



WOODLAND
TRUST



Sustainable management of forests, woods and trees in the UK

The Woodland Trust perspective



Introduction

The UK's leading woodland conservation charity, the Woodland Trust owns more than 1000 sites, managing existing woods and planting new ones for the many benefits they bring to wildlife and people.

The Trust also acts as an advocate for woods and trees more generally. As a champion of native woods and trees,

the Trust adds its voice to the wide range of organisations that support a vision of a thriving woodland conservation and productive forestry sector in the UK. It sees this as sitting firmly within a framework of sustainable forest management, underpinned by national and international policies and agreements.



The value of woods, trees and forests in the UK

Forests, woods, and individual trees in the UK have traditionally been used and valued for timber and fuel, shelter and fodder for livestock, their aesthetic appeal and impact on the landscape, their function in conserving wildlife, and for recreation, including sporting uses such as shooting.

Increasingly it is recognised that they also provide public goods,

in the form of ecosystem services. These include carbon storage, improvement of air and water quality, cooling, particularly in urban areas, and flood mitigation. Woodland and trees have an important role to play in helping both humans and wildlife adapt to the inevitable effects of climate change. Research shows that natural greenspace such as woodland provides

mental and physical health benefits to those who visit it.^{1,2,3}

Productive forestry has a key role to play in rural development. In 2005 the forest industries directly employed a total of 167,000 people and generated £7.2 billion worth of gross value added⁴. Estimates by the Forestry Commission suggest that in England alone, the increase in woodfuel production demanded

Zetland Estates Management for woodfuel and biodiversity

Yorkwoods



At the Zetland Estate, Aske, Richmondshire, North Yorkshire, conifer and broadleaf woodland are managed to provide woodfuel. Much of this is used on the estate itself, supplying renewable heat to offices which accommodate around 30 businesses. The woodfuel system was installed when the estate's owner, Lord Ronaldsay, converted the old stables and other buildings in a programme of diversification within the last decade.

A key objective was to reduce dependency on oil and to

reduce the costs of heating – previously, the estate used 160,000 litres of oil annually to heat the estate office, chapel, main house and tenanted offices. However, the initiative also aimed to bring estate woodland back into rotation, thus securing jobs, reducing carbon footprint, and improving the biodiversity of the woodland itself. Woodland on the estate covers around 260 hectares, of which around half is conifer and half broadleaved.

A further eight hectares of new woodland has been planted in the last year, and the estate now plans to expand this even more, perhaps taking up targeted grants being offered for new broadleaved woodland to mitigate the effects of flooding.

Timber is stored for around 18 months before being chipped. A bespoke system was set up using a converted animal feed blower to deliver the chip to the two boiler houses. Using its own woodfuel has saved the estate around 15 per cent on oil bills, and it is estimated to save around 549t of CO₂ annually.

Woodchip production and processing at Aske.

Zetland Estates also produce more traditional timber products – sawlogs and palletwood. It offers a consultancy service for anyone considering biomass heating, supplies woodfuel to other users in the area, and is beginning to buy poorer quality wood from neighbouring landowners to add to the supply of woodfuel.

Head Forester Shaun Purkiss says: 'Creating a hub for woodfuel supply has given people more security of supply, and helped to get green energy going in the area.'



Yorkwoods

by its Woodfuel Strategy could attract the equivalent of 24,000 new jobs by 2020.

The UK is one of the least wooded countries in Europe, with just 11.7 per cent woodland cover compared to an average of around 44 per cent for Europe as a whole. France and Greece have more than double the woodland cover of the UK, Spain more than three times. World forest cover is around 30 per cent.

The UK is committed to maintaining its forest cover but there is also now a growing impetus to create more woodland on a larger scale than at any time since the middle of the last century. The Woodland Trust has long called for creation of new native woodland, and strongly supports this new drive, which is underpinned by recognition of the value of trees and woods for climate change mitigation and adaptation⁵, as well as the many other benefits they bring. The mechanisms to encourage the rate of woodland creation required to meet government aspirations and targets will need to be manifold, but making forestry and woodland management economically viable must be a part. A vibrant woodfuel and timber economy based on local wood production underpins sustainable management of existing woodland and expansion of the woodland resource.



