



## HABITATS

Examples from left to right: Secondary woodland – David Chandler, Orchard – Skitterphoto

# Woodland

Information: Mark Prina

### All about woodland

- Woodlands are groups of trees growing close enough for their canopies to meet and where the soil is too poor for growing food or grazing animals. Trees have always been crucial for human existence; notwithstanding the production of oxygen, their wood has limitless uses as tools, utensils, shelter, enclosures, fuel, and much more besides.
- Trees have the ability to regrow perpetually, multi-stemmed, from a stump and from the earliest times this has been used to supply wood of different dimensions for different uses. Cutting the tree at the base is referred to as coppicing and if it is cut several feet up, out of the reach of browsing animals, this is termed pollarding. Trees left to supply timber for larger uses, such as buildings, are known as standards.
- The original wildwood which dominated much of Britain was a varied landscape of old and young trees, dying trees and deadwood, regrowth and regeneration. Fallen trees would result in open areas and scrub; grazing animals would have maintained grassy glades; while poorly drained bogs would have been too wet for many tree species to grow.

### Wood pasture & parklands



Wood-pasture is essentially grassland with scattered trees and the conflict of shade from trees spoiling the pasture, therefore grazing animals eating tree growth has to be reconciled. Many common lands were managed as wood-pasture supplying, perhaps, both summer grazing and winter fodder.

Park is a term of many meanings; with emparkment occurring from ancient times to facilitate deer farming, later as an expression of landscape design.

Here we will regard the term park in the sense of enclosed open land with standard trees, arising naturally or planted, native or exotic. A park may well preserve evidence of previous land-use, even ridge and furrow cultivation or the earthwork remains of buildings.

**Flora** includes oak, beech, lime, sycamore, Norway maple and various exotic tree species according to the fashion at the time of planting. For the grassland, unless it has suffered 'improvement' to rye-grass monoculture, a diversity of grasses and flowering plants, characteristic of the soil types in the area, should be preserved. Hawthorn/bramble scrub or gorse/broom heathland may develop, if grazing is low enough or excluded from certain areas.

**Fauna** for grassland areas includes deer, rabbit, hare, badger, mole, butterfly species, other invertebrates and fungi. For trees includes hole-nesting birds, specialist wood-boring insects.

**Management** for grassland: summer grazing by sheep/cattle. For trees: pollarding to protect regrowth (although a 'browse line' will probably develop at 4–8 feet), leave dead trees standing, leave fallen or cut branches on the ground and protect young trees with a wooden 'cage' not plastic guards. In addition, maintaining adjoining zones of woodland, wood-pasture, scrub and open grassland in a large mosaic provides transition from one habitat structure to another. Many of our familiar 'woodland' bird species, are actually species of open savannah or woodland edge.

**Learn more** [woodlandtrust.org.uk/trees-woods-and-wildlife/habitats/wood-pasture-and-parkland/](http://woodlandtrust.org.uk/trees-woods-and-wildlife/habitats/wood-pasture-and-parkland/)

## Deciduous woodland



Deciduous woodland is generally characterised by trees that reach a height of more than 5 m when they are mature. They often form a distinct and sometimes open canopy where the canopy cover is more than 20%. Deciduous woodland can contain both native and non-native species, can be of ancient or recent origin and can also be semi-natural, naturally regenerated or entirely planted.

Deciduous woodland is widespread habitat across England, especially in lowland areas, but is most noticeably absent from larger wetland areas such as the Fens or Somerset levels. There are an estimated 961,000 ha of these woodlands in England. Deciduous woodlands were formerly far more widespread but with the expansion of mechanical farming many areas were cleared.

Today many conservation, community and business groups are aware that restoring this forest type will help species adapt to climate change as well as providing an opportunity to store carbon. The challenge for deciduous woodlands is to ensure that it is planted in the right place to maximise the benefit for biodiversity.

**Flora** includes (depending on soils, pH and moisture levels) bluebell, dog's mercury, wood avens, common dog violet, primrose.

**Fauna** includes bank vole, wood-mouse, tawny owl, speckled wood butterfly.

**Deciduous Woodland Management** Existing woodland on your land should be carefully researched then assessed before undertaking any management. Old maps or some time spent in the local county records office are invaluable in revealing the age and origins of a piece of woodland. The very name 'wood' often indicates antiquity if not ancient status.

Next it is important to survey what is there – tree species, evidence of coppicing, any earthworks within or woodbanks on the perimeter are important details. The understorey and ground flora could be significant. Beware of misreading the presence of certain species touted as 'ancient woodland indicators' (AWIs). These depend on the part of the country they are growing in. Bluebell, for instance, grows freely in hedges as well as woodland in Staffordshire, but is a strong AWI in the south of England. Dog's Mercury is a good indicator in the midlands but in East Anglia it grows freely in hedges and young woodland with high nutrient inputs.

