professional landscape archaeologist (see Useful Contacts section). Surveys undertaken to Level 3 or Level 4 are generally only

undertaken by registered and qualified archaeologists and archaeological units.

For an initial assessment of a given site, the following information should be obtained:

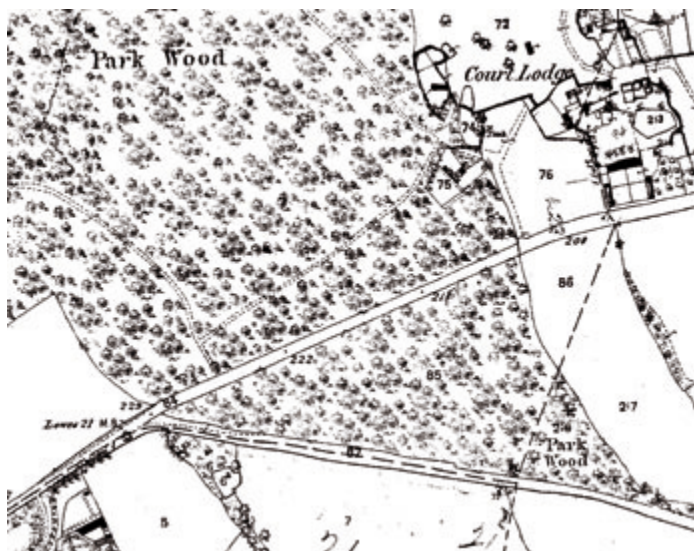
- List of statutory designations - archaeological, ecological and landscape.
- List of known archaeological records for the site from the National Monuments Record (NMR) and county Sites and Monuments Record (SMR).
- Copies of all maps both current and historical, which cover the site.
- The whole of the wood should be walked and all features of interest marked and annotated on a base map at a scale 1:2500. Where possible, a photographic record should also be made.

The information gathered above can then be used in the preparation of a Whole Woodland Plan. An outline format is available from the Forestry Commission web site (www.forestry.gov.uk/ewgs). For further advice, contact the local Forestry Commission officer and the County Archaeologist (see Useful Contacts section). A copy of the report of the archaeological assessment together with all maps should be sent to the relevant county Sites and Monuments Officer for entry on to the Sites and Monuments Record (or the Historic Environment Record). This will provide a permanent record of the wood and its cultural heritage.

2. Marking of features within the wood and informing those working on site

The second stage in the management of archaeological features is to mark them, both on a management map (which is used by those working within the

Example of using historic maps to identify woodland features: Park Wood in the High Weald, shown on the left on the Ordnance Survey First Edition County Series map for East Sussex (25 inch to the mile, 1869-75), and on the right, in a modern aerial photograph (1999). The previously wooded area below the road has been cleared for grazing, with only the standard oaks left.



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Aerial Photography © UKP Licence No. UKP2005/02

woodland), and on the ground when management is to be undertaken. Prior to the commencement of any work, the owner or person in charge should mark on the ground, using coloured flags or similar, areas of archaeological interest which are to be avoided. Those working on the site should be briefed in detail about these sites and provided as necessary with copies of the management maps.

3. Having due regard for features while carrying out woodland management operations

The third stage in managing the cultural heritage within woodlands is to ensure that management operations do not damage site features. The main principle is to **minimise any disturbance** to archaeological sites. Different features may require different approaches to their management and long-term preservation. These management guidelines are described below for each of the main group of features (see also Appendix 2 for flow charts to aid identification of features in woods).

Management guidelines for minimising disturbance to Earthworks

The majority of archaeological sites and features found within woodland are of earthwork form and construction. An earthwork is either man-made or the result of human actions, consisting mainly of an earth or earth-covered structure which is extant i.e. which sits above and below the level of the surrounding land surface. Earthworks survive in a multitude of shapes and forms depending on their origin and the processes which have shaped them (see the Gazetteer of Archaeological Features found within Woodlands).

Linear banks have different profile shapes and sizes

Internal boundary feature with pollarded hornbeam stubs at Denge Wood in the Kent Downs (photo - PM)



depending on their origins and often, 'by rule-of-thumb' the larger and more sinuous the bank, the older it is. For example, medieval wood banks which once bounded ecclesiastical woodlands can reach substantial sizes because the boundary earthwork was regularly restored by lay-brothers. Earthworks can exist as independent features, for example areas of mineral extraction, or be associated with other elements of the woodland such as stubs and hedges on boundary banks.