There is growing impetus to create new woodland in the UK.

Sustainable forest management

Forestry Commission Picture Library/George Gatte



Woods can be managed sustainably in line with a variety of different objectives.

The concept of sustainable forest management has been recognised at an international level for at least 20 years. The following definition was developed by the Ministerial Conference on the Protection of Forests in Europe (MCPFE) and has since been adopted by the United Nations Food and Agriculture Organisation (UN FAO).

'The stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfill, now and in the future, relevant ecological, economic and social functions, at local, national, and global levels, and that does not cause damage to other ecosystems.'

Put simply, sustainable forest management means landowners determining how to manage their woodland or forest today in such a way that similar, or greater, benefits, health and productivity are ensured in the future. The form that this management takes will vary according to their objectives – whether this be timber production, woodfuel, game management and sporting use, wildlife conservation, access and recreation, investment or indeed a combination of two or more of these.

Many of the wider benefits provided by forests and woodland, for example ecosystem services, are public goods – the landowner is not the only beneficiary. Yet only 30 per cent of forest and woodland in the UK is state owned. Policies and mechanisms to ensure sustainable forest management should enable landowners to pursue their own objectives, but within parameters that ensure provision of public goods now and into the future.



Baronscourt Estate Continuous cover management for timber and game



spruce, but the woods as a whole contain a good mix of both conifer and broadleaf species. The Estate's enthusiasm for continuous cover is greater than ever, and the head of forestry, Jim Simpson, agent Robert Scott and owner Lord Hamilton are all active members of Pro Silva Ireland, which advocates close-to-nature forest management.

Timber is sold for construction, palletwood and fencing, and the estate is looking into possible new markets for small roundwood, particularly wood fuel. It has

established a firewood business, selling logs by the pallet, a good outlet for snapped Sitka for which no alternative market exists, and plans to install a wood chip central heating system in 2011 to heat Baronscourt.

At the same time, the estate is gradually taking back outlying areas of land that were leased to Northern Ireland Forest Service some years ago. Once these have been clear-felled by the Forest Service, the estate restocks them with a wide variety of species to provide seed for

future generations. Wide rides are left every 200 metres to help with deer control and improve the rough shooting potential.

Baronscourt offers specialised driven woodcock shooting during the winter. The Estate attracts a high number of woodcock due to its mild winter climate and its type of cover and feeding grounds. Much of the woodland cover has been carefully managed to create the perfect habitat for woodcock and yet allows the guns to take both a sporting and safe shot.

The management of the Estate's wild herd of Japanese Sika deer has been recognised with a Laurent Perrier Award for wild game conservation.

The Baronscourt woodlands have qualified for continued membership of the Forest Stewardship Council certification scheme by demonstrating sustainable and responsible management of their forest land.

Baronscourt, the home of the Duke of Abercorn's family since 1612, lies in a sheltered valley in the foothills of the Sperrin mountains in Co Tyrone, Northern Ireland. The Estate includes around 900 ha of woodland, and won the Royal Forestry Society's 'Duke of Cornwall's Award', 2003.

Baronscourt embarked on a transition to continuous cover forestry around ten years ago, a system described by the Estate's land agent, Robert Scott, as 'close to nature, working with nature using natural processes'.

Originally this was applied to around 400 ha on the valley bottom, but the aim now is to manage all the Estate's woodlands on a continuous cover basis. Around a quarter of the productive forest is thinned each year, taking out big and poor quality trees. The dominant species is Sitka



Baronscourt Estate in Northern Ireland exemplifies multi-purpose management.

Principles of sustainable forest management

At the Earth Summit in Rio de Janeiro in 1992, a non-legally binding Statement of Forest Principles was adopted which sets out a global framework for the management, conservation and sustainable development of forests.

