



# From seed to timber

Plant, grow, fell; plant, grow, fell: this is the forest cycle that enables well managed forests to go on for ever, providing wood for timber, a haven for wildlife and a place for people to enjoy.

The forest is home to thousands of species of plants, birds, mammals, reptiles and insects. As some areas of the forest are cut down, others are being planted, creating a patchwork of forest with trees at different stages of development. Which plants and animals are present at any one time or place depends on the stage of the 'forest cycle'

## Felling

Trees are cut down when fully grown. This can be between 40-150 years depending on the type of tree. Once the trees have been cut down they are taken to the forest roadside. A timber wagon then transports them to the mill where they are converted to timber products.

## The mature forest

As trees mature, new homes are continually created in cracks, holes and branches. Old trees and dead wood are often left for large birds and animals to find food and shelter.



### Preparation

In some places the ground needs to be prepared before trees can be planted. This is like digging the garden, but a plough might be used instead of a spade.

### Planting

Planting is nearly always done by hand. Lots of factors, such as soil, climate and site, affect which trees can be planted and how they are planted. Trees are planted close together to give them protection from the wind and to encourage them to grow tall.

### Thinning

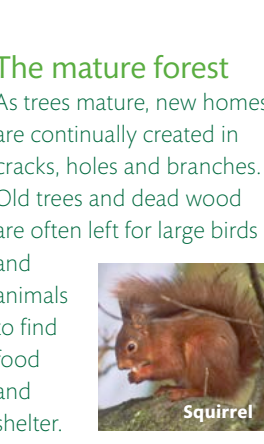
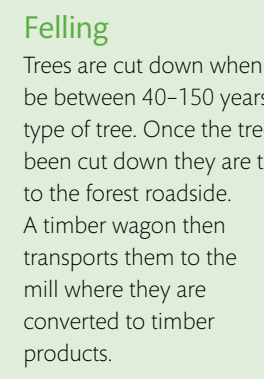
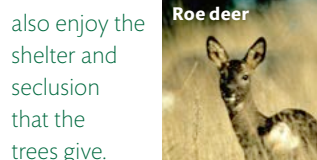
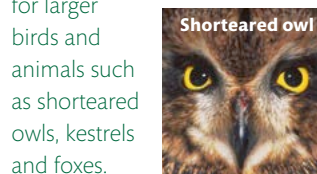
More trees are planted than needed. Over time the poorer trees are removed to give room for the rest to grow.

### Newly planted areas

Open ground and newly planted areas give shelter to insects, reptiles and ground nesting birds. In turn these provide food for larger birds and animals such as shorteared owls, kestrels and foxes.

### The sheltering thicket

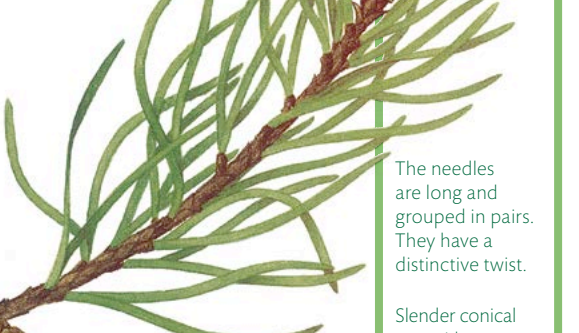
Dense bushy trees trap warm air which gives protection from the cold and rain. These quiet areas attract small birds and animals, such as wrens, warblers and shrews. Deer also enjoy the shelter and seclusion that the trees give.



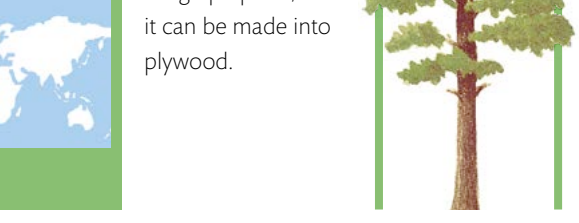
## Corsican pine

*Pinus nigra ssp. laricio*  
This variety of black pine is fast growing and has a remarkably straight trunk which is lightly branched.

Native only to the island of Corsica, it is only satisfactory as a timber crop in the south and eastern side of Britain where there is low summer rainfall and higher levels of sunshine.