The main threat to the preservation of earthworks is through the erosion and wearing down of the profiles by other land use activities, such as the passage of vehicles - two and four-wheeled - people, and animals (both stock and equestrian).

All earthworks

Locate footpaths, bridleways, new wood access tracks and other routes away from earthworks. If it is not possible to avoid part of an earthwork, ensure that where the route crosses the feature, the drainage on and around the site is well maintained to avoid waterlogging and poaching. If a new access route is to be made, then an archaeological evaluation and/or watching brief may be needed to record anything of interest which may be uncovered. Advice should be sought from the County Archaeologist who can advise and help with watching briefs and evaluations. Practical help can also be obtained from the relevant county archaeological society or independent archaeological units (see Useful Contacts section).

Avoid taking wheeled and tracked vehicles over earthworks. However, this may be unavoidable in some situations, especially during thinning or felling. Temporary crossing points can therefore be created, by laying brash down across the track to protect the earthwork from erosion and compaction from the vehicles. Once the extraction, felling, etc. is completed the brash can be removed and the area 'made good'.

Boundary earthworks

Avoid erecting fence posts across or along archaeological earthworks, including boundary earthworks. Digging holes or banging in posts damages the structure and any below-ground stratigraphy of the feature. Any new fence needed to protect woodland from stock or to define ownership should be erected on the outer edge of the ditch on the non-woodland side of the boundary.

Management guidelines for minimising disturbance to Living Features

Living features include all forms of veteran trees and other significant trees, which provide evidence for the past land use history of the woodland. Repeated cutting of trees to provide a supply of underwood and timber prolongs their life, and creates aged and veteran specimens. These include ancient coppice stools, boundary stubs and pollards. These trees are vitally important habitat sites for a very wide range of flora and fauna. They are also often highly significant features within the countryside, adding to local character and distinctiveness.



Wood bank and laid hedge at Highfield Wood near Wanborough in Surrey (photo - NB)

In most cases the regular cutting regime has long since been abandoned and the trees are in a state of gradual decay. With careful management and cutting, not only of the specimen but also of the surrounding trees and canopy, these veteran trees can be reinvigorated to extend their lives further and thus continue their role as a significant woodland and landscape feature. Resumption of cutting without seeking advice may actually kill the tree. Advice should be sought from professionals on the suitability and legal status of old trees put forward for re-cutting.

Pollards

To prolong the life of existing pollards, stubs and boundary markers, cut back any competing trees, to leave space for a free, unimpeded crown. These veteran trees need plenty of light to reach their canopy, which is much reduced in comparison with their trunk and root structure. Some old pollards which appear vigorous, with plenty of healthy outer trunk may be suitable for re-pollarding. For detailed advice on re-pollarding see publications produced by the Veteran Tree Initiative⁷.

Some veterans may be too old or decayed to re-pollard successfully. It may be necessary to reduce the height of the tree or size of the crown to prevent wind blow or shattering of the trunk. Decaying trees cut back in this way to make them safe can be left to stand as suitable habitats for birds, bats, and invertebrates. They also remain as landscape features. Consideration should be given to recruiting a new pollard by selecting a young tree and looking to pollard this in the future.

Coppice

Old coppice stools can reach quite large sizes and still be cut back. However, it is essential the coppice area or stool is adequately protected from deer, rabbits and stock which will readily eat the new shoots. Hornbeam

can successfully sprout even after 50 years cessation of cutting, though there may be a delay in regrowth springing up. Old oak stools, where the stem is greater than 20cm diameter at breast height (dbh), may only put forward weak new shoots. Providing a stem is left on a beech coppice stool, the rest will regrow after cutting⁸. If the area of coppice is all of a uniform veteran age, then consideration should be given to establishing new coppice stools from self-sown saplings.

Stubs

Stubs and boundary marker trees can be managed in the same way as old pollards, by keeping competing trees and canopies cut back. Resumption of lopping may also be considered. This is important where an area of over-mature coppice is brought back into active management. Veteran stubs will then be left 'unprotected' by the mature coppice canopy leading to a greater threat from windthrow, and if the stub is on an earth bank, then the resulting root plate will damage the boundary profile.

Hedges

Many wood banks had a laid hedge along the top, which may now have disappeared (due to shading by tree canopies), or become outgrown. It is possible to re-establish a laid hedge on a bank if the trees and shrubs are not too large or mature.

