

= Forestry in the United Kingdom =

Forestry is the management of trees and forests for environmental or economic gain . The United Kingdom , being in the British Isles , is ideal for tree growth , thanks to its mild winters , plentiful rainfall , fertile soil and hill @-@ sheltered topography . Growth rates for broadleaved (hardwood) trees exceed those of mainland Europe , while conifer (softwood) growth rates are three times those of Sweden and five times those of Finland . In the absence of people , much of Great Britain would be covered with mature oaks , except for Scotland . Although conditions for forestry are good , trees do face damage threats arising from fungi , parasites and pests .

Nowadays , about 12 @. @ 9 % of Britain 's land surface is wooded and this area is increasing . The country 's supply of timber was severely depleted during the First and Second World Wars , when imports were difficult , and the forested area bottomed out at under 5 % of Britain 's land surface in 1919 . That year , the Forestry Commission was established to produce a strategic reserve of timber . However , the recovery is still very much in progress . Other European countries average from 25 % to 37 % of their area as woodland .

Of the 31 @, @ 380 square kilometres (12 @, @ 120 sq mi) of forest in Britain , around 30 % is publicly owned and 70 % is in the private sector . More than 40 @, @ 000 people work on this land . Broadleaves account for 29 % of Britain 's woodlands , the rest being conifers , but considering only England , the figures are 55 % broadleaf and 45 % conifer . Britain 's native tree flora comprises 32 species , of which 29 are broadleaves . Britain 's industry and populace uses at least 50 million tonnes of timber a year . More than 75 % of this is softwood , and Britain 's forests cannot supply the demand ; in fact , less than 10 % of the timber used in Britain is home @-@ grown . Paper and paper products make up more than half the wood consumed in Britain by volume .

In October 2010 , the new coalition government of the UK suggested it might sell off around half the Forestry Commission @-@ owned woodland in the UK . A wide variety of groups were vocal about their disapproval , and by February 2011 , the government abandoned the idea . Instead , it set up the Independent Panel on Forestry led by Rt Rev James Jones , then the Bishop of Liverpool . This body published its report in July 2012 . Among other suggestions , it recommended that the forested portion of England should rise to 15 % of the country 's land area by 2060 .

= = History = =

Throughout most of British history , the trend has been to create farmland at the expense of forest . Furthermore , variations in the Holocene climate have led to significant changes in the ranges of many species . This makes it complex to estimate the likely extent of natural forest cover . For example , in Scotland four main areas have been identified : oak dominated forest south of the Highland Line , Scots Pine in the Central Highlands , hazel / oak or pine / birch / oak assemblages in the north @-@ east and south @-@ west Highlands , and birch in the Outer Hebrides , Northern Isles and far north of the mainland . Furthermore , the effects of fire , human clearance and grazing probably limited forest cover to about 50 % of the land area of Scotland even at its maximum . The stock of woodland declined alarmingly during the First World War and " a Forestry Subcommittee was added to the Reconstruction Committee to advise on policy when the war was over . The Subcommittee , better known as the Acland Committee after its chairman Sir A. H. D. Acland , came to the conclusion that , in order to secure the double purpose of being able to be independent from foreign supplies for three years and a reasonable insurance against a timber famine , the woods of Great Britain should be gradually increased from three million acres to four and three quarter millions at the end of the war " . Following the Acland Report of 1918 the Forestry Commission was formed in 1919 to meet this need . State forest parks were established in 1935 .

Emergency felling controls had been introduced in the First and Second World Wars , and these were made permanent in the Forestry Act 1951 . Landowners were also given financial incentives to devote land to forests under the Dedication Scheme , which in 1981 became the Forestry Grant Scheme . By the early 1970s , the annual rate of planting exceeded 40 @, @ 000 hectares (99 @, @ 000 acres) per annum . Most of this planting comprised fast @-@ growing conifers . Later in

the century the balance shifted , with fewer than 20 @, @ 000 hectares (49 @, @ 000 acres) per annum being planted during the 1990s , but broadleaf planting actually increased , exceeding 1 @, @ 000 hectares (2 @, @ 500 acres) per year in 1987 . By the mid @-@ 1990s , more than half of new planting was broadleaf .

