WOODLAND TRUST

Why the UK's Ancient Woodland Is Still Under Threat

The Woodland Trust

Campaigning to keep woodland alive

Contents

The Woodland Trust is the UK's leading woodland conservation charity. It is working to secure no further loss of ancient woodland, and to restore and improve the biodiversity of woods by acquiring native and ancient woodland and managing it appropriately, by planting new native woodland and through a wider advocacy role. Established in 1972, the Woodland Trust now has over 1,000 sites in its care covering approximately 17,700 hectares (43,700 acres). Around 360 of these sites contain or comprise ancient woodland, some 6,150 hectares (15,200 acres) in total.

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An overview

Ancient woodland is one of our richest habitats for wildlife. Ancient woods are places of inordinate beauty, reservoirs of archaeology and economic history, and a source of inspiration for local culture and folklore. In some cases, they form a direct link back to the original wildwood which was established after the last Ice Age. However, as we enter a new century, our rich heritage of ancient woodland continues to be under threat from destruction, isolation and overgrazing.

During the last hundred years, many of our ancient and native woods have been damaged or destroyed, largely by conversion to conifer plantation or by clearance for agriculture. Today, only two per cent of Britain is covered by ancient woodland.

> *"Only two per cent of Britain remains as ancient woodland today"*

Increasingly, there is a much greater awareness of the value of ancient woods: as a finite resource they can never be replaced and what little remains is very precious. Not only do they contribute to the existence of life on our planet, these few remaining islands of ancient woodland contain a wealth of wildlife, dependent on the continuity of this unique habitat.

Despite a growing understanding of the importance of ancient woodland and a number of new policies and programmes for its protection and enhancement, ancient woods continue to be threatened and destroyed. We must take action now to fulfil the policy promises and to plug the gaps.

The Woodland Trust has commissioned this report to stimulate debate about the key threats which are likely to affect the survival of ancient woodland this century, and to encourage debate about the opportunities we now have to protect them for future generations to enjoy. The Trust is calling on government, opinion formers and decision makers to increase protection for ancient woodland and to act on the solutions outlined in this report.

Urgent action is needed if we are to turn the tide of destruction of ancient woodland. Ancient woods are irreplaceable, uplifting places, linking us with our past, but their future survival is dependent on our action now.

> *"Urgent action is needed if we are to turn the tide of destruction of ancient woodland"*

Mike Townsend
Chief Executive, The Woodland Trust

Threats to our ancient woodland

Legal loopholes and poor planning

85 per cent of ancient woodland has no legal protection at all. Legislation and planning regulations currently contain gaping holes that allow ancient woodland to be destroyed.

Land management

Intensive agricultural practices, including the use of pesticides and fertilisers, further isolate our fragmented ancient woods and impact on their potential future survival; overgrazing by livestock and deer often arrests the growth of new trees, preventing ancient woodland from regenerating.

Climate change

Changes in environmental conditions, including higher temperatures, changes in rainfall patterns, drought and storm frequency, will have a dramatic impact on ancient woodland. Some species may be able to adapt or migrate in response to changing conditions but many ancient woodland species and habitats will be unable to respond or could disappear altogether.

"By 1900 only five per cent of the UK was covered by woodland"

Coppiced woods support stunning displays of spring flowers
Photo: Keith Hugget

Setting the scene: an introduction to the UK's ancient woodland

After the last Ice Age, pioneer native trees, such as Scots pine, birch, willow and rowan, colonised the bare land vacated by the retreating glaciers, and these were later followed by species such as oak and lime. The developing wildwood reached its zenith about 6,000 years ago when it covered as much as 90 per cent of the UK. Most of this was destroyed by the time the Romans arrived and it is estimated that only 15 per cent of England was wooded at the time of the Domesday Book in 1086. By 1900, only five per cent of the UK was covered by woodland.

None of this original wildwood survives unaltered today. However, there are places where woodland has existed for centuries and these woods represent the UK's rich heritage of ancient woodland.

As well as diverse, complex ecosystems which support a huge wealth of plants and animals, our ancient woods also reflect our cultural history that resonates back across the centuries. Bronze and Iron Age earthworks, ancient park boundaries, woodbanks, coppice stools, and pollards, all help to give us a picture of past land use.

Woodland has only survived long-term where it has been valued by people, providing timber for construction, fuel, bark, fodder for domestic livestock, winter shelter and places to hunt.

Woodland management

Common historic management practices included coppice, where trees are cut back to ground level, resulting in the re-growth of a crop of many straight new stems; and pasture woodland, usually with pollards - trees which have been cut back at a height above the reach of grazing animals, producing small poles, as with coppice growth.

By chance, these management practices seem to have maintained some of the habitats that occurred in the original wildwood. Coppiced woods support stunning displays of spring flowers as well as fritillary butterflies, dormice and nightingales. Pasture woodland plays host to ancient trees whose lives have been extended for many centuries by pollarding, supporting an extraordinary array of fungi, insects, mosses and lichens. Indeed it is estimated that the UK may be home to most of Europe's ancient trees.

Ancient woodland in the 20th century

The 20th century has been a difficult one for the UK's ancient woodland. The severe timber shortages experienced during the First World War led to the formation of the Forestry Commission in 1919 to create a strategic timber reserve. In doing so, the Forestry Commission chose mainly exotic, rather than native, tree species including conifers such as Sitka spruce, Douglas fir, and Western red cedar, which thrived in the British climate and grew much faster than native species. This encouraged a long period of woodland conversion when native woods all over the UK were cleared and replanted with conifers.

This reached its peak in the 1960s and 1970s and, in many cases, the former diversity of woodland plants and animals suffered severely under the shade-bearing conifers. A steady downturn in timber markets and changes in agriculture have meant that traditional management practices are becoming obsolete, leading to the break up of semi-natural woodland habitats.