Outgrown, former laid hedges are difficult to bring back into active management as the individual hedgerow shrubs may have reached the size of mature trees, forming a significant landscape feature. Stubbing, pollarding, or careful reduction in the canopy height may need to be considered in order to retain the trees as historical landscape features. Because they are boundary features, more often than not they will have been used as living 'fence posts' and have barbed, or rolled wire, railings and staples 'locked' within the trunk. This



Iron extraction pit in woodland near Penshurst in Kent (photo - NB)

makes managing them at breast height and below with a chainsaw difficult and potentially dangerous to the operator. Therefore, do not attach new stock fences to trees using nails, staples, etc., and do not use living trees as fence posts. Not only does this allow disease into the tree, the metal becomes embedded and is then a danger when using machinery, especially chainsaws or circular saws, to manage the tree.

Before commencing any management work on trees it is essential to check with the Forestry Commission on legal aspects such as felling licenses, and with the local planning authority on Tree Preservation Orders (TPOs). Also check with Natural England and the local Biological (or Environmental) Records Office to see if bat roosts (both hibernation and maternity) may be present. Both bats and badgers, and some species of bird are protected by law⁹.

Management guidelines for minimising disturbance to Water Features

Any feature which holds water on a permanent or

temporary basis is liable to poaching and erosion, not only of the feature itself but also of any accumulated, stratified silts and deposits. The latter is particularly relevant with features such as medieval moats, fishponds and natural water bodies, which have not been disturbed for centuries. Post-medieval ponds and water bodies which have not been disturbed are the sites for future palaeo-archaeological deposits which will 'preserve' the environmental evidence for land use in the post-medieval and modern periods. Water features include ponds, leats, streams, moats and industrial sites. There are numerous origins to ponds in woodland, such as natural or man-made ponds as a source of water, or those arising as flooded mineral extraction pits. Size and shape are very variable.

Water features should be managed in the same way as for earthworks, i.e. minimising disturbance and avoiding walking, driving, dragging or in any way eroding sites. This is especially relevant for those features which may only hold water in winter months, such as drainage networks.

Drainage Networks

The presence of a drainage network in a wood, depends on firstly the ground conditions and soils and secondly, how the wood was managed in the past. It is essential before undertaking any work on the ditches in a wood that the full extent of the drainage network is plotted on a map and studied on the ground (see above). This will provide a clearer picture of how the network(s) - there may be more than one phase or period of system present - operated. Identification of main carriers, and lesser ditches and grips, together with culverts and sump ponds will reveal flow of water, especially where they link with the natural drainage of streams within the wood. It is also important to identify wet boggy and waterlogged areas which are likely to be of high wildlife interest.

Medieval moat at Moat Wood near East Hoathly, in the Low Weald, sympathetically managed by the Woodland Trust (photo - PM)



These may never have been drained in the past or may - due to failure of the drainage network - have become waterlogged or silted up (such as ponds). Some former iron pits in the Weald now support rare communities of bryophytes and invertebrates. Advice should be sought from a professional ecologist on the wildlife present and best way to manage it, with due regard for the archaeology.

Reinstating a drainage system by cleaning it out should only be considered as part of a planting programme. Clearing out of leaf mould and organic debris by hand from ditches will help the movement of water but ditches should not be re-dug as this may cause localised areas of scouring. Use of machines to clean out old ditches is not recommended as this will damage or destroy the original profile. Where grips and drains have become blocked due to the passage of traffic, these should be cleaned out and possibly a culvert or bridge constructed. By maintaining a functioning drainage system, routeways should remain relatively dry, reducing the impact of erosion and braiding of paths.

Ponds and lakes

Wherever possible any pond feature should be retained, as the water body and its margins provide an important wetland habitat. Any built structures, such as sluices, weirs and gates should be maintained, consolidated and kept clear of obstructions. If a public right of way crosses or is adjacent, such structures should be made safe and/or fenced off.

Ponds and larger water bodies such as fish ponds, decoy ponds and hammer ponds will have a large embankment or pond bay, the condition of which should be checked regularly for leaks, cracks and signs of wear. Dew ponds now located in woods are unlikely to hold water or if so very little, due to root damage to the impervious liner by adjacent trees and shrubs. Depending on the condition of the pond and the proposed management of the wood e.g. conversion back to grassland, it may be worth considering restoring the pond as a source of water for animals and stock.

Other water features

Other water features include mill leats, disused canals and remains of water meadows. Where stone, brick, etc., have been used, then the feature should be treated as for built structures. Mill leats and other artificial channels should be treated in the same way as ditches.