Whatever the outcome of any surveys, existing woodland cover needs management. If coppicing has been part of the wood's management then it should be reinstated but for small areas, in say 3–7 year cycles, to restore a patchwork of varying structure. The resulting increased light levels to the woodland floor will stimulate different plant species to emerge. If phosphate levels are high this could mean resurgent nettle growth outcompeting other plants. The cutting and removal of vegetation to reduce nutrient levels may prove ineffective in areas of high agricultural chemical use. Even among the coppice blocks leave some standing trees, especially any existing standards that have been promoted (allowed to grow on) previously. Keep in mind the need for deadwood both standing and lying on the woodland floor.

It may be necessary to install deer exclusion fencing to some areas to allow regeneration of tree and herb species. Experiments have shown remarkable change when grazing and browsing pressure is removed.

As previously mentioned, many woodland species require 'edge' habitats, not dense woodland, so the creation of rides is beneficial to biodiversity. Make these curved with a 'kink' as they reach the wood boundary to avoid a wind tunnel effect and manage the margins of the ride, to develop a band of scrub then tall to shorter vegetation. Apply the same treatment to the perimeter of the wood as described in the wood–pasture section. Remember the wildwood had many habitats grading into one another and we can mimic these transitions on small scales with careful management. Avoid abrupt changes from one structure to the next. Finally, do not cut mature ivy on trees at the base to kill it. This is inexcusable as you are destroying vital habitat for many species.

**Learn more** [suffolkwildlifetrust.org/conservationadvice/woodlands-and-hedgerows/woodland-management](https://suffolkwildlifetrust.org/conservationadvice/woodlands-and-hedgerows/woodland-management)

## Secondary woodland



This term refers to all woods (including ancient) that show signs of once being open land, for example, parts of Darenth Wood in Kent feature ancient woodland indicator plants yet had clearly grown up over ridge and furrow farmland. Many of the woods in the deciduous woodland section will be secondary, having grown up relatively recently on sites affected by quarrying or isolated by railway or road building.

However, for our purposes here we will also consider deciduous plantation woodland as this is very pertinent to current practice with grants and the political will to undertake large-scale tree planting schemes.

**Flora** is dependent on the original vegetation on the planting site: if on arable land reverting to woodland it may initially include arable/disturbed ground 'weeds'; if on grassland will retain the grassland species for a very long time. Eventually, as the canopy closes, shade tolerant plants will succeed these but the process is extremely slow and unlikely to include plants of long established woodland unless the plantation is adjacent to such woodland or ancient hedges.

**Fauna** includes many small mammal species such as voles, mice and shrews, a variety of birds, see food forests, and a some pollinating insects.

**Management** If there is little or no existing woodland on your site then a plantation is a valid option. Grazing should cease on the plantation site and, if possible, exclude deer to avoid damage to saplings before they are established. This also allows seed germination from nearby parent trees. It is advisable to look at what is growing naturally in the area before ordering a standard selection from the nursery. Often a selection of species is planted but unless they are suitable to the conditions they will fail. In addition these may include imported stock or even non-native species.

Ongoing watering of the planted trees will be needed in times of drought. Also remove competition around the saplings as they establish. However, do not routinely remove native species like bramble as these are the beginnings of the all-important structure needed if the new wood is to be of maximum benefit to a wide range of species. Most colonists will be generalist species early on but the aim is to build complexity over time. Creating a wood is a long game! For example, coppicing cannot be introduced before the trees are at least five years old.

**Learn more** [woodlandtrust.org.uk/trees-woods-and-wildlife/habitats/plantations/](http://woodlandtrust.org.uk/trees-woods-and-wildlife/habitats/plantations/)

## Orchards



Orchards are areas of shrubs and trees grown specifically for food (normally fruit). These are often ancient sites with many of the fruit tree species dating back to the Roman times. Some species may have even been cultivated in the Neolithic. Orchards not only provide an important function for food growing but are potentially one of the best habitats for wildlife.

They are particularly good for pollinating insects and birds as many fruit trees age fast which in turn create amazing deadwood habitats. Some orchards also contain nut trees such as walnut and hazelnut which are great to eat and brilliant for small mammals and birds.

**Flora** includes apples, plums, pears, damsons, cherries and quince as well as hazel and many other shrub species including blackthorn, elder and hawthorn; a wide range of flowering plants like orchids, mistletoe; specialist lichen such as golden eye lichen and orchard tooth fungus.

