Forestry Commission
England

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So, you own a woodland?

Getting to know your wood and looking after it

Forestry Commission
England

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Foreword

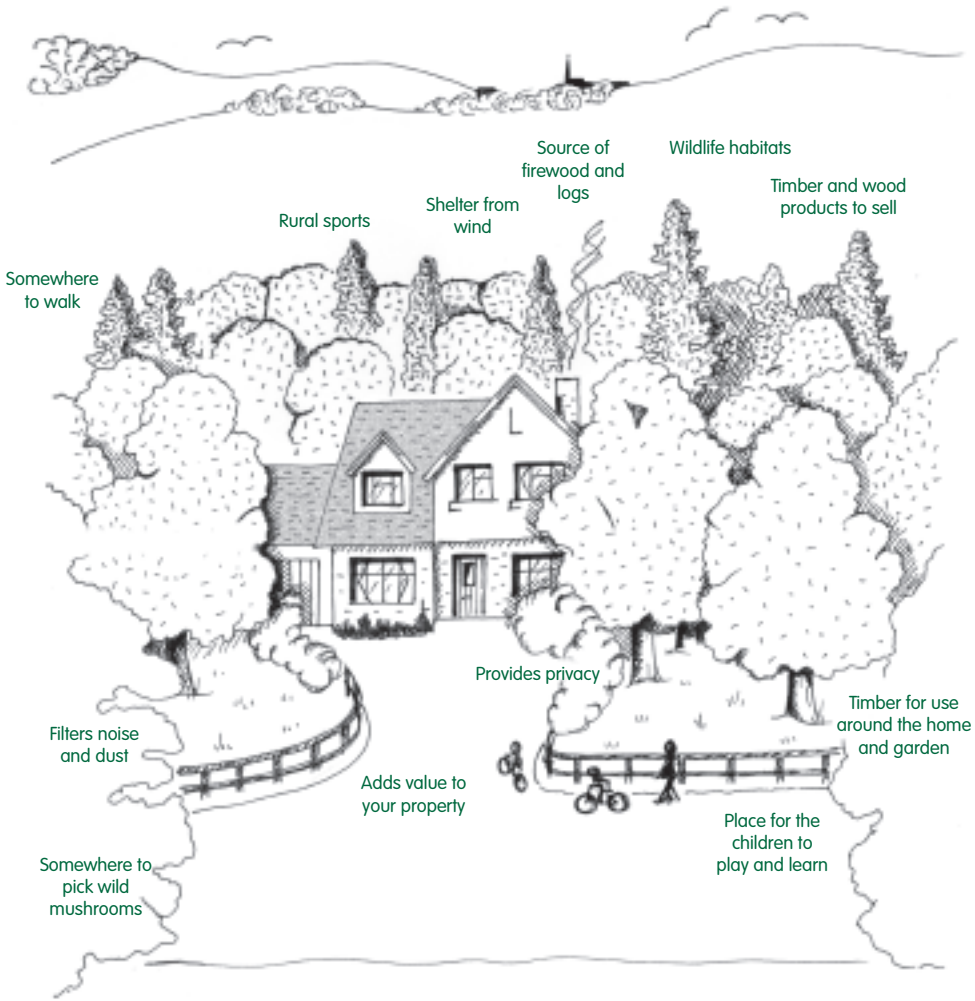
England's woodlands are rich and varied. Some are on large estates, but many form part of smaller holdings. These woods are likely to have been managed more intensively in the past than they are today. When the owners of these small woodlands come to the Forestry Commission for advice, we find that they have a real diversity of experience and objectives. Some have had the woods in their families for generations, while others bought the wood along with their property. Increasingly we are seeing interest in the purchase or planting of woods by those with little or no experience of land management.

Each of these owners has a part to play in caring for the country's woodland heritage. According to our National Inventory of Woodlands and Trees, there are more than 40 000 small woods (of less than ten hectares) in England, which together make up 17% of England's woodlands. That's a significant area – and the contribution that these woods make to the English landscape is even bigger than their combined area would suggest. These smaller woods can also play a vital part in the conservation of biodiversity and many contribute to people's enjoyment as they walk in the countryside.

This booklet is for the owners of woodlands and is of particular relevance to those with small woods in the lowlands. It is aimed at owners who would like to know more about their woods, and how to look after them better, but who may not know where to start.

It gives me particular pleasure to note that the first edition of this book, which was developed in South East England and which I launched in 2002, has proved extremely popular with woodland owners. I trust that this third edition will have a similar appeal across the whole country. I hope that you will find it both useful and accessible, and that it will deepen your interest in, and enjoyment of, your wood.

Lord Clark of Windermere
Forestry Commission Chairman



Introduction

Having your own wood amounts to much more than just owning a group of trees – as you are sure to have discovered already. The illustration opposite highlights just some of the many benefits that a wood can provide.

To maintain and enhance these benefits, there is a good chance that it will need some help. You may already be keen to go out and do lots of work in the wood – so please read on for practical advice on the best way to care for your wood and the sources of help that are available. A small booklet like this cannot provide all the answers but it does highlight key issues to consider.

Many people, though, think that woods are better left untouched, and that a wood left to nature becomes a haven for wildlife. But there are lots of simple things that you can do to make it a better place to visit, to attract more wildlife and to contribute to its upkeep.

So why is it that woods need our intervention to make them better for wildlife? Before man arrived on the scene, forests covered much of the land. There would have been a mosaic of habitats within the forest, as saplings and young trees grew into the gaps created by storms or disease. Wildlife could move through the forest to suitable new habitats as old ones disappeared. The small, fragmented woods that survive today are not big enough to develop this range of habitats naturally. Sensitive management maintains this diversity of habitats, and this allows our native woodland plants and animals to survive and thrive.

Traditional management practices have not only provided supplies of timber and coppice products but have maintained habitat diversity in our woods over many centuries. Now such activities are in decline, but some of our best-loved woodland wildlife depends for its survival on woodland management – woodland wild flowers and butterflies flourish in these traditionally managed woods. By leaving dead wood and old trees, birds like woodpeckers, lots of interesting beetles and a range of fascinating fungi can be encouraged too.

But remember:

No two woods are alike. This booklet does not attempt to cover all the options; it is primarily intended to help you look at your wood in a new light, and consider ways of improving it. The old adage 'a little knowledge is a dangerous thing' is never more true than in woodland work, especially where equipment such as chainsaws are involved. Felling, for example, is an operation that should only be undertaken by someone trained in chainsaw use, preferably an experienced local contractor. Before beginning any major work, you are advised to contact a professional woodland manager who can also advise you about felling licence requirements and other legal responsibilities you have as an owner towards endangered and protected species such as bats and badgers.