Management guidelines for minimising disturbance to Built Structures

Woodlands can preserve a range of built structures in various stages of decay from domestic dwellings to industrial sites. These are not always confined to areas of secondary woodland as sites of ancient origin may also have structures built within them, perhaps just within the woodland boundary, such as hop pickers' huts, small animal barns, etc.

Once the structure has been identified, it should be recorded, and if necessary the brick or stone work consolidated to make it safe. This is particularly relevant if the wood is open to the public. It may be necessary to fence the structure. Repair to built structures is prohibitively expensive and frequently uneconomical. As with all archaeological sites the objective for practical management is to minimise the amount of damage in the future. It is also important to reduce the rate of decay by controlling the amount of scrub growth and root penetration, and consolidating any brick and stone work. All features should be marked on the management map.

Management guidelines for minimising disturbance to Buried Features

Identification of buried features is difficult without detailed archive information, or, as with prehistoric sites, by association with extant features. Areas of archaeological potential should be annotated on the management map and in the Whole Woodland Plan. The area of a scheduled site usually includes a 5 metre buffer zone in which possible buried features may survive. A similar buffer zone should be adopted for non-scheduled sites which are of archaeological importance, such as iron bloomery sites. As with

Former marl pit at Dering Wood in the Low Weald in Kent (photo - PM)





Second World War tank at Broadwater Forest in the High Weald, probably abandoned by the Canadians after military training (photo - PM)

earthworks, minimise disturbance to the site; avoid taking vehicles over it or dragging timber across it. If possible manage the site as a meadow or glade, which will also have wildlife benefits.

Management guidelines for minimising disturbance by Stock Grazing

Grazing of woods by stock may have been a traditional management activity in the past for some woodlands, but it was carefully and strictly controlled by rules and ‘fines’ in order to avoid damage to the timber, underwood, and the potential for regeneration. Stock were generally herded by people and only grazed at certain times of the year or during certain times in the cycle of coppice management. Today, grazing by stock is either unintentional, by allowing fences to collapse and stock to move in, or intentional, by the opening up of woods to stock for shade, or for providing a ‘natural environment’ for free range animals such as pigs. In these cases, damage can take place quickly and be very severe.

Keep all woodland well fenced from domestic stock and equestrians animals. If grazing is to be part of the management of the wood, then only keep stocking density to the very minimum and only allow stock in when the ground conditions are dry. Do not allow poaching or erosion to take place. Where deer are a problem seek advice from the Forestry Commission.

Management recommendations for the general care of woodland

As well as specific management for individual features, there is a general duty of care or stewardship by owners and managers to woodlands in their management. Practically every wood contains some feature of archaeological, historical or cultural interest, part of the ‘story’ of how that part of the landscape was managed in the past.

Preserving the historic outline and name

The wood itself - its shape, its relationship with other landscape features such as hedges, lanes, greens, etc. - can tell a lot about how that particular area has evolved and how it was exploited for timber, underwood and other resources. A woodland shape with, for example, very irregular fields ‘bitten’ into it, would suggest that this is a wood created by ‘assarting’, where fields were created by clearing the woodland, leaving only a small core area (see historic map example, page 17). A regular, straight-edged wood set within a field pattern may derive from former coverts, planted as shelter for game. The name of a wood where it has remained unchanged through the centuries can also give clues as to its past, for example Moat Wood, Mine Pit Copse, Frith or Hurst Wood. Ensure that the historic name of the wood is retained for the future and that the shape of wood is not altered by piecemeal clearance to tidy up boundaries. If a new tree planting scheme is planned, ensure that its design and form is in keeping with the local character and historic form of existing woodlands.

‘Gardenification’

There are two main threats to woodlands where they are in close proximity to domestic dwellings. The first is where rubbish of all forms and in particular garden rubbish are dumped in the wood. In the case of the latter, garden escapes from compost and cuttings can quickly become established and spread through the undergrowth choking out the native ground flora.

The second threat is where a woodland is brought into the curtilage of the house or where the garden is extended into a wood. It is a process which can occur when farmsteads are split and converted into several residences. Adjacent small woods or shaws become subsumed into the garden with undergrowth cleared and many underwood trees removed, leaving a few of the larger, mature trees as a remnant of the wood. The fences and boundaries are also removed and exotic species are planted. The character and ecological diversity of the wood is thus compromised and this may result in the long term felling of timber and eventual loss of the woodland.