The needles are long and grouped in pairs. They have a distinctive twist. Slender conical tree with horizontal branches reaching 27 m. Corsican pine was introduced in 1759 and its timber was used for railway sleepers and pit props. Though not naturally durable, and considered inferior to Scots pine, it takes preservatives well and is used for general building work, telegraph poles, and it can be made into plywood.



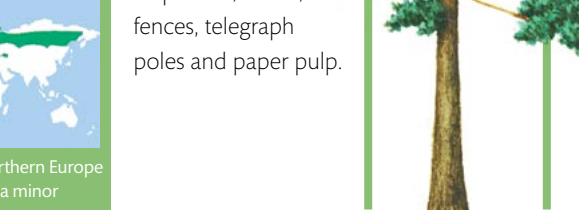
## Scots pine

*Pinus sylvestris*  
A native of the once extensive Caledonian pine forests, it is our only native timber-producing conifer.

It is a pioneer species due to its ability to regenerate and thrive in poor soils. It is found in its native state in Scotland, although planted extensively elsewhere. Its timber, known as 'red deal' is strong and easy to work. It is not naturally durable, but it takes preservatives well.



The tree tends to lose its lower branches as it matures to 36 m. In the past it was used for ships' masts, as a source of turpentine, resin and tar and for charcoal. Today it's used for building, pit-props, furniture, chipboard, boxes, fences, telegraph poles and paper pulp.



## Lodgepole pine

*Pinus contorta var. latifolia*  
An inland variety of the American shore pine, its straight stem was used by North American Indians for the central supporting pole of their lodges or wigwams.

Introduced into Britain in 1855, its remarkable tolerance to poor soil makes it particularly useful as a timber crop in the north of Britain. Its timber is used for roofing, flooring and other joinery, and also in the production of chipboard and paper pulp.



Brown egg-shaped cones, in clusters of two to four that point backwards along the stem, with a small sharp prickle on each scale. The tree loses its lower branches as it matures to 24 m.



## Norway spruce

*Picea abies*  
The traditional Christmas tree found in many of our homes during December.

A European, but not British, native species. It was widely planted earlier this century, but later replaced by the higher yielding Sitka spruce. The tough and elastic timber, known as 'white deal', is used for internal building work, boxes and paper.



Its sound transmitting properties make it ideal for certain parts of violins, hence its name 'violin wood'. In the past its resin was used as a source of turpentine and pitch, and its twigs for making spruce beer.



## Sitka spruce

*Picea sitchensis*  
Named after Sitka in southern Alaska, this species is the mainstay of the forest industry in Britain.

Its ability to adapt to a wide variety of site conditions and its high yield, especially in the wetter western regions, makes it our most successful upland plantation species. A versatile timber, with smaller trees being of particular value for paper making because of their fibre length and white colour. It is also used in the manufacture of different types of board.