Getting to know your woodland

The first step in managing a wood is to have a really good look at it. A wood is much more than just a collection of trees – and variation in all of the following characteristics is what makes your trees into a unique woodland.

Tree and shrub species

As anyone who visits woods will know, there is a huge difference between a beech wood in spring, as the delicate green leaves start to filter the sunlight, and a shady, cool pine wood with a carpet of springy needles beneath. The first is an example of a deciduous or broadleaved woodland, and these are often composed of a mixture of different species, depending on what suits the soil, and what has been added by planting. The second is a conifer wood, and in the lowlands most of these will have been planted for timber, though pines will spread naturally onto former heaths.

There are numerous books which can help you to identify the main tree and shrub species, and two of these are listed under 'Publications and websites' on page 34.

Structure

An older wood will often have vegetation in all layers from what is called the top 'canopy' through to sub-canopy layers, down to shrubs (the understorey) and plants on the ground (the ground flora). In reality, many woods do not have all these layers. At the base of the trees the leaf litter includes many fungi which break down the dead leaves and fallen wood to return the nutrients to the soil.

Open space

Another way that woods vary is in the amount of open space that exists within them – and hence the amount of sunlight that reaches the woodland floor. In some woods the only openings in the canopy are the little spaces between the leaves. Larger open spaces can be found in the form of rides, glades and ponds. Open space within the wood favours woodland-edge plants and their associated insects, birds and animals. Much of the flora and fauna in a wood lives in the first 10 metres from the woodland edge, so maintaining open space enhances its value for wildlife.

The age of the trees

Woods have different age structures as shown in the following two diagrams.

Uneven-aged woodland – many wildlife habitats because of high diversity

Even-aged woodland – tidy but of low diversity

A tree does not stop being part of the woodland ecosystem just because it is dead – a dead oak can supply a valuable rotting wood habitat for insects and fungi for more than a century after it dies.

History

Adding a whole different dimension to the wood is the history of the site. If the site has always been wooded then it will have had the chance to be colonised by the richest possible range of native plant species. These woods will also have been managed in traditional ways, such as by coppicing, and this means that today they can be very valuable for wildlife. In these woodlands, termed Ancient Woodlands (described in the box below), you will often find bumps and hollows giving evidence of past boundaries, tracks or workings.

The best way really to get to know your wood is to ask an expert to do a survey. This can then lead to a management plan, which will suggest the most appropriate activities for your wood. The Forestry Commission may be able to contribute to the costs of the management plan. Such a grant would need to be agreed in advance, so contact your local Forestry Commission office for details (see page 33).

Ancient Woodlands

Sites which have been continuously wooded for at least the past 400 years are described as Ancient Woodland. These are shown on our earliest reliable maps. Many of these woodlands will be much older and some will be directly descended from the 'wildwoods' that covered Britain at the end of the last Ice Age. Woodland which is still composed of species native to the locality is termed 'Ancient Semi-Natural Woodland' (ASNW). Those sites that have been managed as plantations, often with conifers, are called 'Plantations on Ancient Woodland Sites' (PAWS). ASNW makes up about 18% of England's woodlands, with an additional 13% being PAWS. Though felling of trees within these woodlands may have taken place many times, ancient woodland sites are, by definition, irreplaceable.

1 Mature oak tree
2 Young ash tree
3 The canopy of the wood
4 Understorey of shrubs
5 Ground flora, here thriving in sunlight reaching the woodland floor

Improving your woodland

Now that you have had a good look at your wood, you may find that there are some improvements that can be made. The descriptions below aim to give you general ideas, and prepare you for some of the terms used by woodland managers and contractors.

Other books are available which can give much more detailed advice and some of these are listed under 'Publications and websites' at the end of this booklet.

The aspects of management described on the following pages are some of the most important things to consider in small lowland woods. Many of the practices described have been carried out for centuries and have been shown to lead to improvements in the wildlife value of woods, and in their capacity to produce timber.

Managing woodland tracks

Many woods lack open space and sunlight on the woodland floor, so flowers and butterflies that favour open-space environments at the woodland edge cannot thrive. One of the simplest things you can do is to look for old woodland tracks (often called rides) or glades, and open them out. To let in maximum light with minimum tree felling, concentrate on any rides running in a generally east–west direction, because they get more sunlight. The diagram on pages 12 and 13 gives an idea of the layout of an 'ideal' ride and shows you how to manage it to benefit wildlife.