At a European level, guidelines for the sustainable management of forests were developed through the European Process on Criteria and Indicators for European Forests (more commonly known as 'the Helsinki process'). The European countries have agreed upon six common criteria, 27 quantitative indicators, and a number of descriptive indicators for sustainable forest management. The six common criteria are as follows:

- **maintenance and appropriate enhancement of forest resources and their contribution to global carbon cycles**
- **maintenance of forest ecosystems health and vitality**
- **maintenance and encouragement of productive functions of forests (wood and non-wood)**
- **maintenance, conservation and appropriate enhancement of biological diversity in forest ecosystems**
- **maintenance, conservation and appropriate enhancement of protective functions in forest management (notably soil and water)**
- **maintenance of other socio-economic functions and conditions**

At a UK level, the UK Forestry Standard (UKFS) and its associated guidelines set out the criteria and standards for the sustainable management of forests. These were revised in 2010. The Woodland Trust welcomed the

introduction of the UK Forestry Standard as the Government's expression of sustainable forestry, and has been involved as a key stakeholder in its recent revision.

Abriachan Forest Trust Community ownership for rural regeneration

Abriachan is a scattered rural community of about 140 people set high above the shores of Loch Ness in the Highlands of Scotland. In 1998, it set up the Abriachan Forest Trust, to take ownership of a 534 hectare forest acquired from Forest Enterprise and manage it long-term. The original aim in acquiring the site was to protect access to the site, but the project has achieved far more than this.

Now, the woodland is managed with objectives of improving the environment, creating local jobs, and encouraging recreation and enjoyment. Timber is harvested commercially, but low-impact continuous cover management techniques are used as much as possible to protect and enhance biodiversity, and the income is ploughed back into the Trust's other activities.

The community wanted the forest to become a thriving centre for education and recreation. It now has a Forest School, and a network of paths, easy access trails and mountain biking routes has been created. Activity programmes are offered that are designed to better the health and well-being of participants.

To improve biodiversity, the Trust has planted well over 200,000 native trees, and has increased black grouse

Woodland owners receiving grants for management, or in receipt of felling licences, are obliged to carry out work in accordance with the UK Forestry Standard.

populations by providing suitable habitats, and restored wet areas beside streams.

The forest was originally planted in the 1970s and 1980s,

and consisted predominantly of lodgepole pine and Sitka spruce with some larch and Scots pine. It had seen little management for 15 years when the community took it on. Investment was needed in infrastructure, including roads for timber extraction, and in machinery.

The project employs six people in the forest, in administration, education and recreation, and forestry operations.

The community is rightly proud of the transformation it has brought about in this award-winning forest. There has been an increase in the number of visitors, superb feedback from user groups including school, NHS referrals and assorted community groups, and in 2007 it won the Multipurpose Woodland category in Scotland's Finest Woodlands Awards and the Nancy Ovens' Award for outstanding contribution to community play.



New forest classroom at Abriachan.

Abriachan Forest Trust

Independent certification

Auditable certification standards were developed in response to concerns about the environmental and social impacts of forest management, especially in primary forests.

The Forest Stewardship Council (FSC), an international non-governmental organisation, developed an independent system for the certification of timber and timber products from both tropical and temperate forests, providing a market mechanism to reward responsible forest management. In 1998, the UK was among the first to have a national forestry standard endorsed by the FSC. This was developed further and became the UK Woodland Assurance Standard.

Although a voluntary standard, UKWAS is widely adopted in the forest industry, and forms the basis for certification through both the FSC and the Programme for the Endorsement of Forest Certification Programmes (PEFC).

The Woodland Trust was a founding member of UKWAS and continues to be an active representative of the environmental sector. Forestry Commission woods, as well as those of other major landowners such as the National Trust and the RSPB are now certified under UKWAS.

There are other forest certification systems available internationally but the Woodland Trust considers the FSC to be the only one that truly balances the economic, environmental and social aspects of woods and forests internationally.

Denge and Pennypot Woods Coppice management for biodiversity



Ride edges are coppiced to provide habitat.

Denge and Pennypot Woods, owned and managed by the Woodland Trust, cover 50 hectares and are part of a semi-natural ancient woodland complex on the North Downs, a few miles south west of Canterbury.