In 1988 , the Woodland Grant Scheme replaced the Forestry Grant Scheme , paying nearly twice as much for broadleaf woodland as conifers . (In England , the Woodland Grant Scheme was subsequently replaced by the English Woodland Grant Scheme , which operates six separate kinds of grant for forestry projects .) That year , the Farm Woodlands Scheme was also introduced , and replaced by the Farm Woodland Premium Scheme in 1992 . In the 1990s , a programme of afforestation resulted in the establishment of Community Forests and the National Forest , which celebrated the planting of its seven millionth tree in 2006 . As a result of these initiatives , the British Isles are one of a very few places in the world where the stock of forested land is actually increasing , though the rate of increase has slowed since the turn of the millennium .

England Rural Development Programme is the current overarching grants scheme that includes money for forested land within it .

= = Ancient woodland = =

Ancient woodland is defined as any woodland that has been continuously forested since 1600 . It is recorded on either the Register of Ancient Semi @-@ Natural Woodland or the Register of Planted Woodland Sites . There is no woodland in Britain that has not been profoundly affected by human intervention . Apart from certain native pinewoods in Scotland , it is predominantly broadleaf . Such woodland is less productive , in terms of timber yield , but ecologically rich , typically containing a number of " indicator species " of indigenous wildlife . It comprises roughly 2 @. @ 5 % of the forested area .

= = Native and historic tree species = =

Britain is relatively impoverished in terms of native species . For example , only thirty @-@ one species of deciduous tree and shrub are native to Scotland , including ten willows , four whitebeams and three birch and cherry . This is a list of tree species that existed in Britain before 1900 . The sheer number of tree species planted subsequently precludes a complete list .

= = Threats = =

Most serious disease threats to British woodland involve fungus . For conifers , the greatest threat is White Rot Fungus (*Heterobasidion annosum*) . Dutch Elm Disease arises from two related species of fungi in the genus *Ophiostoma* , spread by Elm Bark Beetles and acute oak decline has a bacterial cause . Another fungus , *Nectria coccinea* , causes Beech bark disease , as does *Bulgaria polymorpha* . Ash canker results from *Nectria galligena* or *Pseudomonas savastanoi* , and most trees are vulnerable to Honey Fungus (*Armillaria mellea*) . The oomycete *Phytophthora ramorum* (responsible for " Sudden oak death " in the USA) has killed large numbers of Japanese Larch trees in the UK .

Beetles , moths and weevils can also damage trees , but the majority do not cause serious harm . Notable exceptions include the Large Pine Weevil (*Hylobius abietis*) , which can kill young conifers , the Spruce Bark Beetle (*Ips typographus*) which can kill spruces , and the Cockchafer (*Melolontha melolontha*) which eats young tree roots and can kill in a dry season . Rabbits , squirrels , voles , field mice , deer , and farm animals can pose a significant threat to trees . Air pollution , acid rain , and wildfire represent the main environmental hazards .

= = Timber industry = =

In 2013 , the UK produced 3 @, @ 582 @, @ 000 cubic metres of sawn wood , 3 @, @ 032 @, @

000 cubic metres of wood @-@ based panels and 4 @,@ 561 @,@ 000 tonnes of paper and paperboard . The UK does not produce enough timber to satisfy domestic demand , and the country has been a net importer of timber and paper for many years . In 2008 the country imported sawn and other wood to a value of £ 1 @,@ 243 million and exported £ 98 million ; imported £ 832 million of wood @-@ based panels and exported £ 104 million ; and imported paper and paper @-@ based products to a value of £ 4 @,@ 273 million and exported £ 1 @,@ 590 million . In 2012 approximately 15 @,@ 000 people were employed in forestry and 26 @,@ 000 in primary wood production in the country , resulting in a gross value added to the country of £ 1 @,@ 936 million . With the ongoing closure of sawmills , the biomass industry is likely to be a key driver for future growth .