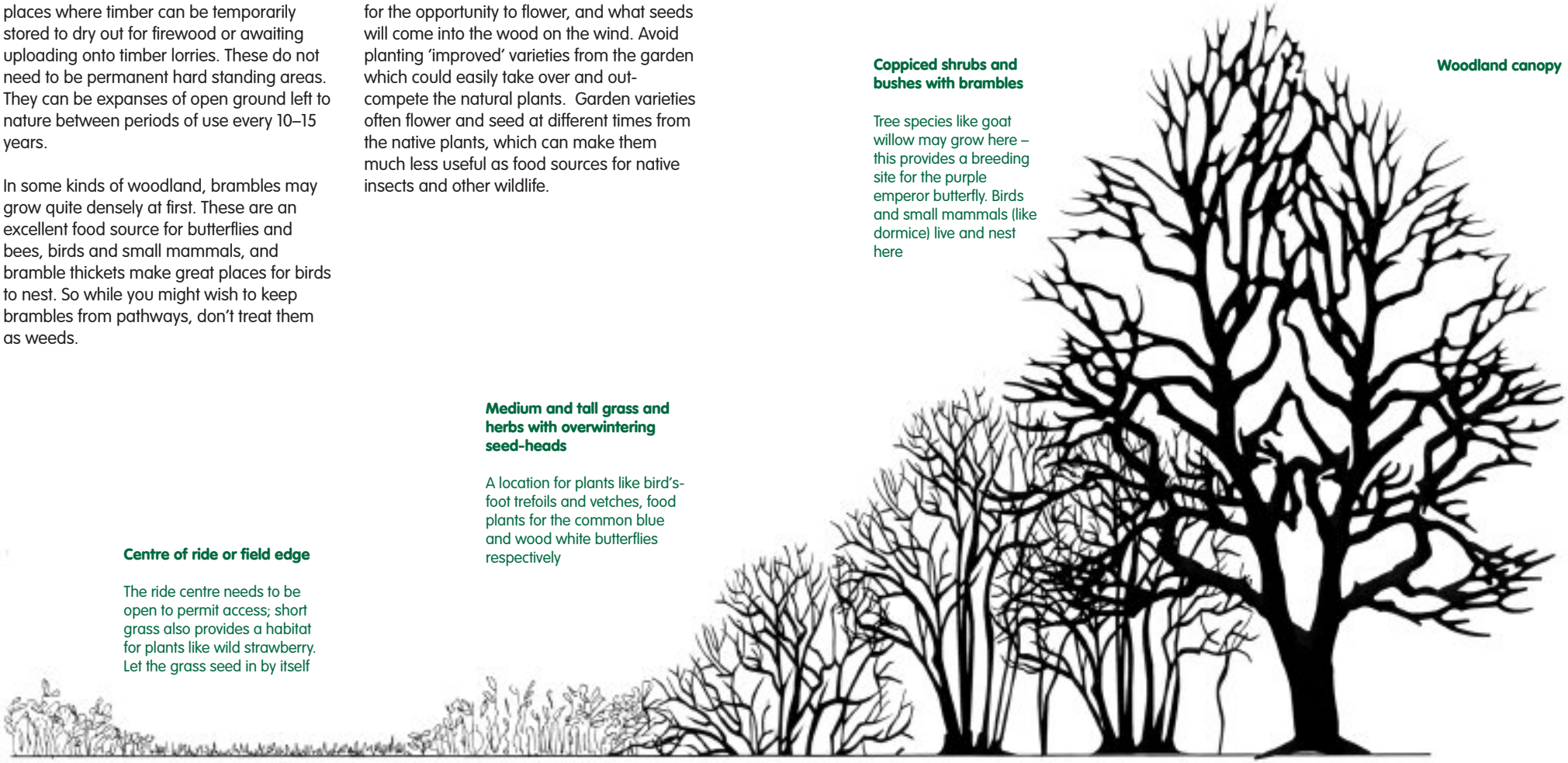
You should find that the sunny ride edges quickly develop grasses and a range of plants that are scarce or not found elsewhere in the wood. These might include violets, primroses and red campion or, on sandy soils, heathers and bilberry. Shrubs such as goat willow may grow on ride and glade edges; this is a food source for many butterflies and other insects.

Another benefit to opening up the ride system is that access for management is greatly improved. Wet rides soon become heavily rutted and sometimes unusable when traversed by today's low-impact timber-harvesting machines during winter months. Even small-scale work requires access usually by four-wheel drive vehicles. Providing drier rides will attract coppice workers and firewood contractors to work in your wood.

Another important aspect often overlooked is the need for off-road stacking of produce, places where timber can be temporarily stored to dry out for firewood or awaiting uploading onto timber lorries. These do not need to be permanent hard standing areas. They can be expanses of open ground left to nature between periods of use every 10–15 years.

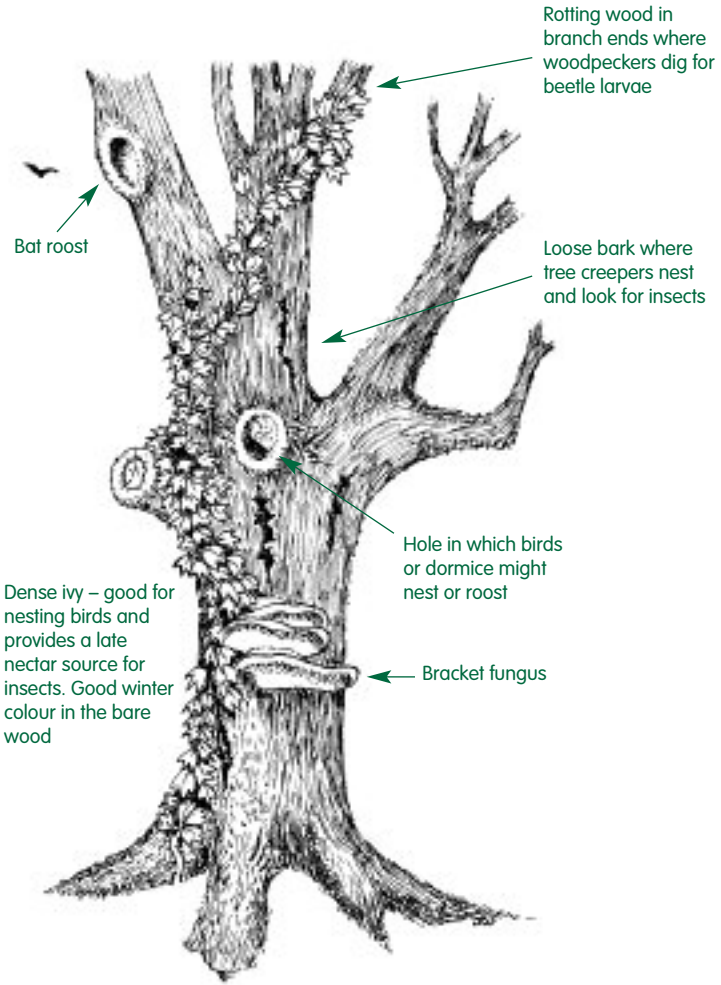
In some kinds of woodland, brambles may grow quite densely at first. These are an excellent food source for butterflies and bees, birds and small mammals, and bramble thickets make great places for birds to nest. So while you might wish to keep brambles from pathways, don't treat them as weeds.

You will be surprised to see what natural bulbs and seeds are waiting in the ground for the opportunity to flower, and what seeds will come into the wood on the wind. Avoid planting 'improved' varieties from the garden which could easily take over and out-compete the natural plants. Garden varieties often flower and seed at different times from the native plants, which can make them much less useful as food sources for native insects and other wildlife.



Dead wood and old trees

Try to resist the urge to 'tidy up' the wood; dead wood and dying trees are very useful as homes for a large range of wildlife like bats, fungi, lichens and mosses. Around a third of woodland bird species nest in holes in trees, insects such as the rare violet click beetle are found in hollow trees, and birds such as woodpeckers feed by seeking out insects under bark. Dead wood is not a threat to the health of the remaining trees.



Standing dead trees provide a different kind of habitat from dead wood lying on the woodland floor, and it's not just completely dead trees which contribute. As trees reach old age, rot-holes, hollow trunks and dead branches all start to make these 'veteran' trees more interesting as habitats for wildlife.