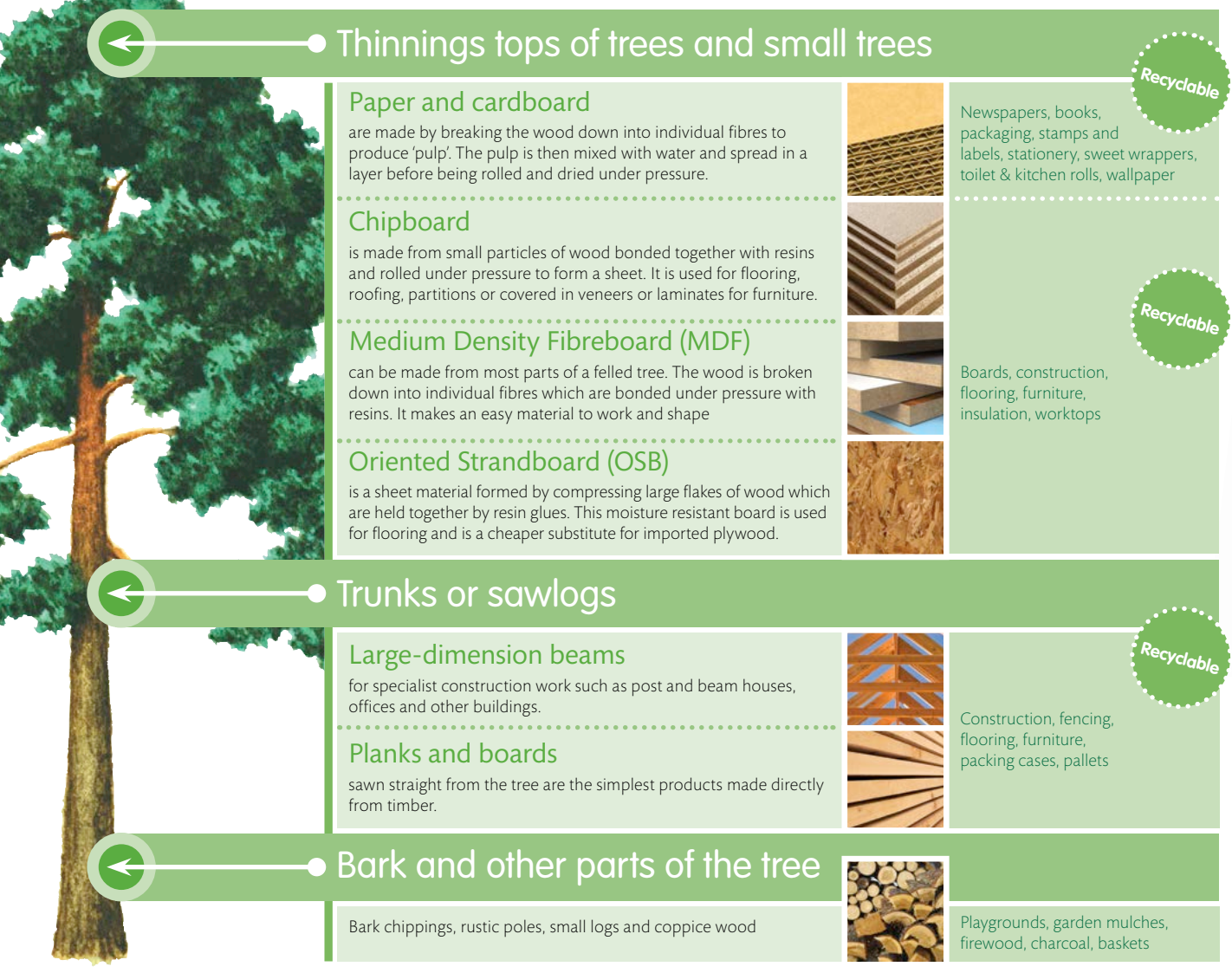


Sawlog material is used for pallets and packing cases with the better grades used for building.



# From tree to timber to products

In this country we produce less than 15% of the nation's timber needs. Nowadays fast growing conifers are required to meet 85% of our timber requirements. Broadleaved trees are still used for some high quality products including furniture. In recent years there has been a return to traditional methods of managing broadleaved trees including the production of charcoal and basket-making.



**Thinnings tops of trees and small trees** (Recyclable)  
Newspapers, books, packaging, stamps and labels, stationery, sweet wrappers, toilet & kitchen rolls, wallpaper.

**Paper and cardboard**  
are made by breaking the wood down into individual fibres to produce 'pulp'. The pulp is then mixed with water and spread in a layer before being rolled and dried under pressure.

**Chipboard**  
is made from small particles of wood bonded together with resins and rolled under pressure to form a sheet. It is used for flooring, roofing, partitions or covered in veneers or laminates for furniture.

**Medium Density Fibreboard (MDF)**  
can be made from most parts of a felled tree. The wood is broken down into individual fibres which are bonded under pressure with resins. It makes an easy material to work and shape.

**Oriented Strandboard (OSB)**  
is a sheet material formed by compressing large flakes of wood which are held together by resin glues. This moisture resistant board is used for flooring and is a cheaper substitute for imported plywood.

**Trunks or sawlogs** (Recyclable)  
Boards, construction, flooring, furniture, insulation, worktops.

**Large-dimension beams**  
for specialist construction work such as post and beam houses, offices and other buildings.

**Planks and boards**  
sawn straight from the tree are the simplest products made directly from timber.

**Bark and other parts of the tree**  
Bark chippings, rustic poles, small logs and coppice wood. Playgrounds, garden mulches, firewood, charcoal, baskets.

## Hybrid larch

*Larix x eurolepis* Henry  
The result of the chance cross-pollination of Japanese and European larch on the Duke of Atholl's estate at the turn of the century.