= = = Planting = = =

Successful forestry requires healthy , well @-@ formed trees that are resistant to diseases and parasites . The best wood has a straight , circular stem without a spiral grain or fluting , and small , evenly spaced branches . The chances of achieving these are maximised by planting good @-@ quality seed in the best possible growing environment .

Commercial seed is relatively inexpensive , but some foresters still prefer to collect their own seed . This should be done in dry weather , the seed kept in a well @-@ ventilated place away from damp ; broadleaved seeds do not keep well in long @-@ term storage (apart from oak , sweet chestnut and sycamore , which can be kept) . Conifer seed does tend to be storable . Stored seed is best pre @-@ treated by being chilled and moistened before planting .

Tree breeding programmes , to ensure the best seed , are hampered by the trees ' long life @-@ cycles . However , particularly since the 1950s , the Forestry Commission among other organisations has been running a programme of breeding , propagation , induced flowering and controlled pollination with the aim of producing healthy , disease @-@ resistant , fast @-@ growing stock .

= = = Stewardship and management = = =

The Forestry Commission manages almost 700 @,@ 000 hectares (about 1 @.@ 7 million acres) of land in England and Scotland , making it the country 's biggest land manager . The majority of the land (70 %) is in Scotland , 30 % of the landholding is in England . Activities carried out on the forest estate include maintenance and improvement of the natural environment and the provision of recreation , timber harvesting to supply domestic industry , regenerating brownfield and replanting of harvested areas .

Afforestation was the main reason for the creation of the commission in 1919 . Britain had only 5 % of its original forest cover left and the government at that time wanted to create a strategic resource of timber . Since then forest coverage has doubled and the commission 's remit expanded to include greater focus on sustainable forest management and maximising public benefits . Woodland creation continues to be an important role of the commission , however , and works closely with government to achieve its goal of 12 % forest coverage by 2060 , championing initiatives such as The Big Tree Plant and Woodland Carbon Code .

The Forestry Commission is also the government body responsible for the regulation of private forestry ; felling is generally illegal without first obtaining a licence from the Commission . The Commission is also responsible for encouraging new private forest growth and development . Part of this role is carried out by providing grants in support of private forests and woodlands .

In contrast , Natural Resources Wales (Welsh : Cyfoeth Naturiol Cymru) is a Welsh Government sponsored body , for the management of all the natural resources of Wales . It was formed from a merger of the Countryside Council for Wales , Environment Agency Wales , and the Forestry Commission Wales , and also assumes some other roles formerly taken by Welsh Government .

The Forest Stewardship Council , more specifically FSC UK , sets forest management standards for the UK , promotes the system and provides an information service . It looks at the environmental ,

social and economic impacts of the timber industry . It has issued 2 @, @ 340 Certificates of Conformity encompassing 1 @, @ 609 @, @ 414 ha of forest .

Plans featuring " good forestry practice " must always consider the needs of other stakeholders such as nearby communities or rural residents living within or adjacent to woodland areas . Foresters consider tree felling and environmental legislation when developing plans . Plans instruct the sustainable harvesting and replacement of trees . They indicate whether road building or other forest engineering operations are required .

= = = Transportation = = =

Currently , the vast majority of Britain 's timber uses road haulage . As forests are located in rural areas , the heavy timber vehicles have severely damaged many single lane tracks , especially in the Highlands . In order to combat this , companies are being forced to provide funding for repairs , as well as using alternative transport systems such as rail and coastal shipping . Despite the number of forest railways plummeting after the Beeching Axe , rail 's share of timber transport has risen from 3 % in 2002 with the opening of new lines in Devon , the Pennines , Scotland and South Wales by Colas Rail .

= = Land values = =

The price of woodland has risen out of proportion to its productivity , and in 2012 reached peak prices over £ 10 @, @ 000 per acre . Woodland prices are affected by its very favourable tax treatment and its high amenity value .