If you have very old trees or dead trees in your wood, and they are not posing imminent danger to people or property, i.e. not standing near a footpath, building or road, then leave them to decay naturally. Ancient hollow trees are particularly important features to retain. Even if your wood has no old trees, dead branches in the crowns are a useful habitat and should, if possible, be left. If there is not much fallen dead wood, you could create 'habitat piles' – piles of cut wood stacked in a shady area of the woodland and left to rot away.

If you really can't resist the urge to tidy up, remember that it's better to stack dead wood into neat piles and leave it in the woodland than to remove it altogether. Of course these piles should not be your firewood stores because you could burn all the creatures that are sheltering there.

Another feature of woods that many people try to control is ivy on trees. Contrary to popular belief, ivy does not strangle or damage trees, and should be left on the trees to provide nest sites, winter shelter and food for birds and insects.

Remember, you may want to keep your garden 'spick and span' but natural processes are worth encouraging in your wood. Intensive care of a wood is not necessary and may be harmful.

Establishing new trees

Encouraging mature, dying and dead trees in the wood is good, but you will also need to consider the other end of the age spectrum, the new trees. As well as being the next generation to ensure a constant supply of middle-aged and older trees, the dense growth of young trees makes a valuable habitat in its own right. Establishing new trees can make the wood look more interesting, and in some cases may be desirable for introducing different tree species.

New trees can be allowed to grow naturally from seed, or you can plant them. Using natural processes ensures that the trees which develop will, like their parents, be well adapted to the local environment and so should do well in your wood. However, rabbits and deer can cause a problem by eating your tree seedlings (see page 8).

If you need to plant trees then it is usually best to use stock sourced from parent trees in your local area. There are several stages involved in tree establishment; here are some tips to help ensure success.

• Clearing space for the trees

You may already have some space in your wood where you want to establish new trees, for instance areas covered in bracken. But, as described earlier, some open space is valuable, and ways of managing edges have already been described. If you do not already have spaces, and your wood is lacking in young trees, space can be created by felling.

To give the trees enough light and moisture to grow, the establishment area should be at least twice as wide as the height of the surrounding trees. Keep the shapes of clearings natural and in keeping with the landscape. Young trees should always be planted outside the canopy of existing trees – they like neither being too dry, nor being dripped on after rain, but do need a lot of light.

Felling is something that should be undertaken by a professional, and you must also consider whether you need consent from the local authority or a felling licence from the Forestry Commission (see page 31). Local contractors may also be able to help find markets for the timber, thereby reducing the cost of the operation.

• Choosing the species

If you are planting, you have the option of choosing the species you want in the wood. The table on page 29 gives guidelines on choice of species, and there are many publications that can give you further guidance; some of these are listed under 'Publications and websites' in the information at the end of the booklet. In general, if you are looking to improve wildlife habitats, aim to choose species which are native to your locality. Looking at those already growing in your area will give guidance on which ones do well.

If you are lucky enough to have an ancient semi-natural woodland, resist the temptation of introducing any new species. Instead, try to improve the conditions for this to occur naturally.

Of course different tree species will vary in their suitability for factors such as timber production or firewood use. Amongst our native species, oak, ash, cherry and beech are renowned for their timber qualities. Sycamore and sweet chestnut, though not native, are also highly valued, but the general view is that non-native species like sycamore should not be planted in ancient woodlands where they can out-compete native species. Most species of tree are suitable for firewood once they have been cut and dried for a year or two. Our forebears would have had a use for most species of tree, whether it be hazel for beanpoles, hornbeam for chopping blocks, alder for clogs or birch for brooms.

Conifers generally grow faster and produce more timber than broadleaves, so can be valuable as crops. They can also help to provide shelter and visual diversity in winter when other trees have lost their leaves. Felling licence regulations, however, nowadays prevent the conversion of broadleaved woodlands to conifer woodlands, so these can only be planted as replacements for other conifers. An exception to this is the native yew – a species which was venerated in the past, and will produce valuable timber in the future. In Ancient Woodlands it is often desirable to replace any conifers felled with native species as a means of improving the woodland habitat for the native flora and fauna. Native flora will often quickly re-establish itself from seed deposited in the soil long ago before the conifers were planted. It often only needs the extra light and disturbance that the tree felling will provide to re-establish native plants that were thought to have gone long ago.

• Planting

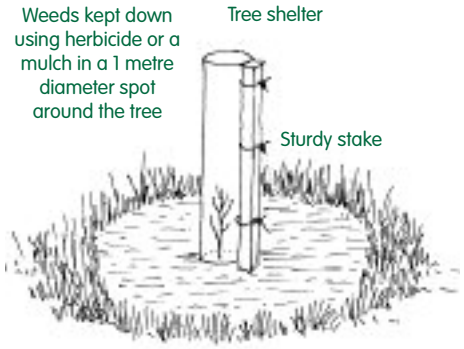
Surprisingly, it is best to avoid planting large trees. The best trees to plant are bare-rooted trees, up to 60 cm high, obtained from a reputable forestry nursery. Your local Forestry Commission office can supply lists of such nurseries. The trees should be handled carefully and the roots should not be allowed to dry out or become damaged. Once planted, the soil should be firmed around the roots using, for example, steady pressure from the toe of your boot. Planting should, ideally, take place in the autumn although spring planting is possible providing it is done while the tree is still dormant, before the buds start to open.

• Protection and weeding

Your new trees will be very attractive to animals looking for tasty young growth to browse – rabbits and deer are likely to eat your trees within months of planting if they are not properly protected. In small areas of planting, the most cost-effective form of protection is usually a tree shelter. At least 1.2 metre high shelters are necessary to protect against muntjac and roe deer, and for red, sika and fallow deer, 1.8 metre high shelters are needed.

Tree shelters not only protect the trees but also serve to mark them when brambles and weeds grow up around them. The shelters should split open as the tree grows, but it may be necessary to slit them with a knife after a few years to avoid constricting the tree. Leave the split shelters in place for 7–8 years to protect the trees from 'fraying' (deer rubbing) which can occur for some years after planting.

Weeds compete for water and nutrients, so the new trees need to be kept free of weeds, especially grasses, if they are to establish successfully.



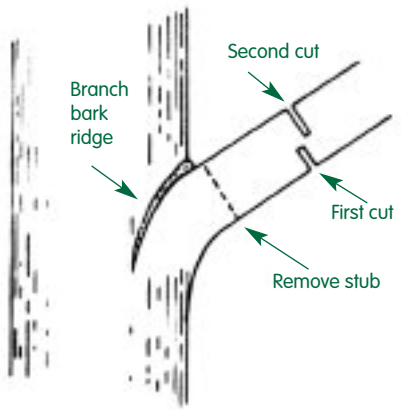
Aim to keep a weed-free spot of at least 1 metre diameter around each tree from April to August. The cheapest way of doing this is by using herbicides. The tree shelter has the added benefit of preventing spray drift from reaching the young tree. Always read the instructions on the label before using any chemical and if in doubt seek professional advice.