The overall aim is to control the regeneration and spread of exotic and invasive species, which can locally dominate the native woodland flora. Notifiable invasive species such as Japanese knotweed, giant hogweed and Himalayan balsam, together with rhododendron, should be strictly controlled, with the aim of total eradication of the former three. Guidelines on how to do this are available from Natural England and the Environment Agency (see Useful Contacts section). Woods adjacent to gardens and domestic dwellings should be retained and managed in a traditional way such as by coppicing. Garden rubbish should be composted in a way that does not allow garden species to spread into woodland.

Summary of Management Guidelines for Archaeological Sites and Features

Minimise disturbance to archaeological sites and features

- Identify and record all cultural heritage features within and associated with the woodland, including scheduled and non-scheduled sites, veteran trees, etc. Seek advice from the county archaeologist and a professional landscape archaeologist with experience in woodland archaeology.
- Produce a Woodland Plan and include an annotated map showing all the features identified.
- Inform all workers and contractors of the cultural heritage of the wood, the location of individual features, and mark out sites prior to operations using posts, tape and/ or flags.
- Prior to undertaking active management within the wood, plan access and extraction routes, timber storage and refuelling areas to avoid archaeological features and sites.
- Avoid taking machinery over earthworks or buried sites. If this is unavoidable, select one key area and cover with brash or other protective material. Remove after use. Avoid using such an area when the ground conditions are wet or after periods of heavy rainfall.
- Ahead of tree planting, avoid ground preparations over archaeological sites including drainage works, scarifying, etc. Do not plant trees on such sites but manage as open glades. Avoid scrubbing up by cutting the vegetation or using an approved selective herbicide. Discourage burrowing animals without disturbing the ground surface.
- Site recreational facilities including paths away from archaeological sites. Maintain existing routeways, restore any drainage channels and reinstate any eroded paths with a suitable covering.
- Clear tree and shrub growth away from veteran trees such as pollards and stubs; maintain these features within the wood; reduce height if in danger of wind throw after felling of adjacent woodland. Where feasible, recruit new pollards into the woodland structure.
- Maintain, and if possible restore any water features, having due regard for the archaeological potential of any accumulated silts and deposits. Do not drain any wet, mirey areas which are not on public rights of way.
- Fence and where possible restore traditional coppice management of small woods and shaws which are grazed by livestock. Allow natural regeneration from the seed bed. If it is necessary to replant, use saplings grown from local, native seed stock.
- Where hedgerows are the usual boundary feature, re-introduce traditional hedge management techniques either through laying or coppicing. Where possible, re-stub boundary marker trees.
- Do not use metal detectors on archaeological sites.
- If archaeological remains and finds are discovered while working, leave them undisturbed and make a report to the County Archaeologist. Finds have a greater significance when left in place. If removed from context they can become meaningless.

Statutory Protection of Archaeology in Woodland

Scheduled Ancient Monuments

Archaeological sites and monuments which are recognised as being of national importance are protected under the Ancient Monuments and Archaeological Areas Act (AMAAA) 1979 (currently under review). Owners of Scheduled Monuments must protect them from any potentially damaging operations. These sites can receive grant aid towards their management in the form of management agreements under section 17 of the Act. It is against the law to use metal detectors on a scheduled site (see below).

Most extant prehistoric features in woodlands are scheduled, as are medieval moats, settlement sites and nationally important industrial sites. However, many woodland archaeological features are not protected. Their preservation relies on good 'best' forestry practice following the UK Forestry Standards and guidelines (see Appendix 1). Where such sites occur in National Nature Reserves (NNRs), Sites of Special Scientific Interest (SSSIs) and Sites of Nature Conservation Interest (SNCIs), then management for nature conservation could accommodate the management of such features. The objectives for these sites are for the improvement and maintenance of wildlife habitats, but any works should be tailored to minimise damage to archaeological sites. For example, the creation of glades and rides could coincide with archaeological sites, keeping them free from scrub encroachment and trees. Where natural regeneration is proposed this should be kept clear of known archaeological sites. This will provide diversity of woodland habitat whilst minimising disturbance to the site from tree growth. However, this approach requires the managers of reserves to have an understanding and knowledge of the cultural resource on their property. There is an increasing trend towards the use of grazing as a means of management on woodland reserves. The full implications of such an option should be seriously considered, not only for the ecological functioning of the site, but also for the impact on any archaeological features.