The last 10 years - a change for the better

By 1990, ancient woodland had been reduced to just two per cent of Britain's land area. However, policies that encouraged the wholesale loss or degradation of native woodland have changed. In the last decade, native and ancient woods have begun to be valued for their wildlife, history and significance to rural landscapes, as well as their economic importance. But despite this, the loss of ancient woodland continues and the threats remain.

> *"The value placed on ancient woodland is now reflected in the UK Government's policies and programmes"*

The value placed on ancient woodland is now reflected in the UK Government's policies and programmes for the protection and enhancement of ancient and semi-natural woodland. These are set out in the UK Sustainable Development Strategy, *A Better Quality of Life*, the UK Forestry Standard, the Forestry Strategy for England (the strategies for Wales and Scotland are being prepared), and Biodiversity Action Plans for woodland habitats and species. The Government is also committed to international agreements, such as the Helsinki Protocol, which encourages sustainable management of woodland, including ancient woodland, and conservation of its biodiversity.

At a practical level, the Forestry Commission no longer provides grants for landowners to replace native or ancient woodland with conifer plantations (although it does provide grants which enable re-stocking of what were once ancient woods with conifers for a second rotation). Nor does it issue felling licences other than in the context of management plans that ensure proper environmental protection and the regeneration of the woodland. Thanks to the efforts of the Woodland Trust and many other bodies, the days in which ancient woodland was converted to conifer plantations are now gone.

Partly due to higher rates of grants, the bulk of new planting in the 1990s has been of native trees, a trend that seems set to continue. New native forests are being established most rapidly in Scotland, where the fabled Forest of Caledon is regaining its hold in the Highlands.

Yet our surviving ancient woods are still under threat. Ancient woodland has virtually no legal protection in the face of built development. Even when they are designated as Sites of Special Scientific Interest (SSSIs), the law is riddled with loopholes which allows them to be damaged and destroyed almost with impunity. Ever more isolated and fragmented by intensive agricultural and increasingly urban landscapes, ancient woods also face the long-term threat of climate change. Although it is still unclear how ancient woodland and the species it supports will respond to changes in climate, the potential dangers to our surviving ancient woodland are huge.

> *"Our surviving ancient woodland is still under threat"*

The bulk of new planting in the 1990s has been of native trees
Photo: Brian Aldrich

"Government progress on delivering its commitments to trees and woodland has been slow"

The threats facing our ancient woodland

Ancient woodland is widely recognised as a valuable habitat, yet 85 per cent has no legal protection. As a result it is constantly under threat, particularly from development. Many ancient woods are islands within a hostile landscape of intensive agriculture and urban development, and most may be too small to sustain viable populations of many woodland species. Another problem is overgrazing by livestock and deer. Climate change will lead to changes in temperature and rainfall, which may have a dramatic impact on our native woodland and it is inevitable that species will become extinct and that habitats will alter in response to these climatic changes.

Legal Loopholes

Woodland and tree related legislation

A range of legal mechanisms exists to protect woodland of all kinds – these include the Site of Special Scientific Interest (SSSI) designation, felling licences, and Tree Preservation Orders (TPO). However, these all contain gaping loopholes that allow ancient woodland to be destroyed or severely damaged.

The main government statement on the implementation of planning policy in relation to trees and woodland in England and Wales is Circular 36/78 Trees and Forestry. This is now over twenty years old, very out of date, and in need of substantial revision. There is a commitment to revise this circular and other planning guidance in the English Forestry Strategy published in December 1998. In 1999, the Government also stated its aim to halt the decline and fragmentation of ancient woodland and review the measures for its protection in A Better Quality of Life, its strategy for sustainable development. However, progress towards delivering on these commitments has been slow.

Felling Licences apply only to trees with a stem diameter greater than 8cm or coppice wood with a diameter of greater than 15cm, and they impose no controls on the lopping and topping of trees. As a result, it is entirely legal to remove all the young trees, shrubs and undergrowth from ancient woodland, severely damaging their ecology. It is also legal for a woodland owner to fell up to 5 cubic metres of timber that would normally come under felling licence control, every quarter, without a felling licence. If this allowance is taken up and regeneration of new trees is prevented by sheep or deer overgrazing, for example, it is only a matter of time before a woodland is degraded and disappears.

Tree Preservation Orders issued by local authorities provide stronger protection than felling licences, both for individual trees and for entire woods. Although in practice all "wilful damage or wilful destruction" of trees subject to Tree Preservation Orders is forbidden, it is, however, permitted in the interests of safety or to prevent a nuisance. But, if a felling licence is issued for trees covered by a Tree Preservation Order, these "protected" trees can be felled because the felling licence overrides the Tree Preservation Order.

Where ancient woodland is designated as a **Site of Special Scientific Interest** (SSSI or ASSI in Northern Ireland), a higher level of protection applies. However, that protection, granted under the 1981 Wildlife and Countryside Act, is far from absolute and the deficiencies of the system have been well publicised over many years. For example, any prosecutions for illegal

damage to an SSSI must be brought within six months of the damage. Landowners who notify the country conservation agency (English Nature, Scottish Natural Heritage or the Countryside Council for Wales) of their intention to damage an SSSI may inflict this damage within four months of giving notice - without breaking the law - unless the landowner has agreed to accept compensation in return for not undertaking damaging operations, or the national agency has obtained a Nature Conservation Order from the Secretary of State.

The single biggest problem affecting SSSIs is neglect but the national agencies do not yet have power to make landowners or tenants manage their woodland in the interests of wildlife conservation. Prolonged neglect may lead to the loss of "special interest" underlying an SSSI designation, in which case it may then be "de-notified." If so, it ceases to be an SSSI, and loses even that limited protection. Some of these weaknesses will be examined in the current Countryside and Rights of Way Bill (see "Looking ahead: campaigning for action").

A further question hangs over enforcement of legislation. In the year 1998/1999, the Forestry Commission received reports of 326 cases of alleged illegal tree felling, of which 96 were investigated yet only 25 proceeded to prosecution. The reasons for this low rate of prosecution are unclear and may relate to lack of evidence, pressure on Forestry Commission resources, or the time-scale in which prosecutions must take place. However, the question of whether the Forestry Commission has the resources to be sufficiently rigorous remains open and needs to be addressed.

