



## Why manage woodland & who benefits?

There is a common misconception that woodlands in Britain are wild places which can look after themselves. Ecologically, woodlands are 'climax vegetation', meaning they find equilibrium where renewal and death are in a perfect balance. In some parts of the world, natural processes including death from old age, browsing damage and catastrophes (e.g. insects, disease, flooding, drought, wind, and fire) allow the rebirth of woodland, allowing seeds to germinate and a new generation of trees to grow. This can happen at on very different scales; from country level (e.g. the mountain pine beetle has destroyed 38,000 square miles in Canada) down to changes under the canopy of a single tree. The arrival of light in particular is an essential stage in the regeneration of a woodland.

There are no wildwoods in Britain — arguably even in Europe — and every woodland has been influenced to some degree by centuries of exploitation. From the last glaciation onward people have cleared woodland to grow food, and harvest wood for building and heat. Our woodlands have been tamed and the wildlife associated with them adapted to these managed conditions, to the point where they have become largely dependent on manmade change (especially for 'letting the light in'). If woodland management activities change, then we must expect the wildlife dependent on these practises to change too.

There has been a tendency to leave some broadleaved woodlands alone, or 'non-intervention management', partly because it was seen as non-economic to manage as a timber crop, but also because of a misguided intention to 'help wildlife'. Meanwhile, "there is strong evidence from studies of plants, insects and birds that some of our best-loved woodland wildlife is in crisis": woodland plant species richness has declined by 19%, woodland butterfly populations declined by 74%, and birds 32%<sup>1</sup>. In addition, in the last two decades alone, there have been 14 new diseases (including the devastating Chalara ash dieback that threatens up to 95% of our ash trees) and five new major pest outbreaks that threaten our woodlands. A sustainable approach to woodland management could substantially mitigate these threats.

Beyond the immediate environmental impact, in the private sector a significant proportion of conifer plantations have been under-managed, largely due to low timber prices, and so overall value of the crop has decreased. As a result the UK imports a large volume of its timber needs (in 2013 it was the third largest net importer of forest products after China and Japan), leading to significant carbon emissions associated with 'wood miles' and in some cases, exporting its ecological footprint to other countries.

### Key aspects of management include:

**Light:** woodland plants, including trees, shrubs and ground flora, require sufficient light for germination, establishment, flowering and seed production. In turn, these plants are the food source for many woodland insects, animals and birds. Therefore, management of light ensures healthy ecosystems and biodiversity.

**Age, size and shape:** woodlands where trees are all the same age, size and shape offer a limited range of habitats and are likely to be less resilient than a well-managed woodland. Diversity of age, size and shape within a woodland can provide protection against extreme events (e.g. outbreak of a pest), openings in the canopy and along rides provide light, promoting biodiversity, while veteran trees can be managed sensitively by allowing them space to thrive.

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<sup>1</sup> Wildlife & Countryside LINK statement: [http://www.wcl.org.uk/docs/2009/Link\\_position\\_statement\\_Woodfuel\\_Strategy\\_03Jul09.pdf](http://www.wcl.org.uk/docs/2009/Link_position_statement_Woodfuel_Strategy_03Jul09.pdf)

**Species:** whilst it might be easier to manage (and market) a woodland planted with a single species it is inherently risky as they will be less resilient to environmental and economic changes. Diversifying the range of species — and importantly the genetic diversity too — may help ensure that habitats valuable to society and wildlife can be provided in future.

**Management of pests:** deer are a natural herbivore at home in our woodlands and are lovely to see. However, introduction of non-native species (*e.g.* muntjac), combined with a reduction in hunting, has resulted in deer numbers which are now recognised by conservation organisations as severely impacting woodland biodiversity. Management of deer must be implemented sensitively and humanely, ideally according to the principles of the Deer Initiative Accord<sup>2</sup>. Similarly, grey squirrels are a significant pest.

## Active management of woodland has three main benefits: social, economic and environmental; the three pillars of sustainability

### Benefits to society

Links between **human health and wellbeing**, and access to the natural world, are well-known and continue to influence forestry policy. Examples include tackling obesity, social isolation and improving mental health.

There are clear links between active management and the appeal of woodlands: from the opening up of large coniferous woodlands for recreation (*e.g.* Kielder Forest), to tourism linked to bluebell woodland visits in the Spring. Unmanaged woodlands can be dark places and unappealing to people, and sometimes unsafe (*e.g.* dangerous trees).

Climate change is predicted to have a severe impact on future society. **Our woodlands are likely to play an ever-more important role in sheltering us from the effects of climate change** (*e.g.* controlling flood run-off in water catchments, and reducing urban heat island effects). To achieve this woodlands themselves need to be resilient to environmental change (*e.g.* climate, new pests and diseases). Active management of woodlands will ensure a wide range of species, genetic diversity and age structure; the main elements essential to ensure resilience. Ensuring owners/managers are engaged in management also helps in combating the spread of pests and pathogens.

### Benefits to the economy

Timber and other wood products are **a commodity with a monetary value**. Values vary greatly, from low-value chip and pulp from conifers or hardwoods for firewood, to graded softwood for engineering and structural use in buildings, and quality hardwoods for furniture making and even veneers. Income from timber receipts can encourage woodland managers to reinvest in woodlands, not only improving their resilience and ecological value, but also **supporting the rural economy and providing employment**.

Apart from traditional economic benefits associated with woodlands, revolutions in rural and forestry economics are beginning to realise **values for carbon capture, and developing values for natural capital**.

### Benefits to the environment

Healthy woodland provides multiple environmental benefits. It **cleans our air** (on average one hectare of UK woodland stores around 5.4 tonnes of carbon dioxide) and can **mitigate flooding** since trees intercept or use water in many ways — depending on species and size. Woodlands are recognised as providing a wide range of **important habitats** for wildlife. Many of the species associated with these habitats are dependent on woodland condition. Active management—which may include preserving ancient trees and deadwood, or thinning to allow light to reach the woodland floor—is essential to conserve and enhance biodiversity.

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<sup>2</sup> Deer Initiative Accord: <http://www.thedeerinitiative.co.uk/uploads/docs/36.pdf>