Use of Metal Detectors

Recovering archaeological artefacts using metal detectors can damage archaeological sites. Removal of artefacts out of their context diminishes the understanding that can be gained from studying an artefact in situ. Removal can also damage the integrity of features associated with the site, including any stratified deposits. Removing archaeological artefacts without recording the object, its location and context, and inadequate conservation of the artefact and subsequent loss to the public domain are equally damaging. The information that could have been obtained using professional guidance and 'best archaeological practice' is then lost forever. This also

follows for field-walking (collection of material from the ground surface). The use of metal detectors in woodland should be actively discouraged unless it is part of an approved archaeological assessment with a prepared brief, and clear structures in place for the conservation, recording, interpretation, and preservation of all finds, and which meets best and current archaeological practice. Metal detectors used under these conditions can contribute significantly to knowledge about a particular site.

The use of metal detectors on schedule sites is prohibited by law, without a licence issued from the Secretary of State. It is also an offence to remove from a scheduled site any artefact or object discovered using a metal detector ¹⁰.

The National Trust along with other similar trusts and public bodies do not permit the use of metal detectors on their land without consent from the appropriate managers ¹¹.

On private land, the owner's consent must be obtained in writing. A woodland owner, approached by a request to use a metal detector, should ensure that the individual or group belongs to the National Council for Metal Detecting, which has a Code of Conduct to which all members must adhere. Any other requests should be refused. Further information is available from the web site of the Portable Antiquities Scheme.

However, any stray surface finds found on a property should be taken to the county's Small Finds Liaison Officer (Portable Antiquities Scheme), for identification, record and advice on preservation (see Useful Contacts section).

Forestry Commission English Woodland Grant Scheme

In 2005, the new English Woodland Grant Scheme (EWGS) was launched, replacing the previous Woodland Grant Scheme. The Scheme comprises six parts (see Appendix 1), and includes grants for the preparation of a Woodland Plan and one for undertaking more detailed assessments of a site prior to undertaking active management, including 'historic and cultural assessments'. For further information and an application pack, visit the Forestry Commission web site (www.forestry.gov.uk/ewgs).

UK Forestry Standard Notes and Guidelines

The UK Forestry Standard sets out the Government's approach to sustainable forestry and standards for best practice ¹². It covers all aspects of forestry management. The Standard Notes are supported by published guidelines on 'best practice'. The Forestry Commission's guidance on Forests and Archaeology is currently under review and due for re-publication ¹³.

Footnotes

¹ Forestry Authority (1998) The UK Forestry Standard. The Government's Approach to Sustainable Forestry. DANI. Forestry Commission, Edinburgh. 2nd Ed. 2004

² Forestry Authority (1995) Forests and Archaeology Guidelines (currently being updated). Forestry Commission, Edinburgh

³ Forestry Authority (1998) The UK Forestry Standard. The Government's Approach to Sustainable Forestry. DANI. Forestry Commission, Edinburgh. 2nd Ed 2004

⁴ Forestry Commission 'Woodland Plan'. An outline structure and guidance is given on the Forestry Commission web site (www.forestry.gov.uk)

⁵ The Association of Small Woodland Owners (see Useful Contacts section)

⁶ RCHM(E) (1999) Recording Archaeological Field Monuments. A

Descriptive Specification. English Heritage. National Trust (2000)

Archaeology and the Historic Environment. Historic Landscape Survey Guidelines. Estates Dept Archaeology Section Cirencester. English Heritage

⁷ English Nature (2000) The Future of Veteran Trees; English Nature (1999) Guide to the care of ancient trees; Read, H.J. (1996) Pollard and Veteran Tree Management. Corporation of London.

⁸ Forestry Commission (1994) Forestry Practice Guide 1 Lowland Beech-Ash Woods

⁹ The Wildlife & Countryside Act 1981; Countryside and Rights of Way Act 2000

EC Council Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora, 1992

¹⁰ The Ancient Monuments and Archaeological Areas Act 1979; The Treasure Act 1996 Code of Practice (England & Wales) Dept of National Heritage 1997

¹¹ National Trust (2002) The National Trust and the use of Metal Detectors. A Position Paper, Policy & Guidelines

¹² Forestry Authority (2001) The UK Forestry Standard. DANI

¹³ Forestry Authority (1995) Forests and Archaeology Guidelines. Forestry Commission, Edinburgh

*Sunken trackway alongside Broadham Wood, near
Kilndown in the High Weald (photo - PM)*