Protection for woodland is especially weak in Northern Ireland. The felling licence system was abandoned in the 1970s and control is entirely absent. The Northern Ireland Tree Preservation Order system is also weaker, slower and less flexible than in Great Britain. For example, Tree Preservation Orders may apply only to individual trees, not to entire woodland, and landowners have a right to compensation for the value of timber foregone if felling is stopped by a Tree Preservation Order.

Planning

When planning permission is given for development, felling or clearing trees (and sometimes even entire woodland) is exempt from forestry controls. As a result, planning approval on an ancient wood - whether for a road, block of flats, housing estate, out-of-town superstore, quarry or golf course – can allow woodland to be cleared without the need for a felling licence or other approval. This exemption also applies to "permitted development" (development which does not require a formal planning application) under the Town and Country Planning Acts.

A number of land uses enjoy these "permitted development" rights for up to 14 days a year, from motor-racing to caravan holiday use, and the removal of trees can be claimed as necessary for these activities to take place. In theory, those responsible for the management of ancient woods can clear-fell them without any reference to either the Forestry Commission or the planning authority.

Even if trees are not felled, activities that enjoy "permitted development" rights, such as motor-cycle scrambling events, can cause significant damage to ancient woodland plants, and damage woodland soils leaving tracts of erosion-prone bare ground. It is often the case that ancient woods (over a period of many years) are subject to damaging activities which in themselves are perfectly legal but which reduce the wildlife value of the wood. If planning permission for larger scale development is sought later, the degraded value of the site is often quoted as a factor in support of the application.

"The single biggest problem affecting SSSIs is neglect"

Penn Wood, Buckinghamshire - almost became an 18 hole golf course
Photo: Joe Cornish

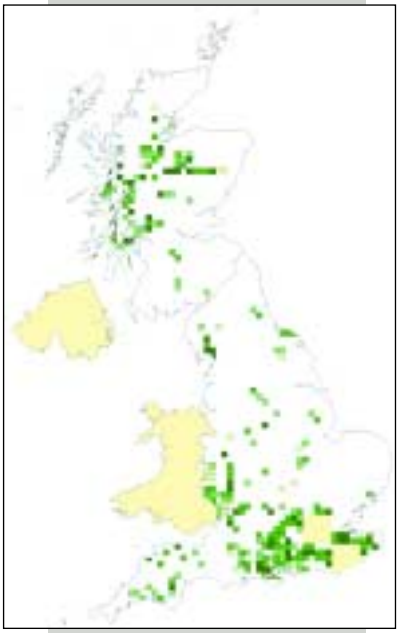

Figure 5: 10km grid squares in England and Wales where ancient woodland exceeds 5% land cover
Preliminary data: © Scottish Natural Heritage & English Nature

To exacerbate the problem, there is no specific planning guidance for local authorities on how to create strong policies to take account of trees or woodland, including ancient woodland, within Structure and Local Plans, or in determining individual planning applications.

The vulnerability of ancient woodland was highlighted by the case of Penn Wood in Buckinghamshire (see below). At the end of 1998, John Prescott, Secretary of State for the Environment, Transport and the Regions (DETR), finally ruled in favour of protecting ancient woodland at Penn Wood, overruling a previous consent by the planning authority to proceed with the scheme. The intervention of the Secretary of State followed a high profile campaign by the Woodland Trust and local residents to save it from becoming a golf course.

The need for the planning system to play a role in protecting ancient woodland is likely to become more important given the huge pressure to develop land for housing, particularly in the South East, following the announcement to build 43,000 additional dwellings a year outside London.

Ancient Wood Saved From Golf Course Threat

Penn Wood, Buckinghamshire

The vulnerability of ancient woodland to development pressures is well illustrated by Penn Wood, a 176-hectare deciduous woodland in the Buckinghamshire Chilterns with a recorded history of use as wood pasture going back to Saxon times.

In 1993, the owner applied for planning permission to convert the wood into an 18 hole golf course complete with 79-space car park. After a public inquiry in 1995, the government inspector recommended approving the application. However the environment secretary, John Gummer, left office in 1997 without resolving the matter, leaving it with his successor, John Prescott.

Only in the last days of 1998 did Mr Prescott decide the case, refusing permission because of the "paramount importance" of conserving ancient woodland and securing its good management. John Prescott: "... by inhibiting the conservation of ancient woodland, intruding on the natural beauty of the wood, and failing to conserve intact the single eco-system and dedicated land use, [the golf course] would not comply with national advice."

Mr Prescott also rejected the claim that the golf course was an "enabling development," needed to save the wood. He pointed to the Forestry Commission's grants and the Woodland Trust's £1.2 million bid to buy the wood, made in 1997. "Were non-woodland uses to become the accepted answer to an owner's income problems," he said, "woodland up and down the country could be under threat."

The decision was greeted with joy by the Woodland Trust and the thousands of local people that had campaigned to save Penn Wood. There were further celebrations when the owner accepted the Woodland Trust's offer to buy the wood, made possible by energetic fund raising campaigns. Only then was the wood guaranteed the long-term conservation management it deserved and only then could the "Private Woods - Keep Out" signs be torn down, and the wood opened up to public access on foot. The Woodland Trust now plans to restore the ancient wood-pasture management to create a "mini New Forest."

Although Mr Prescott's comments were welcome, they apply specifically to the case of Penn Wood, and, as the law stands, there is nothing to prevent similar applications, nor to prevent them being approved by local planning authorities.

Penn Wood was acquired by the Woodland Trust with the support of the Heritage Lottery Fund, The Friends of Penn Wood, the Chiltern Society and the Onyx Environmental Trust.