Nowadays most of the seeds are produced in seed orchards with trees of each parent planted in alternate rows. The offspring show remarkable 'hybrid vigour' growing faster than the parent and surviving under poorer conditions.



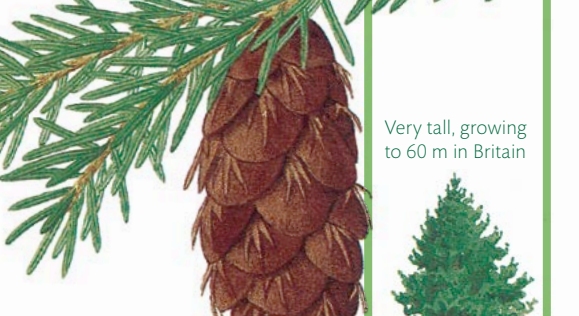
Its changing crown colour in spring, autumn and winter contrasts with other coniferous species making it widely used in designing forest landscapes. Its strong durable timber is used for fencing, rails and gates.



## Douglas fir

*Pseudotsuga menziesii*  
Named after David Douglas, who in 1827 sent the first seed back to Britain. Its botanical name commemorates Archibald Menzies who discovered the tree in 1791.

A major timber species in its native North America. Imported timber is sold here as 'Oregon Pine' and is used for construction work and for high quality plywood and veneers as well as for furniture and panelling.



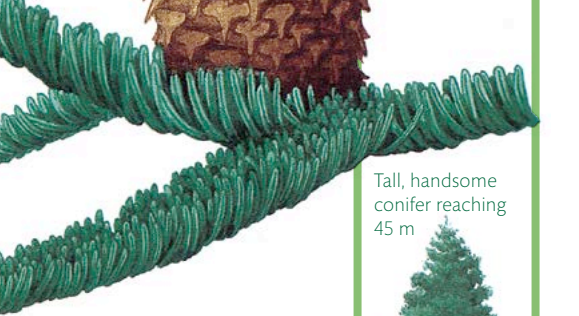
Originally grown in this country for ornamental purposes, it is now a valuable timber tree used for sawmill timber and paper pulp.



## Noble fir

*Abies procera*  
Introduced into Britain in 1830, noble fir is a native of the forests of Washington and Oregon where it grows to a great height.

Regarded as a decorative species, on account of its striking blue-grey foliage and regular growth habit, it is often used in Europe for wreaths.



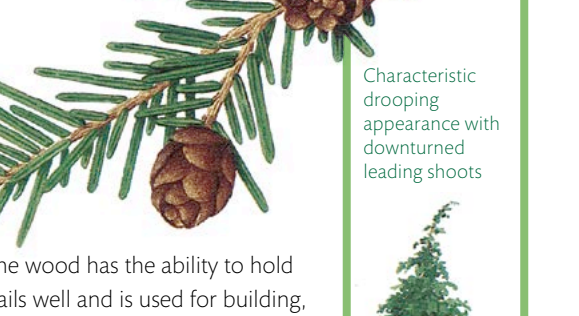
For the Danes it is also the preferred Christmas tree. In Britain it has been planted on a very limited scale in the wetter western districts. Its timber is hard and close-grained and used for interior joinery.



## Western hemlock

*Tsuga heterophylla*  
A graceful tree reaching up to 500 years of age on its native American west coast.

Introduced into Scotland during the 19th century for ornamental purposes, it has been used commercially on a limited scale. Its tolerance to light shade allowed it to be planted under old broadleaved woodlands but its susceptibility to butt rot has much reduced this practice.



The wood has the ability to hold nails well and is used for building, box making and paper pulp. In the past the North American Indians used the inner bark for 'bread' making.



## Yew

*Taxus baccata*  
One of the oldest living trees in northern Europe, yew is one of the three conifers native to Britain (the others are Scots pine and juniper). They bear succulent red fruits instead of cones.

When a bird eats one of the fruits it digests the fleshy jacket, or aril, and passes the poisonous seed intact.



Although a 'softwood' it grows slowly, giving the wood great strength. Thin, springy branches were once used for making longbows. Nowadays the wood is made into veneers and is used for furniture making. Yew is popular in gardens as it can withstand unlimited clipping and shaping. Huge and ancient trees are common in churchyards, some are considered to be thousands of years old.