If you prefer not to use herbicide, you could mulch the trees with wellrotted bark, or with plastic sheeting held down with turves. Surprisingly, strimming, mowing or hand weeding close to the trees is not a good way to care for them. Not only is there a high risk of damage to the trees, but grasses and weeds grow back more vigorously after this treatment and compete even more strongly for nutrients and water.

Weeds need to be controlled for at least three years after planting, or more if the trees appear to be struggling to establish.

• Pruning

The most valuable trees for timber are those where the trunk is perfectly straight and branch free. To achieve this, either the trees must be allowed to grow extremely densely, or you can remove unwanted branches with secateurs while the branches are very small, i.e. not thicker than a finger. For larger branches use a saw or loppers; remove the weight of the branch first, before removing the stub, as shown in the diagram. This helps to avoid tearing the bark below the cut.



Even if timber is low on your list of priorities, there is no reason why some of your trees cannot be cultivated in this way (maybe 100 per hectare). Eventually this could yield a valuable resource for which your descendants may thank you.

Coppicing

We often hear that coppicing is good for wildlife. So, should you coppice your wood? When you coppice, you cut down to ground level all of the multi-stemmed broadleaved trees and shrubs in a block. The stumps or 'stools' shoot and in 5 to 20 years produce a crop of poles that is cut again.

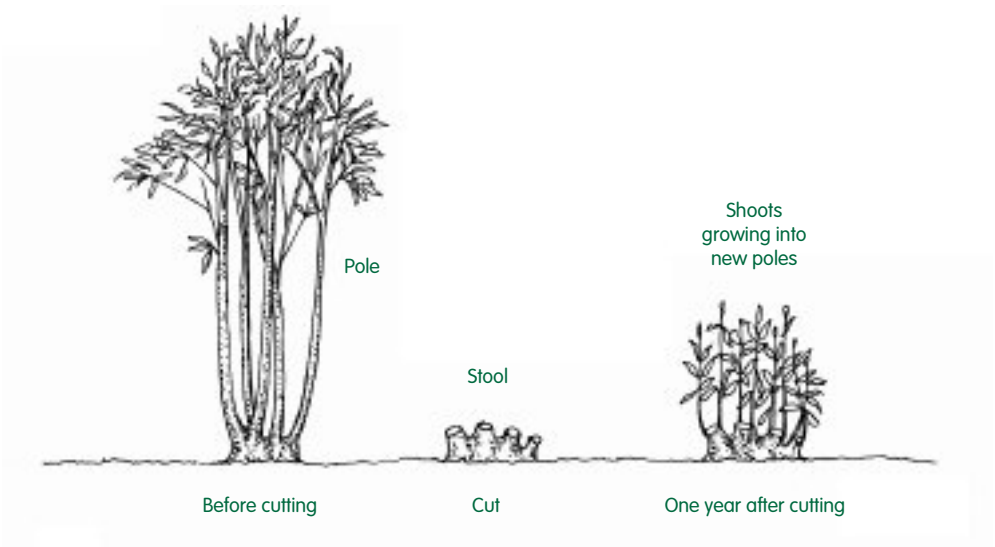
Coppicing creates ideal conditions for some wild flowers in the first few years after cutting – the sudden influx of sunlight can stimulate a wonderful display. As the coppice grows and becomes denser, good conditions for nesting birds are created.

Many old woods were managed as 'coppice-with-standards'. This is where the coppice, for example hazel, forms an 'underwood' below large standard trees such as oak or ash. Such woods have often fallen into neglect, since many of the traditional markets for their products have been lost.

If you have such a wood, you could consider restoring traditional management practices. However, coppicing is only appropriate for woods that have been managed in this way in the relatively recent past – in the last 60 years or so. Woods that have not been coppiced for a very long time or have never been coppiced may be best managed in other ways.

To bring such a wood back into good heart, the standards will probably have to be thinned out to let more light down onto the underwood. To give the underwood sufficient light, the standards should form a scattered canopy covering not more than a fifth of the area – up to about 20 mature standards per

hectare, with some 20 other young trees

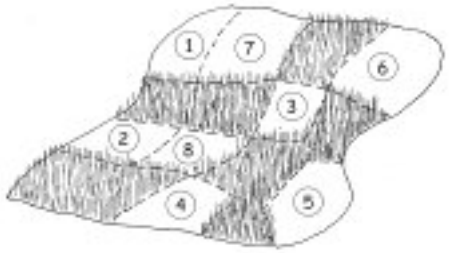


being brought on to form the standards of the future. The underwood can then be coppiced in blocks (variously known as coupes, cants or parcels) to establish a chequerboard pattern throughout the wood, which wildlife will follow.

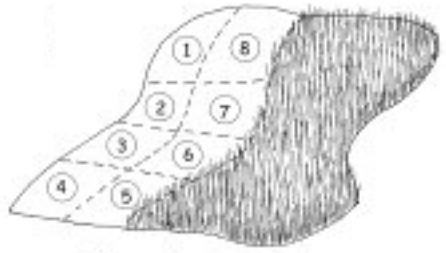
The coupes should not be too small or the coppice will be shaded. In addition, if small coupes are not adequately protected from browsing (see page 21) they are, in effect, secluded 'salad bowls' for deer to enjoy! As a rough guide, coupes should be between 0.25 and 1 hectare in size, but take up not more than a fifth of the wood at one time. An ecological survey of the wood will help you to decide which pattern of coppicing and length of coppice cycle are most appropriate for the species in your wood.

When considering coppicing a new area, inspect the adjacent woodland. If it is very dark and has not been thinned for quite a while, it would help to let as much light in from the sides as it does from directly above the coppice by thinning the adjacent woodland (see page 23). A small coupe in an otherwise dark woodland will not have sufficient light to grow well. For this reason it is often better to cut your first coupe on a ride edge, opening up the ride at the same time to provide easy access plus the added advantage of extra side light.