Land Management

Fragmentation

One of the most persistent trends in the decline of our ancient woodland has been its continuing fragmentation into smaller and more isolated woods. Since the 1930s, more than 38 per cent of ancient woodland in England and Wales has been felled and converted to plantations and a further eight per cent cleared for agriculture. Today, only 501 ancient woods exceed 100 hectares (one square kilometre) in the Ancient Woodland Inventory for England and Wales (compiled in the 1980s and 1990s by the then Nature Conservancy Council) and only 12 are larger than 300 hectares. More than 80 per cent are less than 20 hectares in size and 44 per cent are between two and five hectares. As there is likely to be a substantial number of ancient woods less than two hectares in size which are not included in the inventory, most ancient woods may actually be less than five hectares.

Put simply, hectare for hectare, large areas of woodland are more valuable for wildlife than small areas. The size of a wood is important because there is a direct relationship between the size and the number of species that it can support. In addition, all species have a minimum area necessary for them to breed and feed successfully.

An important concept is that of "core area." The edges of woods are more liable to fluctuations in the environment, caused by wind and temperature, and are more vulnerable to the intrusion of human influences which penetrate into the wood (particularly pesticide spray drift and other types of pollution). Many species specific to ancient woodland are unable to tolerate this "edge effect" and require the relative stability of the core of the woodland. Both the size and the shape of the wood affect the relative amounts of "core area" and edge.

Above: Two woods of equal size with markedly different Core Areas; 2.2 hectares and 7 hectares

The known extinction rate of broadleaved woodland species in the last 100 years has been higher than for any other habitat - 46 species. In addition, broadleaved woodland contains more globally threatened and rapidly declining species than any other UK habitat.

Past land use policies, which have caused the fragmentation of ancient woods, continue to take their toll on wildlife today. Reducing and dividing up woodland has an impact on the remaining wildlife long after the event, as some species struggle on for years before eventually succumbing to the lack of space which prohibits their survival.

Whilst woodland fragmentation has occurred most visibly as a result of clearance for agriculture, (see overleaf), past conversion of ancient woods to conifer plantations has had a similar effect. The dark, closed canopy conditions of

"Broadleaved woodland contains more globally threatened species than any other UK habitat: 46 woodland species have become extinct over the last 100 years"

Large areas of woodland are more valuable for wildlife
Photo: Kenneth Watkins

"Hedges, which are often the only link between woods, have been destroyed at an alarming rate – over 110,000 km of hedges were destroyed in a ten year period"

Arable land at Hucking Estate, Kent is being returned to woodland
Photo: David Bradbury

many conifer woods may prevent the spread of woodland plants as effectively as intensively managed fields. In spite of the Government's acknowledgement that ancient woodland can be used as an indicator of sustainable development, the pressures for new housing in the South East, in particular, are continuing to result in the fragmentation of ancient woods.

Intensive agriculture

The post-war intensification of agricultural production, and the subsequent production-oriented farm subsidies paid under the Common Agricultural Policy, meant that many ancient woods were cleared or greatly reduced in area. Transitional habitats from woodland through scrub to other semi-natural habitats, including flower-rich grassland and heathland, were particularly hard hit, especially in the lowlands. Even hedges, which in many cases provide the only link between woods, have been lost at an alarming rate: over 110,000 km of hedges disappeared between 1984-1993.

The loss of semi-natural habitats and the barriers to migration created by large arable fields or stretches of improved grassland increase the isolation of ancient woods, whilst abrupt woodland boundaries mean that the physical impact of intensive agriculture can also penetrate a considerable way into small woods and copses.

Wind borne drift of pesticide sprays can kill sensitive woodland wildlife. Fertiliser migration in soil and groundwater encourages the growth of coarse weeds, choking out rarer plants. Deep ploughing near a woodland edge can sever roots and contribute to tree death.

When Woodland Takes Second Place to Agriculture

Hucking Estate, Kent

This 231-hectare estate, five miles east of Maidstone, Kent, was purchased in 1987 by the millionaire pea farmer, Hughie Batchelor, widely known for his antipathy to trees, woods, hedges and anything else in the way of intensive arable production.
Mr Batchelor's disregard for Tree Preservation Orders on both woodland and hedgerow trees, and for court orders in their support, twice led to his imprisonment.

During Mr Batchelor's ownership of Hucking Estate, copses were grubbed out, herb-rich chalk grassland was ploughed up and thousands of metres of hedgerows were bulldozed. He was also responsible for the decline in woodland cover on the Estate to 73 hectares - around half of which was ancient woodland.

Fortunately, Mr Batchelor's tenure was short: his business ran into problems and Hucking Estate was put on the market in 1997 by order of the receivers. The Woodland Trust acquired part of the Estate with the help of a £1.1 million grant from the Heritage Lottery Fund. This included some of the extensive semi-natural ancient woodland, mainly ash and sweet chestnut coppice.

Since then, in careful and close consultation with local people, the Woodland Trust has embarked on a groundbreaking restoration project – described by the Forestry Commission as potentially the largest community woodland scheme in South East England. Coppice management has resumed and the prohibitive notices that surround the woodland have been removed. Hedges are being re-planted to replace former field boundaries and to link up isolated copses.

The Woodland Trust is also restoring former woodland areas, diversifying habitat types, and reversing the fragmentation of centuries. Some of the arable land has now been converted back to native grassland and, eventually, about 45 per cent of the original arable area of the Hucking Estate will be returned to woodland.

Neglect and overgrazing

Many woods, especially small farm woods, are suffering from prolonged neglect. Over decades, this alters the character and ecology of woodland, often for the worse. Failure to maintain fences can let in sheep and other livestock, destroying regenerating saplings and leading to a gradual decline and loss of the woodland. This is a particular problem in hill and upland areas. Managing woodland in a way that promotes sufficient regeneration of trees, to replace those that are lost, is essential.

Deer are a major problem in both upland and lowland areas of the UK. In Scotland, red deer populations have risen to unsustainable levels. In the lowlands, fallow deer and muntjac deer, (both introduced species), have spread and increasing populations are having a substantial effect on the ecology of ancient woods.