The woodland has been actively coppiced over many years, and is now predominantly sweet chestnut, that would have been planted in the 18th and 19th centuries and managed to produce hop poles and fencing products. To one side of the wood stands an area of former chalk grassland known as The Warren, and this combination provides an interesting wildlife habitat, housing among other species the rare Duke of Burgundy butterfly.

The Woodland Trust aims to continue coppicing a significant part of the wood to benefit the invertebrate populations within the wider Denge Forest complex, complementing the management being carried out by other nearby landowners. A wide ride was also established, based on a circular track around the wood, and its edges are now managed as short rotation coppice. This also physically links into other wide ride habitats established elsewhere within the Denge Wood complex by neighbouring woodland owners. This has expanded the habitat for butterflies and other invertebrates, with up to 27 different butterfly species recorded in recent years.

Some areas of coppice are also being left to mature, so that in the longer term they will provide old growth characteristics, forming a more high-forest structure and eventually, it is hoped, leading to increased diversity of tree species.

Coppiced chestnut is mainly sold for fence posts. Larger, older stems are used to make rustic post and rail fencing, with rails cut and split by hand. Leftover wood can be sold for firewood or may be chipped for indoor equestrian use, or for woodchip for energy.

Like all the Trust's woods, Denge and Pennypot are Forest Stewardship Council certified.



The Woodland Trust's perspective

We support the framework for sustainable forest management as set out in the UKFS and UKWAS/FSC.

We support an increase in timber and woodfuel production as a sustainable resource linked to credible certification such as FSC, reducing the negative environmental impacts of long distance transport. Local wood production provides a way of reconnecting people with woodland, helps them value woods and trees and contributes to regional and local economies.

We believe there are a number of priorities that should be considered in the development and maintenance of a sustainable forest and woodland sector in the UK:

A substantial increase in forest cover, a significant proportion of which should be native woodland

Ideally creation of new woodland should be targeted where it can deliver optimum benefits – for example new woods with public access in those areas where people have little or no access to woodland, or new native woods next to existing ancient woods to buffer them from the harmful effects of adjacent land use. However, there are many competing demands on land in the UK, and a step change in the rate of woodland creation requires co-operation of landowners. We believe a prescriptive 'opportunity mapping' approach can be helpful in prioritising projects where choices exist or

resources are scarce, but at present, with low planting rates, we believe it is important to capitalise on enthusiasm and encourage delivery wherever possible. We therefore promote more trees and woods widely, but support targeted action for optimum benefit where it is helpful.

New woods and trees can bring benefits almost anywhere – the main exception is in areas that are already valuable habitats in their own right, such as semi-natural heathland or grassland.

We believe that in considering the need to increase forest cover in the UK, the value of trees outside woods should not be forgotten. Individual trees in fields and hedgerows,

Dendle's Wood NNR

Minimum intervention management for biodiversity



Non-intervention was the most suitable management option due to the wood's specific biodiversity value.

Dendle's Wood, a 28 hectare National Nature Reserve, is situated a couple of miles north of Cornwood, on the southern edge of Dartmoor. This oak-beech wood, forming part of a larger complex of mainly wooded reserves, has an interesting past. An ancient site that was formerly managed as wood pasture with some coppice, it contains individual ancient specimens of beech that pre-date the general introduction of this species to the region. It is not known when management as wood pasture ceased, but inevitably its past management has shaped the composition of the wood today. However, in more recent times, Dendle's Wood, which is now managed by Natural England, has a long continuity of minimum intervention management – so much so that it is used for long-term monitoring of woodland change and

environmental factors. The decision to manage the wood in this way is guided by the main objective which is to conserve and enhance the wood's outstanding biodiversity value.