From the above description, you will see that to restore such a wood is a major undertaking, and will completely alter the 'feel' of the wood. It may be a good idea to have a look at some restored coppice woods before you take the plunge with your own wood. Your local Forestry Commission office may be able to direct you to such woods in your area.
Even if your wood seems ideal for coppicing, the problem of browsing should not be ignored, particularly in lowland woods. Deer



Eight years of coppice cutting spread through the wood: species like dormice can still move between suitable sites without descending from the trees



Eight years of coppice cutting in neighbouring areas: better for species like fritillary butterflies with poor colonising ability

and rabbits love to browse new coppice shoots and repeated browsing will kill even a large, ancient coppice stool (stump) within a few years. Unless the local rabbit population is very high, however, it is generally deer that cause the biggest problem, simply because they are taller and the coppice takes much longer to grow beyond the reach of their mouths.

Many parts of the country have high deer populations and even those with few deer are unlikely to remain this way for long, so it is not advisable to consider coppicing without putting in place adequate protection for the stools. The most effective form of protection is a deer fence, and temporary fences can be put in place for three years or so until the regrowth is taller than 1.5 metres. The Forestry Commission has a helpful leaflet on deer fencing (see 'Publications and websites' in the information at the end of this booklet).

An alternative that many people use is dead hedging (making a fence with the cut coppice tops or brash) or piling light brash over each stool. Unless a great deal of effort is made to form a barrier that will be effective for three years or more, such methods are not to be recommended. Furthermore, such piles of twigs can form excellent hiding places for rabbits to feed on the coppice in relative safety. If you plan to pile brash around individual stools, remember that the ground flora between the stools has no protection and is likely to be eaten. In time interesting species like orchids and wild daffodils can disappear, thereby negating some of the beneficial effects of your work.

Ideally, control of rabbits and deer should also be carried out. This should be considered and undertaken in co-operation with neighbours across the feeding range of the animals. If you are in any doubt about whether coppice will be damaged, seek advice from your local Forestry Commission Woodland Officer, or avoid coppicing altogether.

Thinning

In many woods, the trees are growing so closely together that very little light gets to

Using products from your wood

Using or selling products from your wood is an excellent way to offset some of the costs of management. To have value as timber, trees must generally be very straight with much of the trunk free of branches, knots and rot. They must also be accessible from a road or good track. If you have such trees then selling some of them could be worth a try. Timber marketing is a relatively complicated business and it is worth engaging an experienced contractor or agent to help. There are also publications where you can advertise small amounts of timber for sale.

Given that most trees are of low commercial value, the best way of using them might be for the benefit of your own property. Not only can this be a sustainable use of local resources, but it can be a relatively cheap source of quality materials. Sheds and barns might need repairing, or you could use the timber in fences, gates and stiles. A good way to do this is to engage a contractor to fell the trees and then bring a mobile sawmill to the site to produce planks and beams. Even if you don't have trees worth sawing into planks, you can save yourself money by using other woodland products such as beanpoles and peasticks. It may not save you a fortune, but using sustainable products from your own wood will be very satisfying.

In recent years wood-burning stoves have become more common. These are much more efficient in producing heat than an open fire. As energy prices rise, then the attractions of wood become ever more apparent and with just two or three hectares of woodland it should be possible to obtain enough of a sustainable yield of firewood to heat a family home. Owners of larger woodlands may find that the energy market will provide good financial returns, but this will often involve the industrial production of wood chips or pellets needed in larger boilers.

the woodland floor. In some types of wood this is good for the species living there, but in many others, it means that few herbs and shrubs can survive and the wood looks dark and uninviting. The trees are all competing with each other for light and they often become tall and spindly.

Thinning removes the less healthy or less desirable trees and gives the remaining trees more space to develop. It also allows light to the woodland floor, encouraging an 'understorey' of small plants, shrubs and trees to grow. Thinning occurs naturally in a wood as weaker trees die, and your involvement should be seen as 'working with nature'. The art of the forester is to change the light levels to the benefit of the understorey and ground flora, to allow the remaining trees to develop better crowns but without letting in too much wind, which may cause damage.

To find out if your wood might benefit from thinning, stand in the wood when the leaf is on the trees and look upward. If the canopies of all the trees are touching, and you can see very little sky, then it may well be time to do some thinning. In a well-managed productive forest, thinning is an operation that is carried out at regular intervals throughout the life of the trees: maybe every 10 or 15 years for broadleaved trees, and more often for conifers.

Thinning is an operation for a professional to undertake, and you should engage a reputable contractor if you think that your wood needs thinning. Take your contractor's advice about the timing of the work; generally the bird nesting season (end of March to July) should be avoided, and when ground conditions are very soft work will need to stop. You will probably need a felling licence from the Forestry Commission if you want to thin – see page 31.

Invasive plants

Certain plants are unwelcome invaders of our woods. One of the most damaging, and unfortunately most common, is rhododendron (Rhododendron ponticum). This is the mauve-flowered variety that can spread through woods, sometimes producing dense thickets up to 10 metres high. The thick evergreen foliage smothers native plants, and its roots exude a 'cocktail' of toxic chemicals including cyanide which further poisons the ground. Eventually nothing is left beneath the trees but rhododendron, to the detriment of wildlife.

The best way to eliminate rhododendron depends on the height to which it is growing, but may include spraying with herbicide, grubbing it out or cutting it and treating the stumps. Local woodland agents and contractors can advise.

Other exotic species that invade and damage woods include laurel, gaultheria, Himalayan balsam, Japanese knotweed, periwinkle and bamboo. Many of these are introduced to woods when people unthinkingly dump 'harmless' garden waste.

Sycamore is a species whose value causes much debate. It is not a native tree and supports a lower diversity of insects than most native trees. It comes into leaf early, so shading spring-flowering plants. Its leaf litter rots slowly and does not provide such a

good environment for the ground flora. For these reasons, it should be discouraged from our most important woods, the ancient semi-natural woodlands.

It would be wrong to be too hard on sycamore, however. Where it is growing well away from these special woods, it can be promoted, grow vigorously and yield high-quality timber, and it supports rare mosses and lichens as well as large numbers of certain insects. Unfortunately it is favoured, with other trees such as beech, by grey squirrels (see page 25).

There may be financial support for work to remove invasive species from important woods.

Woodland wildlife

The best way to encourage wildlife to your wood is to manage a diverse range of habitats as described previously. You can also add nest boxes for birds, including raptors such as owls, and for bats and dormice. The choice of tree species that you plant can increase the availability of food and nectar sources. See the tree and shrub species list on page 29 for further information.