"Many woods, especially small farm woods, are suffering from prolonged neglect"

Reforesting the Scottish Highlands

Glen Finglas, Glen Affric and Abernethy

According to popular wisdom, the Scottish Highlands were covered in a forest of pine and mixed broadleaved trees - the Great Wood of Caledon - until around 1000AD. It is often assumed that over the centuries the forest was hacked away for timber, fuel, bark (for tanning) and to make way for farming, whilst grazing sheep, deer and cattle kept down the new growth. By the 20th century all that remained of the Great Wood were small, isolated remnants that had somehow escaped the tide of history.

The truth is rather more complex. Much of the forest decline took place thousands of years ago, the result of a wetter climate and advancing blanket bog. There is also convincing evidence that the exploitation of the forest for fuel and timber was accompanied not by deforestation, but with measures to secure forest regeneration such as fencing to exclude grazing stock.

Declines in forest area, especially of the oak coppice used to produce the charcoal that fired iron foundries, actually followed the arrival of cheap coal and the laying of train lines which took away the immediate value of the forest.

As the importance of forests for fuel declined in the 19th century, and with much of the native population excluded from Clan lands under the Highland Clearances, the forest took on a new role as a playground for wealthy "sportsmen" whose pleasure was the shooting of deer - a Victorian enthusiasm which persists to this day.

As the traditional income of a Highland sporting estate depends on the number of stags that are shot each year, so estate managers often allowed the deer population to rise beyond sustainable levels. The intense grazing by deer means that trees are unable to regenerate, and remaining wooded areas slowly die off from the ground up.

(Continued overleaf)

At Glen Finglas the Woodland Trust is looking to recreate Scotland's largest broadleaved woodland
Photo: David Ward/Heritage Lottery Fund

"Some 70 - 85 per cent of the native trees planted in the UK over the last 40 years have been imported from abroad"

One of the worst examples of this is Glen Feshie in the Cairngorms. Here ancient woodland relicts of international importance continued to decline under a succession of ownership although changes are now, at last, beginning to take place to reverse this.

However, the news is not all bad. Over the last decade, several Highland forest remnants have come under conservation-oriented management. These include Glen Affric, now managed under a joint project between Forest Enterprise and Trees for Life; Abernethy, owned by the Royal Society for the Protection of Birds; Mar Lodge owned by the National Trust for Scotland; and a number of estates in the ownership of The John Muir Trust.

At Glen Affric, forest restoration has occurred by removing exotic tree species as well as non-native Scots pine, and areas of regeneration have been secured mainly by excluding deer from fenced enclosures, with dramatic results in the number of seedlings emerging. At Abernethy, by contrast, the RSPB is relying mainly on a heavy winter cull of hinds to reduce the breeding population of deer, to enable natural regeneration. Fences present a serious hazard to the area's capercaillie as well as being unsightly, and make access by walkers difficult.

This experience is now being applied by the Woodland Trust at its 4,039 hectare Glen Finglas estate in The Trossachs. This was purchased in 1996 with the help of a £1.4 million grant from the Heritage Lottery Fund to buy the land, and a further £1.5 million to pay for the regeneration of woodland and restoration of the estate's facilities for public benefit.

The estate has a long history as a Royal Forest and a part of the estate was traditionally managed as wood pasture with its many broadleaved species (including alder, ash, birch, hazel, holly and rowan) cut for fuel and fodder, whilst animals were free to graze. Although a number of veteran trees remain, including 300 year old alders measuring 1.5 metres in girth, all but 250 hectares or so of the land is treeless and many of the surviving woodland patches are in decline.

The Woodland Trust now has in place a 40 year plan to restore the health of the wooded areas and to secure natural regeneration wherever possible, replanting where seed sources are absent, and achieving steady reductions in deer numbers over the wider landscape. Within a few decades, the Trust hopes to be well on the way to recreating Scotland's largest native broadleaved woodland.

Planting stock

Some 70 - 85 per cent of the native trees planted in the UK over the last 40 years have been imported from abroad (mainly from central Europe) or are of non-local provenance, genetically adapted to different climatic and environmental conditions. Some people take the view that the provenance of trees is of no real importance when planting trees for recreational purposes. However, when a new wood is planted adjacent to an ancient woodland, such trees could upset the fine balance between native trees and the wildlife they support, for example, through flowering or seeding at different times.

Climate Change

The greatest threat of all?

Even if we were able to remove the threats to ancient woodland from development, fragmentation, intensive agriculture and overgrazing, there remains what is potentially the greatest threat of all, climate change. Climate change results will impose additional pressures on an already fragmented woodland landscape.

There is overwhelming evidence that increasing concentrations of atmospheric carbon dioxide and other greenhouse gases are affecting our climate. Worldwide, the 1990s have been the hottest decade on record (roughly 0.6 Celsius warmer than a century ago), with five of the century's hottest years including the single hottest year, 1998.

The dangers for ancient woodland

Climate change will have a variety of impacts on our ancient woods. It may directly affect the ability of individual trees and species to survive by creating environmental stresses that they may not be able to tolerate. For example, an increase in summer droughts in southern Britain may make trees more vulnerable to disease. The lack of sufficient water, as droughts become more frequent, could threaten the survival of both individual trees and woods. For example, beech trees in the Chilterns are particularly vulnerable.

Further problems will arise from milder, even frost-free winters. Many trees need severe winter cold to reset their clocks for the spring - a process known as invernisation. Without this process, flowering and fruiting may be disrupted. The seeds of many trees also need to undergo severe cold before germinating, so milder winters may put a block on the ability of some trees to regenerate without human intervention. Milder winters may also lead to a greater survival of insect pests and subsequent attacks on woodland trees and other plants. Exotic insect pests currently excluded by cold winters might also be able to survive all year round. Changes in the flowering times of plants, nesting of birds or emergence of insects may also disrupt complex interacting life cycles of plants and animals.