Dendle's Wood is important for its fauna, including breeding birds, rare beetles and bats. The site is home to two particularly rare species: the Blue ground beetle *Carabus intricatus*, which benefits from the open ground conditions provided by the shading of beech, and the Barbastelle bat, which benefits from the standing deadwood and mature trees. It is also important for a rich variety of ferns, mosses and lichens, the result of the high rainfall and humidity and clean air. The current approach of minimum intervention should continue to provide suitable conditions for all of these species.

small copses and clumps of trees, and shelter belts can all be valuable in the provision of ecosystem services⁶. Research suggests that including these in measurements of forest cover could boost the figure considerably. In a study of selected areas of Hampshire, Oxfordshire and Cambridgeshire, trees outside woods covered around seven per cent of the areas studied, over and above the area already covered by woods of two hectares or more⁷. Given the need for the UK's land to deliver an increasing range of public goods – food, fuel, biodiversity, recreational space – we promote a flexible model of woodland creation that includes, for example, trees in hedgerows, field corners, and steep river valleys in the uplands, and individual trees in urban areas, including street trees, as well as larger blocks of new woodland on former farmland or brownfield sites.

No further loss of ancient woodland

Ancient woods are an irreplaceable natural asset, with an accumulation of ecological interest over hundreds of years, yet they cover less than two per cent of the UK. The

Woodland Trust strongly believes that any further loss of ancient woodland is unacceptable, and has positioned itself as a champion of ancient woodland, lobbying for better protection of ancient woods and fighting individual cases of ancient woodland under threat.

In addition, we promote sensitive management of ancient woods where active intervention is required to meet owners' objectives, aiming to enhance or safeguard its important features, and using low-impact techniques. We have produced a guide to help landowners do this⁸.

Restoration of semi-natural habitats planted with non-native conifers

The Woodland Trust promotes restoration of all semi-natural habitats planted with non-native conifers, including Planted Ancient Woodland Sites (PAWS).

Our research has shown that a gradual approach to restoring PAWS is generally best to safeguard the remnants of ancient woodland interest. We have produced practical written

guidance for landowners⁹, and we work in partnership with others to provide landowners with support, advice and funding. While we would like to see all PAWS in restoration programmes we take a pragmatic approach, recognising that landowners have their own objectives and the scale and timescales involved will vary.

Where semi-natural open ground habitats have been planted with non-native conifers, we believe these should be restored, where sufficient remnants of the original habitat survive and where long-term management is sustainable. Restoring these habitats is one of the key elements of action needed to create landscapes that are more wildlife-friendly in the face of climate change. Restoration may not mean the area being devoid of trees in the long term – in many cases a mosaic of habitats including open ground, and individual or small areas of native trees would be beneficial for wildlife.

Woods for people

The Woodland Trust would like everyone in the UK to be able to access woodland within a relatively short distance of their homes. This means an increase in accessible woodland near to where people live, in line with the Woodland Trust's 'Woodland Access Standard'¹⁰, through making existing woods accessible where practical, or creating new woodland. This includes both unrestricted open access and restricted, but permissive access (eg fee-payable, fixed-hours access) since we recognise landowners have a range of different objectives relating to their woods and may not be able to provide free public access at all times.

We support the involvement of local people where possible in the management and creation of woodland, since contact with nature is a first step to encouraging a greater



Trees outside woods are often undervalued.

Coed y Brenin

Management for recreation

Forestry Commission Picture Library/John McFarlane



The wood is also managed for biodiversity and timber production.

The forest covers more than 3,600 hectares in Snowdonia, Wales, around the valleys of the rivers Mawddach, Eden, Gain and Wen. It is managed by Forestry Commission Wales and is renowned for its world-class mountain biking trails

At Coed y Brenin, the forest is managed to cater for a wide range of recreational pursuits, hand-in-hand with other objectives such as biodiversity and timber production.

from a 'green' route suitable for novices to more technical waymarked routes. The majority of these are single-track courses, varying in length from 12 to 38 kilometres, and starting from a new £1.6 million, timber-built, woodfuel-heated visitor centre. There are also all-ability and family walking trails, running trails, and a children's play area.

Visitor numbers increased ten-fold in a few years when the forest was developed for mountain biking and now more than half the visitors are cyclists.