In addition to the species that you want to attract to your wood, don't forget there are some animals that harm woods. One of the most damaging is deer, many of which are introduced species, e.g. muntjac and fallow, the populations of which are currently many times higher than they would have been in the past when coppice management was widespread. The presence of a 'browse line' – a lack of green leaves on the bottom metre or so of the trees and shrubs of the woodland – indicates that there are a lot of deer using the wood. Rabbits and hares may also be browsing in the wood, although in general they cause less damage than deer. Some browsing is beneficial to woodland, so the aim is not to stop all browsing but instead to manage the amount, making it sustainable.

Loss of vegetation from the bottom layer of the wood has a variety of impacts. Wild flowers are eaten, the lack of cover stops ground-nesting birds from breeding, tree seedlings cannot grow up to form the next generation of trees, coppice is destroyed. The threats that deer pose to coppice are covered on page 21.

Hazelnuts opened by dormice have a characteristic smooth circular hole in them – finding these in your wood tells you that it is a home for dormice

Hazelnut life size

Dormouse about half life size

woods it is difficult to control deer effectively by culling, although owners can help by co-operating with neighbours. If deer numbers cannot be controlled, then it is very important to protect vulnerable young trees or coppice with shelters or fencing as described earlier (pages 18 and 21). Where ground flora is being damaged or where browsing is removing the shrub layer, it may be best to exclude deer from certain areas, or even the entire wood, by using fences. The Forestry Commission has a helpful leaflet on this – see 'Publications and websites' in the information at the end of this booklet. Another animal which damages woods is the grey squirrel. Introduced from America, it strips bark from trees, disfiguring them badly or killing them. Where owners are trying to grow quality timber of species like sycamore and beech, they may need to control grey squirrel numbers using special traps or bait. Unless done in co-operation with neighbours, in a small wood such action is often inappropriate. You can at least avoid attracting them to your garden by using specially protected bird feeders.

In mainland areas where red squirrels are present, the grey not only out-competes them for food but also passes on a virus which reduces the red squirrels' already small numbers. The only lowland strongholds for the native red squirrel are islands such as the Isle of Wight. If you are in a red squirrel area, it is a good idea to seek specialist advice on habitat management for red squirrels, so as to give these threatened animals the best possible chance.

European Protected Species

There are a number of species that are now given additional protection under the Wildlife and Countryside Act that use woodland. These include all bat species and a number of other species such as the dormouse. A full list of these species and advice in the form of 'Good Practice Guides' are available from the Forestry Commission website. It is the responsibility of woodland owners to be aware of this extra protection before starting any work, however small.

Benefits of a managed woodland

It is not so much for its beauty that the forest makes a claim upon men's hearts, as for that subtle something, that quality of air, that emanation from old trees, that so wonderfully changes and renews a weary spirit. *Robert Louis Stevenson*

This booklet started with a look at some of the benefits of woodlands – and has also considered some of the potential threats to them.

Whatever you want from your woodland, whether a beautiful backdrop to your home, a place to take the dog for a walk, a place to conserve wildlife or a growing store of timber, we hope that the advice and information in this booklet will help you to make the most of your wood.

Even if you have no desire to 'improve' your wood but simply want to be sure you're doing the right thing, again we hope the advice will help you recognise damage and prevent decline. Above all, we hope that you will take pleasure from your wood, and will find owning it a rewarding and enjoyable experience.

P.S. ... Supporting the management of other local woods

A good way to help ensure the viability of woodland management in your local area is to buy products from local woods.

- Charcoal from local coppice is not only easy to light and of excellent quality, but it also substitutes for products produced in far less ecologically sensitive ways overseas.
- Instead of imported canes, try beanpoles and peasticks from local suppliers, and use local timber stakes to support new trees.
- Try hazel hurdles, sweet chestnut paling or post-and-rail instead of an unsightly chainlink fence.
- Seek out some of the beautiful furniture made from local timber.

Using products from local woods is good for the woods, and good for the rural economy.

Native tree and shrub species

Notes on their special value

Species	Cultivation notes / value
Alder	Plant in damp areas. Seeds eaten by birds, especially ducks, redpolls and siskins
Alder buckthorn	Previously coppiced for charcoal. Berries for birds, food plant for yellow brimstone butterfly
Ash	Good timber species. Food plant for privet hawk moth. Much prized for firewood
Aspen	Intolerant of shade. Food plant for many species of moth
Beech	Good timber species. The beechnuts are eaten by many mammals and birds. Can be badly damaged by grey squirrels
Birch	Quick growing. Excellent for moths, and seeds eaten by many birds
Blackthorn	In dense thickets it is a favoured nesting site. Food plant for black and brown hairstreak butterflies
Buckthorn	Plant several individuals to ensure cross-pollination and successful fruiting. Food plant for yellow brimstone butterfly
Crab apple	Attractive blossom in spring, fruits eaten by many birds and mammals
Dogwood	An edge species (dislikes shade). Berries for birds, food plant for green hairstreak butterfly
Field maple	Beautiful autumn colours, good for wildlife and lichens
Goat willow	Plant on ride edges, damp places. Great value for wildlife, especially moths
Grey willow	Early pollen valuable to bees and other insects, leaves act as food for purple emperor butterfly caterpillar. Prefers damp ground
Guelder rose	Attractive red berries, eaten by birds
Hawthorn	Attractive blossom and berries, food plant for birds, many insects and moths
Hazel	Coppices readily, giving good nest sites for birds and dormice
Holly	Good both as a tree and in hedging. Food plant for holly blue butterfly
Hornbeam	Can be coppiced or pollarded. Fruits favoured by hawfinches
Oak	Excellent timber species. The best of all trees for wildlife
Privet	Good nesting cover – evergreen. Main food plant for privet hawk moth caterpillar
Rowan	Suitable for acid, sandy soils. Attractive berries, eaten by a variety of birds especially thrushes
Small leaved lime	Coppices well, and flowers have abundant nectar (good for bees)
Wayfaring tree	Good on thin, dry soils. Fruits attractive to birds
Whitebeam	Very wind resistant. Fruits attractive to birds, especially thrushes
Wild cherry	Plant several individuals to ensure cross-pollination and to obtain the fruits which are favoured by birds. Attractive to insects
Yew	Valuable timber species. Fruits enjoyed by birds

Supporting information

Tree felling laws and grants

Most tree felling requires a felling licence from the Forestry Commission: contact your local office for details and an explanatory booklet.

There are a number of exemptions, including:

- Trees with a diameter at chest height of less than 8 cm, or 10 cm if thinning and 15 cm if the stems are on a coppice stool.
- Trees in gardens, but only in the immediate surroundings of a house.
- Dead trees, or those that pose an imminent hazard.