During the 21st century, temperatures are expected to rise by at least 2.5 degrees Celsius. It is reckoned that this temperature rise will mean that species ranges will need to move at least 300 kilometres to the north or 300 metres uphill. The more mobile species, including some woodland butterflies, may be able to migrate northwards but would still need to find a suitable habitat in which to relocate. However, many of the less mobile plants and animals that are characteristic of ancient woodland, may be unable to respond fast enough and are likely to become scarce, or even extinct, in the wild. For example, plants such as wood anemone, solomons' seal and bluebells are particularly under threat.

Given that only some species will be able to migrate in response to change, it is inevitable that habitats will not be able to move en masse. As a result, the complex web that is ancient woodland will be irretrievably disrupted by a succession of damaging impacts related to climate change.

"An increase in summer droughts in southern Britain may make trees more vulnerable to disease."

Plants such as wood anemone may be under threat from climate change
Photo: Archie Miles

"Despite changes in policy to reflect the value of ancient woodland, the destruction and damage continues."

Bigsweir Wood - an ancient woodland in the Wye Valley
Photo: Woodland Trust Picture Library

Looking ahead: campaigning for action

What kind of future does ancient woodland face? Despite changes in policy to reflect the value of ancient woodland, the destruction and damage continues. We must take positive measures to reverse woodland destruction and to create opportunities for a more sustainable future for ancient woodland.

To tackle these issues, the Woodland Trust is campaigning to protect what remains of our existing ancient woodland heritage, and to restore ancient woodland that has been fragmented, neglected or mismanaged. In addition, it is working to expand new native woodland in key areas of the UK in order to create sustainable habitats that support a wide variety of plants and animals. The Woodland Trust is also working to revive local links between woodland, communities and employment, to create a contemporary woodland culture.

The Woodland Trust will also campaign for action in relation to climate change and its underlying people-induced causes. Future action will require both adaptation and mitigation to ensure we maximise the opportunties for wildlife.

Closing the Legal Loopholes

Of all the threats to our ancient woodland heritage, closing the many legal loopholes and reforming planning practices may be amongst the most straightforward issues to tackle. Changing the law is within the capability of decision-makers right now.

Legislation

The Woodland Trust, in common with a coalition of environmental groups under the banner of Wildlife and Countryside Link, is urging the UK Government to use the current Countryside Bill to change the law and is calling on Government to:

- Increase SSSI protection.
- Create a new form of conservation status for important habitats outside the SSSI system (such as ancient woodland and unimproved grasslands) through a proposed system of local wildlife sites, which would be maintained by local authorities to agreed standards, and receive protection through local plans and planning guidance. Opportunities also exist to build such a system into forthcoming revisions of planning policy guidance on nature conservation.

Additionally the Trust is seeking:

- Improved legislation covering felling licences and Tree Preservation Orders in Northern Ireland so that it is, at the very least, in line with the rest of the UK.

Planning

The Woodland Trust is calling on the Government to fulfil its commitment to the England Forestry Strategy, by seeking:

- Formal planning guidance for local authorities to create stronger policies in local plans to protect ancient and semi-natural woodland so that damaging planning applications can be refused.
- A review of existing rights of "permitted development" and the rescinding of those which can harm ancient woods.

Land Management

Reconnecting and restoring ancient woods

Reversing the effects of decades of fragmentation is impossible to achieve, particularly when set against the complexities of climate change. Resources for conservation are likely to be limited

and, if woodland biodiversity is to be improved, it is important to focus action in areas where woodland density is already high and therefore where there is the greatest potential for ancient woods to be placed on a sustainable footing.

Two broad strategies need to be adopted:

- Carefully targeted woodland creation.
- The restoration of ancient woods currently planted with conifers.

Woodland creation

The Woodland Trust feels it is vital to create new woods. These will act as a buffer to ancient woods from the external effects of intensive land use and will enlarge the area over which species typical of ancient woodland can operate. This is a particular priority where ancient woods and other semi-natural habitats are fragmented into numerous small blocks. Creating new woods that link ancient woods together is one way in which "core" area can be increased.

Woodland restoration

Many of the UK's ancient woods have been partly or wholly converted to non-native conifers at some stage during the 20th century. Where large blocks of woodland have been partially planted with conifers, removing them and restoring native tree cover will allow fragmented pieces of ancient woodland to be connected. This strategy will work best where there is a high density of woodland but little remaining ancient woodland. The ancient character of some sites is more capable of restoration than others. The degree to which this is possible depends on a combination of factors such as the soil, the number of times conifer crops have been grown on the site, the amount of native tree cover surviving and the presence of open rides and glades. As this is an area where the science is weak, urgent research is crucial to determine the best techniques for restoring ancient woodland and for determining which woods should be treated as priority cases.

"Many of the UK's ancient woods have been partly or wholly converted to non-native conifers at some stage during the 20th century"

Piecing the Wye Valley Jigsaw Back Together

Linking Cadora, Bigsweir and Causeway woods

The woods that run along the Wye valley near the England/Wales border are some of the most important in Britain, according to the eminent woodland ecology expert, George Peterken. The Woodland Trust has long-owned two ancient woodland sites in the area: Bigsweir Wood, a 45 hectare semi-natural high forest - an SSSI dominated by oak, small leaved lime and beech, and Causeway Grove, a five hectare coppice of sycamore, ash and wild cherry.

In 1999, the Woodland Trust made a further purchase: Cadora Woods, a 65-hectare block consisting mostly of dark, un-thinned commercial conifers. A strange choice, you might think. But today's conifers (mostly Douglas fir and larch) were planted on an ancient woodland site, much of which was cleared of its existing tree cover in the 1960s.

Despite the conifers, the wood can now be restored to native woodland. Some of the original woodland trees and herbs persist in parts of the wood, including bluebells and wood anemones, while the seeds of other plants are lurking dormant in the soil waiting for the opportunity to spring to life. A number of oaks and yews, and a few massive small-leaved lime or oak pollards, survived in spite of the axe when the wood was cleared, giving a further element of continuity across the centuries.