Dating back several centuries, Coed y Brenin was acquired by the Commission in 1922, when it was extensively replanted with conifer species. However, the Forestry Commission is in the process of converting much of the

wood back to native broadleaf species, and there are still areas of upland oakwood lining the main valleys, that support some of Britain's rarest lichens and bryophytes.



More than half of visitors are cyclists.

Forestry Commission Picture Library/Isobel Cameron

understanding and respect for the environment, and to inspiring people to take action to protect it. This includes a range of options, again, taking on board the wishes of different landowners, from involvement of the community in one-off tree planting days on private land to community groups with full responsibility for managing their local woodland.

Adapting to climate change

We promote a landscape-scale approach to woodland

conservation. In order to enable wildlife adapt and move in the face of climate change, action is needed across whole landscapes to conserve and restore existing habitats, create new ones, and make the intervening areas of land more wildlife friendly.

We believe conserving and expanding tree and woodland cover will also help make our towns and cities more resilient to climate change, improve water quality and attenuate flooding,

and support productive agriculture through shade, shelter, water management and provision of on farm energy.

Climate change may also bring new pests and diseases, and we believe there needs to be greater emphasis placed on forest biosecurity to safeguard our forest resource, including research and regulation of movement of plant material.

References

¹ Tabbush P and O'Brien L (2003) *Health and well-being: trees, woodlands and natural spaces*. Forestry Commission, Edinburgh.

² Bird W (2004) *Natural Fit: Can green space and biodiversity increase levels of physical activity?* RSPB.

³ Ulrich R S, Simons R T, Losito B D, Fiorito E, Miles M A and Zelson M (1991) *Stress recovery during exposure to natural and urban environments*. *Journal of Environmental Psychology* 11, 201–230.

⁴ Centre for Economics and Business Research (2006) *The economic contribution of the forest industries to the UK economy*. A report for Confor and the Forestry Commission. Available at: www.confor.org.uk

⁵ Read DJ, Freer-Smith P H, Morison J I L, Hanley N, West C C, and Snowdon P (eds) (2009) *Combating climate change –*

a role for UK forests. An assessment of the potential of the UK's trees and woodlands to mitigate and adapt to climate change. The synthesis report. The Stationery Office, Edinburgh.

⁶ Manning A D, Fischer J, and Lindenmayer D (2006) *Scattered trees are keystone structures – implications for conservation*. *Biological Conservation* 132 pp 311–321

⁷ Brown N and Fisher R (2009) *Trees outside woodlands*. The Woodland Trust.

⁸ The Woodland Trust (2009) *Ancient Woods: A guide for woodland owners and managers*.

⁹ The Woodland Trust (2005) *The conservation and restoration of plantations on ancient woodland sites; A guide for woodland owners and managers*.

¹⁰ The Woodland Trust (2010) *Space for People: targeting action for woodland access*.

Sustainable management of forests, woods and trees in the UK

The Woodland Trust perspective



Call 0845 293 5858 or visit woodlandtrust.org.uk

The Woodland Trust*

Kempton Way,
Grantham,
Lincolnshire NG31 6LL

Tel 01476 581111

The Woodland Trust Scotland

South Inch Business Centre,
Shore Road,
Perth PH2 8BW

Tel 01738 635829

The Woodland Trust Wales (Coed Cadw)

3 Cooper's Yard,
Curran Road,
Cardiff CF10 5NB

Tel 08452 935 860

The Woodland Trust in Northern Ireland

1 Dufferin Court,
Dufferin Avenue,
Bangor,
County Down BT20 3BX

Tel 028 9127 5787

* Registered Office

The Woodland Trust is a charity registered in England and Wales no 294344) and in Scotland no SCO38885. A non-profit making company limited by guarantee. Registered in England no. 1982873. The Woodland Trust logo is a registered trademark.

Registered Office: Kempton Way, Grantham, Lincolnshire, NG31 6LL

© The Woodland Trust, 2010

Images © protected Woodland Trust

4644/02/2010

This report should be referenced as: *The Woodland Trust (2011) Sustainable management of forests, woods and trees in the UK – the Woodland Trust perspective.* woodlandtrust.org.uk/publications