Some trees are covered by Tree Preservation Orders or are in Conservation Areas, designations administered by the local authority. Contact the local authority tree officer or planning department to check before you fell any trees.

The main source of grant aid for woodland work, including improvements to existing woodlands, is the Forestry Commission's grant scheme; your local Forestry Commission office can send you further details and an applicant's pack. Some county councils and local authorities have grant schemes and woodland advisers. Contact individual councils for details.

Transferring obligations

If you buy a wood, you may find that there are already Forestry Commission grant schemes or felling licences in place. Your solicitor should inform you of these.

In the case of a felling licence (including felling done under a grant scheme), the conditions go with the land and not with the owner. So if your predecessor felled some trees on the condition that new trees were planted and maintained for 10 years (a typical felling licence condition) then you, as the new owner of the land, will be responsible for maintaining the trees until the 10-year period is up.

In the case of grants, the obligation to repay if things go wrong goes with the person who received the first instalment of payments. So if your predecessor planted some trees and received the first instalment of grant, then sold the land, they would be liable to repay the grant with interest if you subsequently let the trees die. Most solicitors will advise vendors to transfer these obligations onto the purchaser, and you may be asked to sign a 'Transfer of Obligations' form. You should ensure before you sign that the trees in question are established and growing. If in doubt, check with your local Forestry Commission office.

Sources of further information and advice

Organisations

Numerous organisations can help those embarking on woodland management, and your local Forestry Commission office can provide you with further contacts. The following are likely to be of relevance to many owners.

Forestry Commission

Offices throughout the country. For details of your local office visit www.forestry.gov.uk or contact:

Forestry Commission
National Office
620 Bristol Business Park
Coldharbour Lane
Bristol BS16 1EJ

Telephone: 0117 9066023
Email: fc.nat.off.eng@forestry.gsi.gov.uk

Small Woods Association

Courses, information, networking – a must for anyone who owns a small woodland. SWA can also recommend a low-cost public liability insurance scheme for woodland owners.

The Old Bakery
Pontesbury
Shropshire SY5 0RR

Telephone: 01743 792644
Web: www.smallwoods.org.uk
Email: enquiries@smallwoods.org.uk

Local Wildlife Trusts

Information, surveys and management plans.

Telephone: 0870 036 7711
Web: www.wildlifetrusts.org
Email: info@wildlife-trusts.cix.co.uk

The Deer Initiative

Information on deer management groups.

Telephone: 0870 774 3677
Web: www.thedeerinitiative.co.uk
Email: admin@thedeerinitiative.co.uk

Tree Advice Trust

Advice and information about trees.

Alice Holt Lodge
Wrecclesham
Farnham
Surrey GU10 4LH

Tree Helpline

Calls are charged at £1.50 per minute.

Telephone: 09065 161147
Web: www.treehelp.info

Tree Council

'Umbrella' for a wide range of organisations concerned with the management and conservation of trees and woodlands.

The Tree Council,

51 Catherine Place
London SW1E 6DY

Telephone: 0207 828 9928
Web: www.treecouncil.org.uk
Email: info@treecouncil.org.uk

Publications and websites
Forestry Commission

Many useful publications are listed on the Forestry Commission's website: www.forestry.gov.uk/publications

They can be obtained from:
Forestry Commission Publications
PO Box 25
Wetherby
West Yorkshire LS23 7EW

Telephone: 0870 121 4180
Email: forestry@twoten.press.net

Alternatively, contact your local Forestry Commission office.

practical guides available:

Forestry Practice Guides 1–8
The management of semi-natural woodlands
Forestry Practice Guide 9
Forest operations and badger setts

FC Practice Note 3
Prevention of mammal damage to trees in woodland

FC Practice Note 9
Recommendations for fallow, roe and muntjac deer fencing

FC Field Book 8
The use of herbicides in the forest
by Ian Willoughby and Jim Dewar.

HMSO, London. Gives comprehensive information on herbicides.

Other publications

Caring for small woods by Ken Broad. Earthscan Publications. An excellent practical guide to management and conservation of small woods.

Trees in Britain, Europe and North America by Roger Phillips. Ward Lock.

A field guide to the trees of Britain and northern Europe by Alan Mitchell. Collins Field Guides series. Collins.

Tree planting and aftercare – a practical handbook and *Woodlands – a practical handbook*, both produced by the British Trust for Conservation Volunteers.

BTCV Enterprises Ltd, Conservation Centre, Balby Road, Doncaster DN4 0RH.
Telephone: 01302 572200
Web: www.btcv.org
Email: pgospel@btcv.org

Woodland archaeology in Surrey by Nicola Bannister. Surrey County Council. A fascinating insight into recognising woodland archaeology, relevant to ancient woods wherever they are located. Tel: 08456 009009 www.surreycc.gov.uk

Management choices for ancient woodland: getting it right. English Nature. Northminster House, Peterborough PE1 1UA.
Telephone: 01733 455000
Web: www.english-nature.org.uk
Email: enquiries@english-nature.org.uk

Woodland rides and glades: their management for wildlife and *Coppiced woodlands: their management for wildlife,* both by M. Warren and R. Fuller.
Available from:
NHBS Ltd, 2–3 Wills Road, Totnes,
Devon TQ9 5XN.
Telephone: 01803 865913
Web: www.nhbs.com
Email: nhbs@nhbs.co.uk

Silva: the tree in Britain by Archie Miles. Ebury Press. A fascinating book describing the part that trees have played in all areas of British life. A wealth of information to inspire you when the weather keeps you out of the wood!

Other advice and services

British Trust for Ornithology (for information on nest boxes)

Telephone: 01842 750050
Web: www.bto.org/notices/nnbw2.htm

Royal Forestry Society

An excellent website (www.rfs.org.uk) and local meetings in woodlands.

102 High Street
Tring
Herts HP23 4AF

Telephone: 01442 822028
Email: Rfshq@rfs.org.uk

Ecolots

Provides advice and contacts for the marketing of woodland products throughout England.

Web: www.ecolots.co.uk

Woodnet

Provides similar advice and contacts for the marketing of woodland products in South East England.

Web: www.woodnet.org.uk

Acknowledgements

This third edition of *So, you own a woodland?* follows closely the style and content of the 2002 first edition which was produced for woodland owners in South East England. Some updating has been included to reflect new legislation and there is also more information on woodfuel. The advice of woodland owners and support of local Forestry Commission staff in the original production of this booklet is gratefully acknowledged.

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