**Fauna** declining birds including lesser spotted woodpecker, spotted flycatcher, bullfinch and willow warbler. Great for insects including the threatened noble chafer (one of the rarest UK beetles).

**Management** The key here is maintaining genetic variety. If your orchard already has local or rare varieties, think about perpetuating it by grafting onto suitable rootstock. There are many courses to teach these specialist techniques as well as when to prune and how to encourage budding. Leaving deadwood lying around is essential for birds and insect species. Try to maintain long and wildlife-rich grass over as much as the area as possible.

**Learn more** [ptes.org/campaigns/traditional-orchard-project/orchard-network/](https://ptes.org/campaigns/traditional-orchard-project/orchard-network/)  
[theorchardproject.org.uk](https://theorchardproject.org.uk)  
[orchardlink.org.uk](https://orchardlink.org.uk)

## Food forests



Food Forests, or edible forest gardens, are self-regulating, low maintenance food growing systems based on woodland ecosystems. They commonly include 7 layers of plants: Canopy layer (nut & fruit trees), dwarf layer (fruit trees), shrub layer (currants and berries), vertical layer (vines, fruits and vegetables), herbaceous layer (herbs), soil surface (ground cover crop) and rhizosphere (root crop).

They are a new farming concept in the UK, although have been designed and developed for thousands of years in other parts of the world. Food forests incorporate fruit and nut trees, shrubs, herbs, vines and perennial vegetables which have yields directly useful to humans, whilst working in harmony with nature to provide a whole range of habitats for wildlife. Food forests are forest-like systems where fertility comes from various sources, greatly aided by fungi, wildlife is the primary pest control, soil holds water like a sponge, and the aim is to encourage a high diversity of plants, insects and birds.

**Flora** includes endemic woodland and meadow plants alongside deliberate planting of the different layers of fruiting plants.

**Fauna** includes many small mammal species such as voles, mice and shrews. Food forests provide potential habitat for a variety of birds; 8 species of warblers including garden warbler, white throat, black cap and lesser white throat as well as overwintering finch, pipits, skylark and buntings. In addition, there may be a wide range of pollinating insects, due to the great variety of plants.

**Management** The key here is to create as bio-diverse space as possible, making sure that every layer is planted with a big variety of species. Grassland areas are managed as wildflower meadows with paths mown into them. All prunings or cuttings are left on the ground providing important habitats for birds and insect species, as well as acting as valuable ground cover and natural fertiliser.

**Learn more** [permacultureapprentice.com/creating-a-food-forest-step-by-step-guide/](https://permacultureapprentice.com/creating-a-food-forest-step-by-step-guide/)  
What is a food forest [projectfoodforest.org/what-is-a-food-forest/](https://projectfoodforest.org/what-is-a-food-forest/)

How to Use Native Fungi to Improve Soil Quality and Bulletproof Your Food Forest Against Disease  
[permacultureapprentice.com/food-forest-fungi/](https://permacultureapprentice.com/food-forest-fungi/)

Gardening and 'The Permaculture Way' Graham Bell [youtube.com/watch?v=ickryyOZ-7k g](https://youtube.com/watch?v=ickryyOZ-7k g)

**DID YOU KNOW? That trees are amazing wildlife in themselves and not simply habitats!**

**That there is so much we don't know about trees, e.g. why they grow where they do, why some trees grow as individuals, like oak, and some are social, like hornbeam**

**Trees release chemicals called phytoncides that can boost our mood and may have other health benefits too!**

**That the Bible is full of references to trees; when God speaks there's a tree nearby!**

### How can we help?

- Get hooked on reading about trees and woodland – there are many inspirational authors, none more so than Oliver Rackham.
- Take your new-found knowledge and join others to learn and apply practical woodland management skills.
- Ask questions about the ecology of trees, then devise research to gather data to try and answer those questions.
- Inspire the next generation to love trees.

### Learn more

- Book: Woodlands, Oliver Rackham. London: William Collins, 2015.
- Book: Habitat Management for Invertebrates, Dr Peter Kirby. Exeter: Pelagic Publishing, 2013.
- Book: Trees and Woodland in the British Landscape, Oliver Rackham. London: Weidenfield & Nicholson, 2020.
- [chewvalleytrees.co.uk/guides/coppicing-and-pollarding](http://chewvalleytrees.co.uk/guides/coppicing-and-pollarding)
- [conservationhandbooks.com/woodlands/](http://conservationhandbooks.com/woodlands/)
- Contact an A Rocha UK naturalist at [naturalist@arocha.org](mailto:naturalist@arocha.org)