First the conifers will be thinned to give space to the surviving broadleaved trees and to allow light to penetrate to the forest floor and stimulate the re-growth of woodland flora. In the longer term,

(Continued overleaf)

Cadora Wood: conifers will be thinned to give space to surviving broadleaved trees
Photo: David Bradbury

most of the conifers will be harvested and replaced with native species such as ash, lime and oak - the original forest species of the Wye Valley.

Cadora Woods lies directly between Bigsweir Wood and Causeway Grove and, once restored, it will link them together into a single unit. This will enable the woodland species to migrate and multiply, improving their chances of survival in the face of constantly changing local conditions.

In April 2000, the Woodland Trust also secured the purchase of nearby Highbury Fields, supported by the Heritage Lottery Fund. Highbury Fields consists of the intervening few fields of scrub, bracken and unimproved grassland, complete with hedgerows and ancient hedge trees. This land lies between Cadora and Causeway Grove woods, and the English Nature's Highbury Woods National Nature Reserve, and will create an even larger contiguous area of more than 173 hectares of semi-natural habitats managed primarily for nature conservation objectives.

The Cadora Woods project is supported by the Heritage Lottery Fund, The People's Trust for Endangered Species, the Countryside Agency, the Gloucestershire Environmental Trust (which is funded with landfill tax contributions donated by Cory Environmental), and a significant contribution from a charitable trust.

Northern Ireland - A Case for Special Protection

Northern Ireland is the most deforested region of the UK, with just six per cent of the land area under trees, and an estimated one per cent under semi-natural woodland. Only a small part of that is ancient woodland (defined as pre-1600), and most semi-natural woods consist of mature secondary growth following clearance. The Woodland Trust has applied for funding to conduct a survey of the semi-natural woodland in Northern Ireland to identify accurately, for the first time, the extent of this resource.

One site that does bear all the hallmarks of ancient woodland is Drumlamph in South Derry, an 18.6-hectare woodland that is very rich in wildlife and key Biodiversity Action Plan habitats. For many years, this has been used as a sheltered site for grazing cattle in the winter, suppressing regeneration and woodland plants and animals.

Given the rarity of ancient woodland in Northern Ireland and the threats to Drumlamph, the Woodland Trust took the opportunity to buy the wood when it came on the market in 1999. This acquisition was supported by the Heritage Lottery Fund. It is the Trust's first ancient woodland purchase in the province. The Trust has also acquired an additional 13 hectares of adjacent grazing land which it is planting with native species under its "Woods on your Doorstep" initiative. This Millennium Commission project is also supported by the Environment and Heritage Service. Not only will this give the woodland plants and animals a chance to expand their range, it will also greatly increase the area of "core" woodland habitat far from the woodland edge.

Tackling agricultural policy and support mechanisms

The fate of ancient woodland is inextricably linked with the broad future of farming, as farmers and individual landowners are the guardians of much of the UK's ancient woodland.

Recent reforms of the Common Agricultural Policy, through Agenda 2000, have finally begun to move agricultural subsidies away from area payments for crops and headage for livestock (which has encouraged overproduction) towards more environmentally sustainable forms of land management.

The new Rural Development Regulation created by the EU brings together, for the first time, a series of proposals for how EU money may be spent in rural areas - not just on farming but on an integrated package of proposals for rural development. Included within these are a series of proposals relating to forestry. All four countries of the UK have submitted Rural Development Plans to Europe showing how they propose to spend their share of EU money to help support rural development options. However, support for existing woodland schemes, such as the Farm Woodland Premium Scheme and the Woodland Grant Scheme for woodland and forestry, will continue to be modest.

The Woodland Trust proposes two key actions to ensure that the modest funds made available to woodland will be most effectively spent:

- A fundamental reform of the Farm Woodland Premium Scheme to ensure that woodland creation is used (where possible) as a means of buffering and protecting ancient woods.
- Making environmental payments to farmers dependent upon adherence to "whole farm plans" designed around each farm's conservation needs and opportunities. Under this scheme, any native woodland on a farm would have to be protected and managed as part of the scheme. This approach is currently being used in Wales under the Tir Gofal scheme.

Finally, the UK government should ensure increased levels of support for forestry and conservation measures in successive rounds of budget allocations from the European Union by arguing a special case on the grounds of the paucity of woodland cover in this country compared with other European states.

Neglect and overgrazing

Major initiatives in Scotland, England and Wales to co-ordinate management of deer across several land-owning interests are now being developed to ensure that deer populations are maintained at sustainable levels though it will take several years for the results to become apparent.

More generally, encouraging environmentally responsible and sustainable management of woods and forests is the role of the Forestry Commission. The Forestry Commission's UK Forestry Standard and the Woodland Grant Scheme contracts are the key mechanism by which woods are managed, providing both a set of agreed standards and the financial incentives to achieve it. Increasingly, the voluntary process of certification is finding favour with forest owners and managers keen to demonstrate, through an internationally recognised label, that their forests are managed to the highest standards of sustainable forestry.

In the UK, a scheme known as the UK Woodland Assurance Scheme (UKWAS), based on the Forestry Commission's own regulatory system, but with additional checks to ensure full adherence with the Forest Stewardship Council's UK standards, has now been accepted by the entire forestry sector including private timber growers. Many of the requirements of certification involve sympathetic management of ancient woodland. It now needs full backing from every quarter within government and elsewhere to help meet these woodland management standards.

Planting Stock

The Forestry Commission should only give Woodland Grant Scheme subsidies for woodland creation schemes next to ancient woods that use planting material from authentic local seed sources.

Climate Change

Climate change poses the greatest threat to ancient woodland and all natural habitats. The Woodland Trust believes that the primary focus of effort must be on tackling the sources of climate change, such as a reduction in the emissions of greenhouse gases. If the underlying problems of global climate change are to be solved, it will require strong and determined action from governments, companies and individuals. The Woodland

"Farmers and individual landowners are the guardians of much of the UK's ancient woodland"

Intensive land use is greatly affecting woodland perimeters
Photo: David Lund

"Climate change poses the greatest threat to ancient woodland and all natural habitats"

Trust supports the UK government's stance at international negotiations under the Climate Change Convention, in arguing for faster and deeper cuts in emissions than most other countries are prepared to accept.

To achieve such cuts, the UK government has to:

- Support renewable and energy efficient technologies, in the place of conventional fossil fuel-based strategies.
- Give stronger support to renewable energy and energy-efficiency in transport, industry, offices and homes.
- Recognise the role of carbon offsets - investments designed to reduce levels of greenhouse gases by an amount which matches the emissions to be offset - in reducing the severity of climate change.
- Promote the value of woodland - in helping store carbon through protecting the existing resource, through increasing the rate at which new woodland is being created, and in using wood fuel rather than fossil fuels.

A vision to protect the UK's woodland

The future

The Woodland Trust's vision is to protect our natural inheritance of ancient woods from any further loss and to recognise ancient woodland as a vital part of our heritage. Ancient woods should also be subject to the highest standards of stewardship and restored to their full potential as areas of great richness, beauty and cultural history.

Turning the tide of woodland loss

There is a finite resource of some 309,000 hectares (760,000 acres) of ancient woodland in Great Britain (we simply don't know how much there is in Northern Ireland but it is likely to be a very small amount). Each hectare lost is one hectare too many. Destroying ancient woodland, whose delicate balance takes centuries to evolve, is an act of breathtaking vandalism and one which diminishes our irreplaceable natural capital.

Recognition

The UK's international commitments on biodiversity conservation, climate change and sustainable forestry have given rise to public statements of policy which in turn give value to ancient and native woodland. For the first time in centuries, the prospect of turning back the tide of ancient woodland destruction is within our grasp if action is taken to implement those policy promises. Even then, however, this ambition may be frustrated by the new pressures on our landscape created by the forces of climate change.

Taking action

Good intentions and visionary statements are no substitute for firm action. The following is a brief guide to the actions which we must take now to save our ancient woods.

- Increase protection for SSSIs.
- Create a new form of conservation status for important habitats outside the SSSI system (such as ancient woodland and unimproved grasslands) through a proposed system of local wildlife sites, which would be maintained by local authorities to agreed standards, and receive protection through local plans and planning guidance. Opportunities also exist to build such a system into forthcoming revisions of planning policy guidance.
- Improve legislation covering felling licences and Tree Preservation Orders in Northern Ireland so that it is, at the very least, in line with the rest of the UK.
- Produce formal planning guidance to local authorities to create stronger policies in local plans to protect ancient and semi-natural woodland so that damaging planning applications can be refused.
- Review existing rights of "permitted development" and the rescinding of those which can harm ancient woods.

- Create new woods next to ancient woods in a way which will act as a buffer from the effects of external land use pressures;
- Restore ancient woods which have been planted with conifers.
- Undertake fundamental reform of the Farm Woodland Premium Scheme to ensure that woodland creation on farms is used where possible as a means of buffering ancient woods.
- Promote the idea of making environmental payments to farmers dependent upon adherence to "whole farm plans" designed around each farm's conservation needs and opportunities linked to stewardship of ancient woods; push for reform of agricultural policy to create a countryside more amenable to wildlife in the face of climate change.
- Negotiate increased levels of support for forestry and conservation measures in successive rounds of budget allocations from the European Union.
- Encourage the take up of voluntary certification.
- Issue Woodland Grant Scheme subsidies for woodland creation schemes next to ancient woods which use planting material from authentic local seed sources.
- Commission research to determine the best techniques for restoring ancient woodland and for how priorities can be set.
- Support renewable and energy efficient technologies in place of conventional fossil fuel-based strategies.
- Give stronger support to renewable energy and energy-efficiency in transport, industry, offices and homes.
- Recognise the role of carbon offsets – investments designed to reduce levels of greenhouse gases by an amount which matches the emissions to be offset - in reducing the severity of climate change.
- Promote the benefits of woodland to society, especially as part of measures to combat climate change.

"For the first time in centuries, the prospect of turning back the tide of woodland destruction is within our grasp"

The solutions to the problems highlighted in this report will only be achieved with the effort and commitment of a range of organisations. The Woodland Trust urges the UK government, Scottish Parliament, and the Assemblies of Wales and Northern Ireland to take a lead in turning policy commitments into actions.

Useful Web Pages

The Woodland Trust	www.woodland-trust.org.uk
The Forestry Commission	www.forestry.gov.uk
The Forest Stewardship Council	www.fscoax.org
UK Woodland Assurance Scheme	www.forestry.gov.uk/ukwas/ukwas.html
Department of the Environment, Transport and the Regions	www.detr.gov.uk
English Nature	www.english-nature.org.uk
Scottish Natural Heritage	www.snh.org.uk
Countryside Council for Wales	www.ccw.gov.uk
Department of the Environment and Local Government, Northern Ireland	www.environ.ie/main.html
Wildlife and Countryside Link	www.wildlink.demon.co.uk
Ministry of Agriculture, Fisheries and Food	www.maff.gov.uk
World Wide Fund for Nature	www.wwf-uk.org
Friends of the Earth	www.foe.co.uk
The Wildlife Trusts	www.wildlifetrust.org.uk
Reforesting Scotland	www.gn.apc.org/reforestingscotland

Where to find out more

The Woodland Trust is the UK's leading woodland conservation charity. We are committed to:

- No further loss of ancient woodland
- Restoring and improving the biodiversity of woods
- Increasing new native woodland
- Increasing people's awareness and enjoyment of woods

Established in 1972, the Woodland Trust now has over 1,000 sites in its care covering approximately 17,700 hectares (43,700 acres) of woodland. It offers free access to nearly all of its sites.

The Woodland Trust aims to conserve, restore and re-establish the UK's woodland. To carry out our work, we rely on the generosity of the public, industry, commerce, and agencies. If you would like to support us or would like more information about our work and membership details, please contact your nearest Woodland Trust office.

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www.woodland-trust.org.uk

The Woodland Trust

Campaigning to keep woodland alive